

How do parents experience using sleep- related routines to benefit their toddlers' sleep?

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Abstract

Background

Child sleep problems (CSPs) are common and can have negative consequences for the health and functioning of children and families. Consistent use of routines, particularly at bedtime, is recommended as a first-line treatment for CSPs, however little is currently known about how caregivers' experience using sleep-related routines with their 1-3 year olds.

Method

This mixed-methods study used an online questionnaire and semi-structured interviews. In Phase One, one father and 33 mothers of 1-3 year olds living in the United Kingdom (UK) reported demographic, child and caregiver sleep and child sleep ecology characteristics in an online questionnaire. 21 mothers continued to online semi-structured interviews in Phase Two. Interview data were analysed using reflexive thematic analysis to explore what caregivers routinely did to benefit their toddlers' sleep, the benefits they perceived, the feelings they had about and during their routines and perceived barriers and facilitators to consistent implementation.

Results

Questionnaire data contextualised the interview data. Mothers used a variety of sleep-related routine components over 24 hours, which could be carried out differently depending on the intended sleep-related benefits. Participants reported a range of positive and negative emotions in relation to their routines and a neutral feeling of acceptance. Mothers perceived that a combination of child, caregiver, family unit and contextual factors influenced the composition and consistency of their toddlers' sleep-related routines.

Conclusions

Implementation of sleep-related routines is a complex parenting behaviour. Caregivers' preferred sleep-related routines for their toddlers may look different in different families, as a range of overlapping child, parent and contextual factors require consideration to ensure routines benefit both individual child sleep and the functioning of all the family. Guidance about sleep-related routines may need to be ongoing and sufficiently flexible that it can be tailored to individual families' values, priorities and preferences so that more families can benefit from improved child sleep and family wellbeing.

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Glossary of Abbreviations

BISQ	Brief Infant Sleep Questionnaire
BISQ-R	Brief Infant Sleep Questionnaire – Revised
BRI	Bedtime Routines Index
BRQ	Bedtime Routines Questionnaire
BMI	Body Mass Index
CHSQ	Children’s Sleep Habit Questionnaire
CPAP	Continuous Positive Airway Pressure
CRI	Childhood Routines Inventory
CSPs	Child sleep problems
DSD	Daytime Sleep Duration
EEG	Electroencephalogram
EST	Ecological Systems Theory
HCPs	Healthcare professionals
NSD	Night-time Sleep Duration
NREM	Non-rapid Eye Movement sleep
PSG	Polysomnography
REM	Rapid Eye Movement (REM)
SCN	Suprachiasmatic nucleus
SES	Socioeconomic status
SOL	Sleep Onset Latency
SWS	Slow-wave Sleep
TSD	Total Sleep Duration
UK	United Kingdom

Thesis Overview

This thesis explores parents' experiences of using sleep-related routines with their 1-3 year olds. Initially, existing knowledge about normal and problematic child sleep and how routines can benefit child sleep is presented, along with gaps in current knowledge. Results from both phases of this mixed-methods study are then presented and discussed in relation to prior research. Finally, the implications of overall findings for conceptualising sleep-related routines for toddlers are discussed, along with considerations for supporting and advising caregivers. These topics are explored in the following thesis chapters:

Chapter one discusses 'normal' sleep and its development in children from birth to three years, as well as the range of definitions of CSPs and the definition used in this thesis. Factors associated with CSPs and behavioural treatments are next discussed.

Chapter two reviews the current research relating to one particular behavioural treatment of CSPs, use of routines. Definitions and ways of measuring sleep-related routines are presented, along with proposed mechanisms by which routines might benefit child sleep. Evidence for the efficacy of different aspects of sleep-related routines for improving child sleep is then reviewed.

Chapter three explores what is currently known about whether and why caregivers use sleep-related routines with their young children, and the consistency with which they do so. Prevalence of having a bedtime routine, levels of consistency of use and common components are discussed. Caregiver-reported barriers and facilitators found in previous qualitative work are next presented, followed by the definition of sleep-related routines in this thesis and the specific research questions explored.

Chapter four presents the methodology for Phases One and Two of this study, along with a reflexivity statement considering my role in shaping this research.

Chapter five presents the results of the Phase One questionnaire study and compares the sample to previously published samples in terms of demographic, child and maternal sleep characteristics and sleep ecology as well as exploring any differences between those Phase One participants who did, and did not progress to Phase Two (the interviews) . This provides a context in which the qualitative results presented in Chapters Six, Seven, Eight and Nine may be understood.

Chapters six-nine report the results of Phase Two interviews in relation to the research questions as shown below. For each chapter, results are discussed in relation to existing research and with consideration of any limitations which affect interpretation of the findings.

Chapter six (research question 1): What activities do parents in the UK use routinely with their 1-3 year olds that they believe benefit their sleep?

Chapter seven (research question 2): How do parents think their sleep-related routines benefit their toddlers' sleep?

Chapter eight (research question 3): What feelings do parents experience in relation to their sleep-related routines with their toddlers?

Chapter nine (research question 4): What are the parent-perceived barriers and facilitators to consistent use of their preferred sleep-related routines?

Chapter ten provides a general discussion of results presented in the thesis as a whole. Key findings from this thesis about what constitutes an 'optimal' sleep-related routine, what challenges are specific to this age group, positive and negative aspects of caregivers' emotional experiences of routines and parent perceptions of routines are discussed. Implications of this research are identified, along with future directions for research.

Chapter 1 Sleep and Sleep Problems in Early Childhood

1.1 Introduction

This chapter presents an overview of child sleep and CSPs. 'Normal' sleep and its development in early childhood are first presented, followed by the biological processes which bring about sleep and different theories about the purpose of sleep. Methods of sleep measurement are next considered, followed by an overview of the ways in which disturbances of sleep can be conceptualised and defined, including explaining the definition of CSPs which will be used in this thesis. Finally, factors related to the presence of CSPs will be explained, along with an overview of approaches to the management of CSPs. Because this thesis is concerned with children aged 1-3 years old, emphasis will be placed on studies which have explored sleep and its management in this age group. However, as research has not always focused specifically on 1-3 year olds, research including, but not limited to children in this age bracket is presented.

1.2 Physiology of Sleep

Sleep can be defined behaviourally as a reversible state in which the organism is typically largely perceptually disengaged from and less responsive to external stimuli than when awake. However, while behavioural quietude is typically (though not always) observed, extensive brain activity can be detected by electroencephalogram (EEG; Carskadon & Dement, 2005).

Sleep is a necessary biological function theorised to be governed by two distinct physiological processes (Borbély, 1982). Process S is a sleep-dependent homeostatic

function, often termed sleep pressure in which a person's need to sleep increases the longer they are awake. Process C is a sleep-independent circadian process, in which the desire to sleep fluctuates over a roughly 24 hour cycle. This explains why, when sleep-deprived, our desire to sleep varies depending on the time of day or night.

Process C is thought to be governed by the suprachiasmatic nucleus (SCN), a brain structure in the hypothalamus above the optic chiasm, from which information about light and other environmental signals are received. When light is lowered, messages from the SCN to the pineal gland promote secretion of the hormone melatonin, which promotes sleep onset (Gillette & Abbott, 2005). In this way, the desire to sleep, as well as other functions such as metabolism, is thought to be aligned with the organism's environment, promoting wakefulness during the day and sleep during the night (Borbély et al., 1982; 2016).

Circadian rhythms become established over the first three months of life, with first temperature varying rhythmically over 24 hours, then wake time becoming established in the morning, followed by evening secretion of melatonin and sleep onset at around three months (McGraw et al., 1999; Mirmiran & Ariagno, 2000; Rivkees, 2004). Before they are established, newborns can fall asleep as easily in the day as the night, with an irregular sleep/wake pattern (Davis et al., 2004). Individuals vary in the length of time taken for circadian rhythms to establish (Jenni et al., 2006). Light exposure is the strongest *zeitgeber*, or time-giver, by which the body regulates circadian processes, however, other processes also contribute as other organs also contain endogenous circadian clocks which are coordinated by the SCN. Mealtimes, social activity, exercise and body temperature can therefore contribute to the entrainment of circadian rhythms (Heyde & Oster, 2019; Mendt et al., 2021; Mistlberger & Skene, 2004).

1.2.1 Processes Required for Sleep Onset

In addition to being a biological need, brought about by physiological processes, sleep is under volitional control and appears to require the co-ordination of emotional, attentional, cognitive and physiological processes (Dahl, 1996). Sleep onset has been characterised as requiring reduced vigilance (awareness of and responsiveness to the outside world; Dahl, 1996). Reducing vigilance requires the co-ordinated reduction of cognitive and physiological arousal, which can be influenced by affective and attentive processes (Dahl, 1996). For example, a feeling of threat (emotional arousal) can be associated with increased heart-rate (physiological arousal) and increased attention to surroundings, both of which inhibit sleep. Feelings of security are thought to be necessary in order to turn attention inwards to internal cues of sleepiness, rather than monitoring one's surroundings and remaining cognitively alert to possible threats.

1.3 Sleep Architecture in Young Children

Sleep is not a unitary state, but can be divided into different types and stages of sleep, which are defined on the basis of a constellation of physiological parameters. There are two basic types, rapid eye movement (REM) and nonrapid eye movement (NREM), with NREM sleep being divided into different stages. The alternating pattern of NREM and REM stages seen in typical adult sleep can be described as an ultradian rhythm (a periodic variation in function lasting less than 24 hours) and is categorised into three distinct stages (Iber et al., 2007). Stage 1 NREM sleep is a light sleep at the beginning of the sleep period, followed by Stage 2, where, compared to wake, reduced muscle tone, slower breathing and heart and reduced movement are observed. 2-5% of the night is usually spent in Stage 1

sleep, while Stage 2 makes up 45-55% (Carskadon & Dement, 2005). Stage 3, termed slow-wave sleep (SWS), is characterised by slow, rhythmic breathing, decreased heart rate and relaxed body, and is usually around 13-23% of sleep. Arousal from this stage is difficult. REM sleep is characterised by rapid eye movement, intense brain activity as recorded by EEG, muscle paralysis and dreaming (Davis et al., 2004). REM sleep usually constitutes 20-25% of the night's sleep. A sleep cycle (usually lasting between 90-110 minutes in adults) consists of a period of NREM followed by REM sleep, and this pattern continues throughout the night (Carskadon & Dement, 2005).

In newborns, the immaturity of the EEG means that conventional sleep-stage scoring rules cannot be applied and sleep is instead characterised as 'active', with irregular breathing, facial and limb movements, 'quiet', characterised by rhythmic breathing and minimal muscle movements, or 'indeterminate', which cannot be classed as either quiet or active sleep by polysomnogram (Davis et al., 2004). A sleep cycle is entered through active sleep and lasts 50-60 minutes, consisting of both active and quiet sleep. Cortical arousal at the end of each sleep cycle leads to an increased propensity for waking at that time, meaning newborns sleep for only one or two sleep cycles at a time (Anders et al., 1995; Adair & Buchner, 1993). As babies mature, indeterminate sleep evolves into REM and NREM sleep by around 3 months old (Anders et al., 1995).

The proportion of REM sleep (55%) is highest in the first year of life and declines with maturation, reducing to around 40% at 3-5 months and around 25-30% (a similar proportion to those found in adults) by age one (Anders et al., 1995; Bathory & Tomopoulos, 2017). Sleep cycle length remains around 60 minutes at age 3 years, increasing to around 90 minutes by age 5 years. Sleep patterns gradually mature to approach adult distribution, with the majority of SWS sleep occurring in the first half of the

night and REM sleep interspersed with lighter NREM sleep concentrated later in the sleep period (Sheldon, 2005).

1.4 'Normal' Sleep in Young Children

By three years old, most children have spent more time asleep than awake, suggesting the importance of this state for growth and development (Davis et al., 2004). From birth to 3 years of age, children's sleep undergoes enormous change and reorganisation. Total sleep duration (TSD) reduces with maturation, with the National Sleep Foundation recommending 14-17 hours for newborns, 12-15 hours for infants, 11-14 hours for toddlers (1-2 years) and 10-13 hours for preschoolers (3-5 years; Hirschkowitz et al., 2015). It is acknowledged that even wider ranges may be appropriate due to the great individual variation in sleep need between individual children.

Sleep distribution also shows dramatic changes in early childhood. Newborn infants may sleep for up to 17 hours in a 24-hour period, in periods lasting between 2.4 to 4 hours distributed throughout the day and night (Davis et al., 2004; Hirschkowitz et al., 2015; Mindell et al., 2016). A meta-analysis of 102 world-wide studies of infant and toddler sleep found that rapid increase in night-time sleep duration (NSD) in the first three months is then followed by a gradual monthly increase of a few minutes (Lin et al., 2019). Longitudinal study of parent-reported sleep of 841 US 0-3 year olds found that from 3-7 months, sleep can be seen to consolidate into around two distinct naps per day, with the majority of sleep taken during the night (Mindell et al., 2016). From 1 year sleep changes become more gradual, with daytime sleep tending to consolidate into one longer nap, which thereafter gradually reduces in length (Lin et al., 2019; Mindell et al., 2016). Night wakings have also been observed to reduce steeply in the first year of life, with a continued

very gradual decrease between 1 and 3 years (Galland et al., 2012). Much change in child sleep occurs between 1 and 3 years old as sleep continues to consolidate, hence the need for focus on this age group.

While there appear to be broadly similar developmental trajectories of child sleep world-wide, studies on which sleep norms are based are largely based on data collected from Europe, Scandinavia, Australasia, Israel and North America (frequently grouped as predominantly Caucasian countries) and Japan, China, Thailand, Hong Kong and Singapore (frequently grouped as predominantly Asian (PA) countries), meaning that such norms may be unrepresentative of sleep in other geographical regions. Within these broad trajectories, cultural variation (defined as differences between broad geographical regions, e.g. predominantly Caucasian and predominantly Asian countries) in sleep duration and timing can be seen (Galland et al., 2012; Hirschkowitz et al., 2015; Mindell et al., 2016; Lin et al., 2019). Daytime sleep and bedtimes in particular appear to be subject to environmental influences, for example, some cultures appear to encourage daytime napping and later bedtimes, while others do not. (Mindell et al., 2016; Touchette et al., 2013). Additionally, a questionnaire study of 669 Middle Eastern caregivers of 0-3 year olds (from countries including Jordan, Oman, Saudi Arabia, Algeria and Morocco among others) found a delayed sleep schedule compared with young children in predominantly Caucasian and predominantly Asian countries. Thus, 'normal' child sleep distribution and timing can be seen to vary by geographical region, which likely reflects different cultural expectations of sleep behaviour.

Jenni and O'Connor (2005) have espoused a much broader definition of cultural variation in how sleep is carried out: how, where and with whom we sleep are all subject to cultural influences, which can include religious, spiritual and social practices. Sleep

practices are also shaped by a society's dominant values, for example, the goal of independence in the US may emphasise separate sleeping, while in cultures which value interdependence (e.g. Japan), co-sleeping may be the norm. The interplay of individual biological sleep needs and cultural expectations around sleep together shape sleep development. 'Normal' toddler sleep expectations can therefore vary according to culture, and within cultures there are wide ranges of what is considered 'normal' for individual toddlers and their families. Whether or not an individual child's sleep is considered 'normal' can be seen as a product of the extent to which their biological sleep needs align with the expectations of the society and family they are born into (Jenni & O'Connor, 2005).

1.5 Purpose of Sleep

The precise function of sleep is still unknown, however a number of theories have been proposed, which highlight the importance of sleep for growth, learning and optimal bodily functioning. For example, the repair and restoration theory of sleep suggests that during sleep tissues are repaired and restored (Adam, 1980 & Oswald, 1980). Growth hormone is released during sleep and waste products are removed, including from the brain, such as amyloid plaques, which are seen in the brains of dementia sufferers (Assefa et al., 2015; Reimund, 1994; Xie et al., 2013). However, this theory does not account for the observation that whole-body protein synthesis is greater during wakefulness. One would also expect larger animals to require more sleep as there is more tissue to repair or restore, yet many larger animals have shorter sleep durations (Siegel, 2005).

A further theory is that sleep contributes to learning and memory consolidation (Stickgold, 2005). Sleep enhances motor learning and learning of word pairs under some

circumstances (Assefa et al. 2015). Both REM and NREM sleep are associated with memory in humans. However, not all organisms exhibit REM sleep, despite having the capacity to learn, making it unclear why these sleep states have evolved (Lyamin et al., 2008).

Sleep has been theorised as an evolutionary mechanism for the conservation of energy based on observations of reduced heart rate and muscle paralysis during some stages of sleep (Berger & Phillips, 1993). However, Schmidt (2014) argued that the occurrence of REM sleep contradicts this theory, given that REM sleep increases brain metabolic function. Building on this and seeking to unify different theories, the energy allocation theory argues that some functions of the organism (such as particular types of tissue repair and memory consolidation) are carried out at night to reduce overall energy consumption and to optimize metabolic functions over 24 hours (Schmidt, 2014; Stickgold, 2015). Cycling between REM and SWS is explained by the body reducing thermoregulation during REM sleep in order to conserve energy while other functions take place. While the precise purpose of sleep is not yet fully understood, it has been observed to be one of the most universal behaviours across species and is believed to be important for growth, health and learning (Schmidt, 2014). For this reason, sleep in young children is of interest, as it underpins wellbeing in many areas.

1.6 The Importance of Sleep for Child Development and Family Wellbeing

Healthy sleep has been defined not only in terms of length and sleep stages, but also by its timing, continuity, and psychological aspects such as people's subjective satisfaction with their sleep and sustained alertness during wake (Buysse, 2014). Most recently, a further dimension, 'sleep-related behaviours' has been added to the definition of pediatric sleep health, recognising that behaviours such as maintaining a regular sleep

schedule are important for optimal child sleep, and that children are usually not in control of aspects of their own sleep (Meltzer et al., 2021). Adequate amounts of healthy sleep has been linked with a number of benefits for emotional and behavioural and cognitive functioning, as well as physical health in children, both concurrently and longitudinally. This indicates its importance for development across a range of domains. Children's sleep health also has consequences for caregiver and family health and wellbeing.

1.6.1 Links Between Child Sleep and Child Development Outcomes

Many studies have linked emotional and behavioural difficulties to sleep disruption in a number of domains, including sleep onset latency (SOL), refusal to sleep alone, sleep duration, number of night wakings, waking after sleep onset, parasomnias, variable bedtime, bedtime resistance and parent perception of sleep problem (Spruyt, 2019). For example, Hysing et al. (2016) found that caregiver-reported short sleep duration, increased night-time waking and longer SOL were all associated with children's social-emotional problems in a dose-response manner in 2014 Norwegian 2-year olds. Infant and toddler sleep problems may also be a precursor to emotional problems later in childhood. A number of large-scale longitudinal studies have found caregiver-reported sleep problems in the first three years of life (including short night-time and night waking) are associated with later internalising and externalising behaviour problems in preschool- and school-age children (e.g. Conway et al., 2017; Jansen et al., 2011; Sivertsen et al., 2015; Touchette et al., 2007; Whalen et al., 2017).

A range of sleep difficulties in young children have been concurrently and longitudinally associated with differences in verbal and nonverbal cognitive difficulties in children. Short sleep duration, delayed and variable sleep schedules and poor sleep

efficiency have been associated with poorer cognitive ability and academic performance (Hoyniak et al., 2019; Touchette et al., 2007; Vaughn et al., 2015).

CSPs have also been associated longitudinally with obesity (Li et al., 2017). Alamian et al (2016) found that increased risk of being overweight by 6th grade (11/12 years old) was associated with infant sleep problems. Unhealthy sleep practices in infancy such as late bedtime and frequent and lengthy night waking were thought to have persisted over time, leading to shortened sleep durations, which are associated with higher body mass index (BMI). The pathway(s) between sleep disturbances and increased BMI are currently unknown, but proposed mechanisms include dysregulation of appetite-regulating hormones due to sleep impairment, reduced daytime physical activity due to increased daytime sleepiness and/or increased consumption of food due to increased wake time.

1.6.2 Links between Child Sleep and Family Functioning

Sleep is an important component of not only child development and health, but also of family functioning, which has been defined as including positive aspects such as maternal sensitivity and secure parent-child attachment, as well as negative aspects including parent-child and inter-parental hostility and parental psychopathology (El-Sheikh & Kelly, 2017). CSPs have been associated with a range of adverse outcomes for caregivers and families including poor maternal mental health, increased maternal fatigue, increased family stress, increased marital dissatisfaction and reduced parental emotional regulation (Hall et al., 2015a; Lollies et al., 2022; Martin et al., 2007; Meltzer & Mindell, 2007; Polimeni et al., 2007; Ystrom et al., 2017; Whalen et al., 2017). Caregiver functioning is also likely to impact child development: for example, where parents are too tired to interact optimally, children's emotional development could be affected.

In summary, CSPs are associated with a range of concurrent and longitudinal adverse developmental outcomes for children, as well as adverse outcomes for caregiver and family functioning. It is not yet known whether associations between sleep and adverse physical, emotional and cognitive consequences are due to environmental characteristics such as caregiver behaviours or whether sleep quantity and quality has a causal effect on these outcomes. However, the centrality of sleep in these relationships makes it an important area of study for the health and wellbeing of children and their families.

1.7 Measurement of Sleep

A range of methods for measuring sleep exist, including objective measures such as polysomnography (PSG), actigraphy and direct observation, and subjective measures such as questionnaires and sleep diaries. A brief description and the strengths and limitations of each are presented here as they are used in studies reviewed in this thesis.

PSG, regarded as the 'gold standard' of sleep measurement, measures brain activity, muscle activation, eye movements, breathing efforts and flow and oxygen saturation, in addition to video monitoring (Sadeh, 2015). Studies typically require young children to sleep in a laboratory for one or two nights, for which children must tolerate the unusual environment and attachment of monitoring equipment. This can be unrepresentative of sleep in the natural environment. Particular challenges in young children are that unscheduled daytime sleep is common, and it may not be possible to capture all sleep episodes over 24 hours with this method. PSG is expensive and labour-

intensive, making it unsuitable for use with large cohorts, however, it gives detailed information on sleep architecture and is necessary for some clinical diagnoses.

Videosomnography involves direct observation from video recordings in the natural sleep environment (Sadeh, 2015). Sleep patterns, such as night wakings, caregiver behaviour and child behaviour can be observed with this method. It can also be used for some clinical diagnoses. However, drawbacks include the intrusion caregivers may feel and privacy concerns, as well as the difficulty in observing behaviours that occur out of camera view.

Actigraphy uses a wristwatch-type device, containing an accelerometer, usually attached to the ankle in infants or wrist in young children. The actigraph device monitors activity patterns from which sleep and wake can be distinguished using verified algorithms validated against PSG (Sadeh, 2015). Actigraphy is very useful for capturing sleep onset time (which may differ from bedtime) and night wakings and can also be used over 24 hours (and longer), meaning young children's 24-hour sleep patterns can be captured. It is also useful for some clinical diagnosis, e.g. of sleep schedule disorders. Artefacts introduced by external movement (such as a pram ride or being rocked) can be a drawback and a sleep diary is usually used to help distinguish such episodes. It has been suggested that actigraphy can overestimate night waking in infants, given that children may move during active sleep (Hall, Liva, et al., 2015).

Sleep diaries completed by caregivers are a common subjective measure and can give sleep schedule and night waking data, as well as other areas of investigation, such as caregiver behaviours over a period of time (Sadeh, 2015). Sleep onset and wake times can be quite reliable using this method, however, validity drops for night waking data, which

may reflect only child-signalled wakes (Hall, Liva, et al., 2015). Caregiver-reported sleep diaries have yielded overestimates of longest continuous sleep period and NSD and underestimates of night-waking compared to actigraphic measures in 5-8-month olds (Hall, Liva, et al., 2015). In 30-month olds, caregiver sleep diaries recorded around 2 hours' longer NSD than actigraphy (Prokasky et al., 2019). Studies have found that sleep onset and duration are very similar when measured by caregiver sleep diaries and actigraphy, whereas sleep quality measures diverged, as caregivers were not always aware of night wakes (Sadeh, 1996; Sadeh, 2008; Sadeh, 2011). While sleep diaries can be used over time and thus yield data about night-to-night variability of sleep schedules, reporter fatigue can also be a drawback with using this method for longer than a few days (Hall, Liva, et al., 2015).

Caregiver-reported sleep questionnaires ask for one-off estimates of a range of sleep dimensions and/or problems typically exhibited by the child, as well as caregiver and child behaviour related to sleep (Sadeh, 2015). Questionnaires such as the Children's Sleep Habit Questionnaire (CHSQ: Owens et al., 2000) and the Brief Infant Sleep Questionnaire (BISQ: Sadeh, 2004) show good psychometric properties and discriminate between clinical and control samples (Sadeh, 2015). This is a cost-effective and time-efficient method, which can be used for large cohorts and internet use. Additionally, they can capture subjective elements of child sleep, such as caregivers' perception. The same issues with night wakings apply as with sleep diaries, as caregivers may be unaware of exactly when children are awake or asleep, depending on whether or not they signal and the caregivers' proximity to the child at the time.

Overall, these different measures tap into different dimensions of child sleep, with no one measure capturing all dimensions. For this reason, different measures are

appropriate for investigating different aspects of child sleep. Correspondence between different measures is variable, with correspondence generally better between diaries and questionnaires than between subjective and objective measures.

1.8 Sleep Disorders and CSPs

This section introduces the different ways in which disturbances of sleep can be considered, beginning with an overview of clinical sleep disorders. This thesis does not deal with clinical disorders, however they are presented as a background against which CSPs can be understood. A range of research definitions is presented next, followed by the conceptualisation of CSPs in this thesis.

1.8.1 Sleep Disorders

The *International Classification of Sleep Disorders – Third Edition (ICSD-3*; American Academy of Sleep Medicine [AASM], 2014) classifies over 80 sleep disorders into seven categories: insomnia, sleep-related breathing disorders, central disorders of hypersomnolence, circadian rhythm sleep-wake disorders, parasomnias, sleep-related movement disorders and other sleep disorders. These categories cover sleep disorders for adults and children and the following description relates to how these categories relate to children. In young children, insomnia (difficulties initiating and maintaining sleep) frequently results from inappropriate sleep associations, inadequate limit-setting by caregivers, or both combined (AASM, 2014). Sleep-related breathing disorders, often missed in children, are serious conditions in which respiration is abnormal or difficult during sleep (AASM, 2014; Thiedke, 2001). Central disorders of hypersomnolence are characterised by excessive daytime sleepiness in the absence of other sleep disorders and

in the presence of regular, appropriate sleep habits (AASM, 2014). Circadian rhythm disorders occur when the central circadian 'clock' is misaligned with the external environment, causing difficulty sleeping (AASM, 2014). Parasomnias are undesirable behaviours or experiences (such as night terrors or sleep walking) occurring during sleep or partial arousal from sleep (AASM, 2014). They are believed to occur due to immaturity of the central nervous system and are often outgrown (Thiedke, 2001). Sleep-related movement disorders cause movement during or prior to sleep, which can make it difficult to initiate or maintain sleep, and are common in children (AASM, 2014). Prevalence is around 1.9% in school-age children, yet such disorders are underdiagnosed in children (Simakajornboon et al., 2009).

Insomnia is the most commonly presenting childhood sleep disorder (AASM, 2014), and given its overlap with other sleeplessness problems in children, insomnia and its diagnostic criteria are of particular interest to this thesis. Prevalence of insomnia requiring parental assistance or other special circumstances to fall asleep and maintain sleep, or associated with inadequate limit-setting is estimated to affect between 10% and 30% of children above six months old, depending on the precise criteria used (AASM, 2014).

Requirements for a clinical diagnosis of insomnia include caregiver report of one or more of the following difficulties: initiating and/or maintaining sleep, early waking, bedtime resistance, difficulty sleeping without parent or caregiver assistance (AASM, 2014). SOL and night wakings of >20 minutes or waking at least 30 minutes before desired waking time (although this depends on the bedtime) leading to shortened sleep are generally indicators of a clinical problem. Additionally one or more of the following effects must be observed: fatigue, cognitive impairment relating to attention, concentration or memory, impaired social or family functioning, or academic performance, mood disturbance or irritability,

daytime sleepiness, behavioural problems (such as hyperactivity, impulsivity or aggression), being accident-prone, being concerned about or dissatisfied with sleep. In children, it may be caregivers rather than children who have concerns about the child's sleep. In addition the complaints must have occurred despite adequate sleep opportunity, the sleep disturbance and daytime symptoms must occur at least three times per week, must have been present for at least three months (or for several weeks at a time over several years) and must not be better explained by another sleep disorder. If chronicity criteria are not met, but other symptoms are present, short-term insomnia may be diagnosed.

1.8.2 Research Definitions of CSPs

Research definitions of CSPs have largely focused on sleeplessness problems, but do not include the full diagnostic criteria for the clinical disorder insomnia. Instead they have largely focused on frequency and severity of a number of sleep behaviours, including delayed SOL, bedtime resistance, night waking, and reduced sleep duration (Mindell & Williamson, 2018). Among other definitions, Richman (1981) defined sleep problems as waking 5 nights or more per week in addition to one of the following: co-sleeping with parents, waking 3 or more times per night, or waking for at least 20 minutes. Lozoff et al. (1985) defined sleep problems as night waking or bedtime resistance three times or more per week, with parental report of disturbance. Zuckerman et al. (1987) defined sleep problems as waking 3 or more times per night, wake lasting 1 hour or more, or parental report of 'severe' disturbance. Ystrom et al. (2017) included items related to parent perception of sleep duration, difficulty of settling at bedtime, frequency of night waking and frequency of co-sleeping.

Much research has defined a CSP by parent perception that their child has a sleep problem alone, rather than based on the frequency and/or duration of specific problematic sleep-related behaviours (Field, 2017). Sleeplessness problems measured in this way are highly prevalent in early childhood: studies report between 25-58% of parents perceive their 0-3 year-old's sleep as problematic (Mindell et al., 2022; Sadeh et al., 2009; 2011; Williamson et al., 2021). This is often assessed by using a single scale item in response to the question 'Do you consider your child's sleep to be a problem?' (Sadeh, 2004). This raises the question of what it is that parents find problematic about young children's sleep. Common child sleep denominators associated with parents' report of a CSP are number and duration of night wakings, SOL, sleep duration, bedtime and longest continuous sleep period (Lupini et al., 2022; Mindell, Lee, et al., 2017; Sadeh et al., 2011). Impact of child sleep on caregivers' own sleep has also recently been identified as a key factor (Lupini et al., 2022; Mindell, Lee, et al., 2017).

Caregivers' cognitions (thoughts, feelings, beliefs or attitudes) about child sleep behaviours are also a factor in parent perception of whether their child's sleep is problematic. Morrell (1999) found that in 237 mothers of 13-16 month olds, cognitions related to difficulties setting limits with infants, feeling anger at night wakings and feeling doubt about their own parenting were more frequent in mothers of children with research-defined and parent-perceived sleep problems than in mothers of children without. Some mothers whose children did not meet the criteria for a sleep problem based on their sleep behaviours nonetheless perceived a child sleep problem, which indicated that maternal cognitions about their child's sleep can be as relevant to defining a child sleep problem as the frequency and duration of particular problematic sleep-related behaviours.

While some parents perceive a CSP, despite their child's sleep behaviours not meeting research-defined criteria, other parents do not report child sleep as problematic although research definitions are met. It is possible some parents are uncomfortable with the word 'problem' in relation to their child, or are unsure what 'problem' means in the context, or that they do not find night wakings or other child sleep-related behaviours problematic. A study of 219 Taiwanese parents of 6 month olds which used actigraphy to measure child sleep found that the same objective sleep characteristics existed in both the children whose parents perceived a CSP and those who did not (Tsai et al., 2018). Whether some parents have insufficient knowledge to establish whether child sleep is problematic, or have other reasons for not endorsing a CSP is unclear. In addition to asking parents about sleep 'problems', Mindell et al. (2022) asked 2219 parents of 0-3 year olds whether there were aspects of their young children's sleep they would like to change. 35% of respondents perceived a CSP, but 96% had areas they would like to change, with 76% wanting change in multiple areas of child sleep, including napping, bedtime, waking and overnight sleep. This suggests that caregivers' dissatisfaction with aspects of their child's sleep behaviours may not be fully captured by the term 'problem'.

1.8.3 Definition of CSP in this Thesis

In this thesis, therefore, a CSP is regarded as a caregiver's perception that an aspect or aspects of their child's sleep is problematic for them, their child or their family. This might be due to their child's sleep patterns, impact on their own sleep, a mismatch between their child's sleep patterns and aspects of family life, or their own feelings about their child's sleep and their management of it, or a combination of factors. Additionally, parents may not endorse the word 'problem' in relation to their child, and so aspects of child sleep parents wish to change are also of interest in this thesis. This is because they

represent areas of managing child sleep for which parents may seek help (Mindell et al., 2022; Morrell, 1999). Aspects of child sleep caregivers would like to change and aspects they find problematic are of interest so that relevant guidance for supporting caregivers to manage their young children's sleep can be developed.

1.9 Factors Associated with CSPs

Children's sleep is affected by a myriad of factors. These may relate to the child (e.g. health, developmental stage, temperament), caregiver (e.g. cognitions, psychopathology, stress) and context (e.g. housing, employment, culture), and are mediated by the parent-infant relationship and parenting behaviours (AASM, 2014; Sadeh & Anders, 1993; Sadeh et al., 2010). Relationships are often bidirectional. The literature in this area has largely used parent report of child sleep and parent report of factors under investigation, potentially leading to single-rater bias. Additionally, much research with caregivers has centred on mothers' perspectives, meaning again that reporting may be biased as only one caregiver's view is usually considered.

1.9.1 Child Factors

A range of intrinsic child factors associated with CSPs have been identified, including genetic factors (Fisher et al., 2012; Touchette et al., 2013), low birth weight (Pesonen et al., 2009) prematurity (Anders & Keener, 1985) and individual variations in hormonal profiles (Bright et al., 2014). Higher levels of cortisol on awakening have been associated with shorter NSD in actigraphically-measured sleep in 12 and 24 month olds (Bright et al., 2014).

A number of studies, mostly caregiver-reported, have found mixed results when exploring associations between different dimensions of child temperament and child sleep outcomes (Camerota et al., 2019). Child temperament has been characterised as reactivity to stimuli and ability to self-regulate, and is theorised to develop through a combination of intrinsic biological sensitivity to stimuli and environmental exposures (Camerota et al., 2019; Del Giudice et al., 2011). A recent study of 82 toddlers found that children who were more temperamentally fearful at age 2 were found to have shorter actigraphically-measured TSD and NSD at age 3 (Bastien et al., 2020). Children's physiologic reactivity has also been studied in relation to their sleep, with a study of 333 5 year olds finding that those low in biological sensitivity had higher odds of caregiver-reported CSPs when facing major adverse life events. This supports the theory that both biological and environmental factors combine to affect childhood sleep (Alkon et al., 2017).

Temperament can also affect child sleep indirectly by influencing the child's environment: for example, a more reactive child may demand particular conditions for sleep. Kim and Teti (2014) found, for example, in 106 9 month olds that maternal emotional availability at bedtime was lower for children high in negative affect and high in extraversion than for those who were not. Higher maternal emotional availability at bedtime has been associated with less frequent night wakings and reduced parental perception of CSPs in 45 families of 1-24 month olds (Teti et al., 2010). Thus children with temperaments which attract less sensitive maternal responses may be more likely to suffer sleep disturbances.

1.9.2 Caregiver Factors

1.9.2.1 Caregiver Behaviours at Sleep Onset. Caregiver behaviours are pertinent to sleeplessness in young children and the association between caregiver bedtime behaviours and child sleep becomes stronger in later infancy and toddlerhood than before 6 months (AASM, 2014; Williamson et al., 2019). For example, caregivers may remain present until sleep onset when children struggle to sleep independently. This may, however, lead to sleep associations whereby children become dependent on particular conditions to fall asleep, thus maintaining or worsening difficulties with sleeping independently (Owens et al., 2020). Caregivers may also fail to set and enforce appropriate bedtimes, leading to short sleep and/or bedtime resistance (Owens et al., 2020).

Caregiver behaviours associated with CSPs include feeding to sleep, holding children to settle them to sleep, parental presence at sleep onset and co-sleeping (Morrell, 1999). Breastfeeding or bottlefeeding to sleep and at night wakings, and caregiver presence at sleep onset have been associated with increased night wakings and later and more irregular bedtimes in 0-3 year olds (Ahn et al., 2016; Mindell et al., 2012; Mindell et al., 2010; Ordway et al., 2020; Sadeh et al., 2009). Large cross-cultural studies have found that giving milk at night waking, particularly by breastfeeding, explains a large proportion of the variance of number of wakes (Ahn et al., 2016; Mindell et al., 2010). It has been suggested that parental presence at sleep onset and children's resulting inability to fall asleep alone could explain this association. Cross-sectional studies using caregiver-reported child sleep have found that caregiver involvement in children's sleep onset is associated with child sleep behaviours. For example, increased parental interactions at bedtime have been associated with more problematic child sleep behaviour in 44 families of 12-24 month olds and in 110 Australian families of 2-5 year olds (Cook et al., 2022a; Johnson & McMahon, 2008). Conversely, allowing children to fall asleep independently has been associated with

longer, more consolidated child sleep in large, cross-cultural surveys (Mindell et al., 2010; Sadeh et al., 2009).

Co-sleeping has been associated with CSPs in some studies in children between 4 months and 4 years old (Lozoff et al., 1984; Van Tassel, 1985). However, two longitudinal studies have found no association between co-sleeping and actigraphically-measured child sleep in 1-12 month olds and 3-6 month olds, calling this relationship into question (Teti et al., 2016; Volkovich et al., 2015). Volkovich et al. (2015) found that co-sleeping Israeli mothers experienced more infant night wakings than those who did not. These findings were extended by Teti et al. (2016) who found that co-sleeping mothers in the United States reported more infant night wakings than non-co-sleeping mothers, but that there was no difference between the two groups of children on actigraphically-reported wakings. An interview study of 56 Japanese and 61 US mothers of 6-48 month olds found that more parent-perceived CSPs including night waking, bedtime resistance and stressful sleep problems were reported by US co-sleeping parents than by Japanese co-sleeping parents (Latz et al., 1999). Cognitions about the extent to which children's dependence on parents for support with sleep should be resisted or expected seemed to underlie the differences in perception of child sleep in the two groups.

Overall, evidence appears to support a relationship between practices encouraging independent child sleep onset and beneficial caregiver-perceived child sleep outcomes, however these perceptions may be influenced by culture.

1.9.2.2 Caregiver Sleep Knowledge. Given that caregivers' sleep-related practices appear to influence child sleep patterns, caregivers' knowledge about sleep and its management is an important determinant of child sleep health. Caregiver knowledge of

healthy child sleep, and sleep problems is also a necessary prerequisite for proactively managing disturbed child sleep and/or seeking help (McDowall et al., 2017). Sleep knowledge (including knowing that bed and wake times should be consistent, that electronics and television should be avoided before bed, and the importance of children falling asleep independently) has been associated with increased use of healthy sleep practices with children between 3 months and 12 years old (Owens et al., 2011; Owens & Jones, 2011). Research in the area of caregiver sleep knowledge is limited by few small-scale studies, some using unvalidated questionnaires, however, research suggests that caregivers generally have poor knowledge of healthy practices for child sleep (McDowell et al., 2017).

Intervention studies have demonstrated that education packages in the pre-natal and early post-partum period can increase parental knowledge of child sleep. They appear to reduce infants' night wakings and extend the longest sleep period (Mindell, 2006). Education has usually focused on the importance of establishing consistent bedtime routines and sleep schedules and reducing parental involvement at infants' sleep initiation and night waking. Randomised controlled trials using different measures of sleep have, however, found mixed results: a study of 136 mothers and their 4 month olds found that a brief group educational session and a booklet reduced parental intervention at night wakings and that parent-reported night wakings were lower in the intervention group compared to controls at 3-month follow-up (Adachi et al., 2009). However, Stremler et al (2013) found that a one-hour education session and written guidance did not increase the longest stretch of actigraphically-measured infant sleep at 6 or 12 weeks postpartum. This suggests that parent education may primarily influence parent-reported child sleep, rather than frequency and/or duration of particular child sleep-related behaviours.

For older children evidence is more limited and mixed effects of caregiver sleep knowledge on child sleep have been found: one study found no association between child sleep durations and caregiver sleep knowledge (Owens et al., 2011), while in another caregiver sleep knowledge was associated with increased parent-reported child sleep duration (Owens & Jones, 2011). A study of 152 low-income families of 2-5 year olds in the US found that one 45-minute education session increased caregiver sleep knowledge post-intervention, but this was not retained at 1-month follow-up (Wilson et al., 2014). Interestingly, this study also educated the 2-5 year olds on healthy bedtime routines for a fortnight. Child sleep duration increased by 30 minutes and this was maintained at follow-up, even though caregiver knowledge was not maintained. A proposed mechanism was that children themselves had internalised the 8pm bedtime and either asked to go to bed at this time, or did not resist doing so. These findings call into question whether sleep knowledge alone can help caregivers of toddlers and preschoolers to implement healthy sleep behaviours and thereby benefit child sleep.

1.9.2.3 Caregiver Functioning. Caregiver functioning has been widely explored in relation to children's sleep. Maternal depression has been associated with poorer actigraphically-measured infant sleep in the first 6 months of life (Armitage et al., 2009). In 12 month olds, caregiver-reported child sleep has been negatively associated with maternal post-natal depression symptoms (Piteo et al., 2013). Maternal stress, depression and poor self-report of health were associated with less caregiver-reported child and maternal sleep and poorer maternal perception of child sleep in a cohort study of families of 9 month olds (Hughes et al., 2015). A longitudinal study of 226 mothers found that maternal emotional distress (mild to moderate depressive symptoms and anxiety) predicted maternal perception of child's sleep as problematic, but did not contribute to objectively-measured child sleep patterns at 3, 6, 12 or 18 months (Tikotzky et al., 2021). This suggests that

caregiver sleep ratings rather than child sleep behaviours may be affected by mothers' emotional distress, although the relationship may be different in clinical populations (Tikotzky et al., 2021).

1.9.2.4. Caregiver Cognitions. Parental sleep-related cognitions are associated with child sleep outcomes in a wide range of studies. Higher levels of maternal doubt, anger and difficulty setting limits have been positively associated with higher number of night wakings in infants and toddlers (Morrell, 1999; Sadeh et al., 2007; Tikotzky & Shaashua, 2012; Zreik et al., 2021). A longitudinal study of 71 families which measured sleep using actigraphy at 12 months and 4 years found that maternal difficulty with limit-setting predicted more fragmented sleep at age 4 (Tikotzky & Shaashua, 2012). Lower sense of parenting impact and higher overprotectiveness in mothers and fathers, as well as lower maternal self-efficacy and higher coerciveness were associated with caregiver-reported extended night waking in a Canadian population cohort study at 29 months (Zaidman-Zait et al., 2015). A study of Jewish and Arab mothers found levels of maternal anger, parenting doubt and difficulty limit-setting were positively associated with length of caregiver-reported night wakings in toddlers in Arab but not Israeli families (Zreik et al., 2021). This could suggest that the relationship between parental cognitions and child sleep is influenced by culture.

Caregiver cognitions also appear to influence child sleep indirectly, through parental bedtime behaviours. In particular, caregivers' feelings of anger towards their children and doubt about their own parenting competency have been associated with caregivers' bedtime behaviours (particularly the extent to which they engage in active settling) and parent-reported child sleep outcomes (Johnson & McMahon, 2008; Morrell & Steele, 2003; Morrell, 1999). Parental worries about toddler distress at night waking were associated with increased parental involvement in bedtime settling and increased parent-

reported night waking in parents of 141 4.5-30 month olds (Tikotzky et al., 2010b). A study of 144 families of infants aged around 12 months found that tolerance of infant crying was lower in families who had sought help for their infants' night waking problems than in families who had not, meaning that they advocated intervening sooner when infants were crying (Sadeh et al., 2016). This could mean that cognitions about infant crying and child distress increase signalled night waking due to caregivers intervening earlier and giving less opportunity for children to learn to self-settle.

Studies have primarily investigated relationships between child sleep, caregiver behaviours and caregiver cognitions about their child's sleep. Additionally, parents' increased endorsement of dysfunctional cognitions about their own sleep were associated with perception of CSPs in a study of 44 families of 12-24 month olds (Cook et al., 2022a). In this study, parents' cognitions about their own sleep were assessed via a global score on the shortened Dysfunctional Beliefs and Attitudes about Sleep questionnaire (DBAS-16, Morin et al., 2007) which assessed unrealistic expectations of sleep, amplification of consequences of poor sleep, diminished perception of control of sleep and incorrect beliefs about sleep-promoting practices (Morin et al., 2007). Increased dysfunctional beliefs about parents' own sleep was predictive of increased concern about their child's sleep (measured using the Parental Concerns about Infant Sleep Questionnaire; Sadeh et al., 2007) for both parents. In mothers, but not in fathers, such cognitions relating to concerns about their child's sleep were associated with more active bedtime settling behaviours with their children. For both mothers and fathers, increased involvement in settling children at bedtime predicted parent perception of CSPs, although neither parental involvement in settling nor parental cognitions predicted actigraphically-measured child sleep efficiency. This suggests that parents' cognitions about their own and their child's sleep can influence both how they behave around and how they perceive their

child's sleep. These relationships may differ between mothers and fathers, or may be explained due to mothers being the majority of primary night-time caregivers in this study.

1.9.3 Family Contextual Factors

Aspects of family functioning, including quality of co-parenting, marital satisfaction and family functioning were associated with caregiver-reported children's sleep problems in a longitudinal study of 249 families of 2-3 year olds in the United States (Peltz et al., 2016). Fathers' lower parenting stress and higher marital satisfaction, as well as mothers' higher perceived social support have also been longitudinally associated with greater caregiver-reported sleep consolidation between 15 months and 2 years of age in Canada (Bernier et al., 2013). A longitudinal study which measured sleep actigraphically in 57 Israeli families at 3 and 6 months found fathers' increased daytime and night-time caregiving was positively associated with child sleep (Tikotzky et al., 2015). It has been suggested that the quality of family functioning may affect child sleep by affecting emotional security (Dahl & El-Sheikh, 2007).

Other caregiver factors associated with increased CSP perception in 17 predominantly Caucasian and predominantly Asian countries (including Australia, the US, the UK, India, Singapore, Japan and China) include lower parental education levels, lower parent age and higher levels of parental employment (Sadeh et al., 2011). These findings suggest the role of contextual factors in parents' perception of a CSP. For example, it may be that night wakings are more problematic if parents have a demanding job than if they are able to take a nap during the day. How a child's sleep patterns fit with family life may partially determine how problematic it is for caregivers. A survey of 139 parents of under-5s in the United States found that parents who intentionally co-slept perceived their child's

sleep as less problematic than those who reactively co-slept (i.e. did not want to co-sleep but felt their child could not sleep without them; Ramos et al., 2007). This suggests that caregivers' feelings about their ability to manage their children's sleep as they choose could also play a role in their perception (or not) of a CSP.

1.9.4 Broader Contextual Factors

Lower socioeconomic status (SES), measured using a number of indicators, including family income, parental education or occupation and index of multiple deprivation, has been associated with shorter periods of continuous sleep in 2-year olds, shorter caregiver-reported NSD in 12-32 month olds, more sleep problems and greater variability in actigraphically-measured sleep onset times in 4-5 year olds (Bernier et al., 2013; Covington et al., 2021; Hager et al., 2016). Lower SES has also been associated with different 24-hour sleep distribution in 3 year olds, with longer daytime sleep and shorter night-time sleep reported by a low SES than a high SES group (Jones & Ball, 2014).

A recent review of family context and childhood sleep health found that number of adults in the household and parental relationship status were not associated with sleep in under-5s (Covington et al., 2021). A longitudinal study of 177 families found no effect of family structure (1, 2 or more than 2 adults) on caregiver perceptions of their children's sleep duration at age 4 or 6 (Koulouglioti et al., 2014). Similarly, marital status was not associated with any caregiver-perceived problematic child sleep behaviours in 5 year olds (Alkon et al., 2017).

Prevalence of CSPs has been shown to differ between geographical regions, suggesting cultural beliefs and expectations may play a role. One international survey of 29,

287 parents of 0-3 year olds in 17 countries found parents in predominantly Asian countries were over six times more likely to perceive a CSP than those in predominantly Caucasian areas (Sadeh et al., 2011). A survey of 669 mothers of under-3s in the Middle East found CSP perception was higher than in predominantly Caucasian areas, but not as high as in predominantly Asian countries (Mindell, Lee, et al., 2017). Different sleep practices such as sleeping separately from caregivers, room sharing and bedsharing may make parents in different countries more or less likely to notice any sleep disturbances (Goldberg et al., 2013; Field, 2017; Sadeh et al. 2011). However, the difference between CSP perception in Middle Eastern and predominantly Asian countries, both of which have high levels of roomsharing and bedsharing, indicates there are additional underlying factors (Mindell, Lee, et al., 2017).

1.10 Theoretical Models of the Combination of Child, Caregiver and Contextual Factors

Bronfenbrenner's Ecological Systems Theory (EST: 1979, 1986a, 1986b) describes a number of interrelated systems that form a child's developmental environment, termed the microsystem, mesosystem, exosystem, macrosystem and the chronosystem. The microsystem was regarded by Bronfenbrenner as the immediate environment and relationships surrounding the child: interactions with their family, peer group and others in such settings as home, school and neighbourhood (Navarro & Tudge, 2022). The mesosystem represents the connections between different microsystems, such as the family's relationship with school and neighbours. Such settings are directly experienced by the child, however, the exosystem describes broader environmental influences in which the child does not actively participate, but which nonetheless impact upon them, such as caregivers' workplaces and own education (Blunden et al., 2016). The macrosystem acknowledges the influence of wider cultural norms on child development, while children's

maturation over time is described by the chronosystem. More recently, the importance of technological and virtual environments for child development has been recognised by a proposed adaptation, neo-ecological theory, which acknowledges that microsystems can be both in-person and virtual and which emphasises the importance of macrosystemic influences such as cultural discourses, which permeate virtual microsystems (Navarro & Tudge, 2022). While neither EST nor neo-ecological theory specifically mention sleep, it describes the operation of family and environmental systems which both affect and are affected by children's sleep. For example, caregiver competence and ensuing interactions with children may be affected by the amount of sleep both child and caregiver obtain. These interactions may then affect caregiver sleep-related behaviours and/or child feelings of security, which in turn could affect child and caregiver sleep (Teti et al., 2022).

Drawing on EST, the transactional model of child sleep theorises the interrelationship of intrinsic child factors (e.g. maturity, health, temperament), caregiver factors (e.g. psychopathology, cognitions, stress) and contextual factors (e.g. quality of parents' relationship, housing, wider family and cultural expectations about sleep and parenting: Sadeh & Anders, 1993; Sadeh et al., 2010). Caregiver and external factors are thought to influence the child's sleep most directly through the caregiver-child relationship and caregiver behaviours around child sleep. For example, a caregiver's work schedule (contextual factor) may influence how often the caregiver is available at the child's bedtime, which may in turn influence the child's sleep duration. This could be through the child's emotions around the absence of their primary caregiver leading to delayed sleep onset, or through caregiver feelings of guilt causing more interactive bedtime behaviours, which are associated with more CSPs, among other possible pathways. In the transactional model of child sleep, relationships between factors are often thought to be bidirectional. For example, an infant with a strongly reactive temperament may resist caregiver

behaviours encouraging independent sleep onset (Owens et al., 2020). In turn, this may lead to more fragmented sleep as the child has learned to associate the caregiver with sleep onset and thus needs caregiver intervention at night wakings. Less sleep in the child may then mean reduced emotional regulation, which increases the child's distress at sleep onset.

Twin studies have examined the relative roles of intrinsic and extrinsic factors in young children. One cohort study found that approximately 26% of variance in sleep outcomes was due to genetic factors in 15-month olds, while 66% was due to environmental factors (Fisher et al., 2012). A further study of monozygotic and dizygotic twin pairs at 6, 18, 30 and 48 months found that daytime sleep was most influenced by environmental factors, while genetic factors had more influence on night-time sleep, although a window where environmental influence was key existed at 18 months old (Touchette et al., 2013). These studies suggest the importance of both individual child and environmental factors in sleep development, as theorised in the transactional model of sleep.

As the most proximal environmental factor to child sleep, caregiver sleep-related practices are frequently targeted to improve children's difficulties with initiating and/or maintaining sleep, where behavioural factors such as inappropriate sleep onset associations and inadequate caregiver limit-setting are thought to be the cause. There are a range of possible behavioural interventions which are next outlined.

1.11 Treatment of CSPs

There are a wide range of sleep disorders (outlined in section 1.8) and a broad range of treatments are available. These include use of good sleep hygiene, sleep education, behaviour therapy, chronotherapy to entrain circadian rhythms, various pharmacological options, use of devices (such as continuous positive airway pressure (CPAP) machines) and even surgery. Treatment of CSPs historically involved wide use of pharmacological approaches, however, these are no longer considered appropriate. Psychological and behavioural treatments are now known to be effective and are recommended (Morgenthaler et al., 2006; Mindell et al., 2006). Widely used management approaches for CSPs now include use of sleep hygiene, (defined as daytime behaviours to support healthy night-time sleep, use of appropriate bedtime routines and regular sleep/wake schedules, a conducive sleep environment and avoidance of inappropriate caregiver bedtime behaviours as outlined in section 1.9.2; Bathory & Tomopoulos, 2017; Hall & Nethery, 2019), parent education about sleep, and behavioural sleep interventions.

1.11.1 Sleep Hygiene

Sleep hygiene is recommended as a precursor to management of CSPs and is a recommended adjunct to management of nearly all sleep disorders (AASM, 2014). Sleep hygiene includes attention to sleep environment, bedtime and sleep routine, including timings and practices, and daytime activities. For example, advice includes appropriate scheduling of daytime sleep, taking daytime exercise, avoiding media use before bed, and avoiding caffeine intake in the hours prior to sleep (Bathory & Tomopoulos, 2017; Hall & Nethery, 2019; National Health Service [NHS], 2023; Great Ormond Street Hospital (GOSH), 2020). Going to bed neither too hungry nor too full, having a relaxing bedtime routine and regular sleep/wake timings and falling asleep in bed, in a cool, dark, quiet room are also considered to be important behaviours for healthy sleep (Bathory & Tomopoulos, 2017;

Hall & Nethery, 2019; NHS, 2023; GOSH, 2020). Sleep hygiene is thought to benefit sleep by reducing pre-sleep arousal, facilitating appropriate sleep-conducive learnt associations and keeping the circadian sleep-wake rhythm regular and appropriately timed (Bathory & Tomopoulos, 2017).

1.11.2 Caregiver Sleep Education

Sleep education packages focus on developing caregiver knowledge of positive child sleep habits, including use of bedtime routines, consistent sleep-wake schedules and reducing caregiver interaction at child sleep initiation and night wakings (Mindell et al., 2006). Caregiver sleep knowledge is important as it affects caregivers' sleep-related behaviours with their children, which in turn can influence child sleep patterns, as discussed in section 1.9.2. Caregiver sleep education is recommended to prevent the occurrence of sleep problems and as part of multi-component sleep interventions, and has proved to be one of the most cost-effective means of increasing children's sleep health to date (Mindell et al., 2006; Morganthaler et al., 2006). Intervention studies have demonstrated that sleep education before and shortly after birth can increase caregiver sleep knowledge and appears to benefit child sleep (Mindell et al., 2006). However, as discussed in section 1.9.2, there is limited evidence suggesting increasing caregiver sleep knowledge alone benefits the sleep of toddlers and preschoolers.

1.11.3 Behavioural Sleep Interventions

Based on behaviourism and learning theory, behavioural sleep interventions target negative associations young children may have developed with sleep and aim to reduce reinforcements for undesirable learned behaviours (such as demands for parental presence

at bedtime and signalled night wakings; Fehr et al., 2021). Social attention from caregivers in response to child behaviours is thought to reward and thereby reinforce such behaviours. By attending to desired behaviours rather than undesirable behaviours, children can be taught appropriate behaviours for sleep. Some interventions also use sleep physiology to align the desire to fall asleep with appropriate environmental stimuli, such as falling asleep in bed alone (Honaker & Meltzer, 2020).

1.11.3.1 Extinction-Based Methods. Extinction-based methods typically aim to reduce caregiver involvement during wakeful periods (at sleep onset or during the night), with reduction in caregiver involvement carried out at different paces in different types of intervention. By removing the supposed reinforcement (parent attention) of children's undesirable behaviour (i.e. wakefulness), it is expected that children will learn to fall asleep alone (Whittall et al., 2021). Unmodified extinction (or 'cry it out') involves caregivers ceasing to respond to children's cries at bedtime and night-time. Although this intervention is effective and results can be fast, many parents find this difficult to adhere to (Blunden & Bails, 2013; Kuhn & Weidinger, 2000). This can also lead to difficulties such as intermittent reinforcement if parents return to the child inconsistently, which can reinforce the undesired behaviour and make matters worse (Lawton et al., 1991).

There are various forms of graduated extinction, where removal of the reinforcement is achieved in discrete steps. For example, 'checking in', where parents leave and return to attend to children at increasing intervals (e.g. two minutes, four minutes, eight minutes) can be more acceptable than unmodified extinction to some parents and in addition to improving child sleep, has been associated with improvements in caregiver mood (Whittall et al., 2021). A similar procedure is the 'excuse me drill' where parents devise excuses of increasing duration to leave and return to the child (Honaker & Meltzer,

2020). In a further modification, 'camping out', caregivers remain in the same room with minimal interaction or intervene to soothe the child at increasing intervals. This treatment may be more suitable for children experiencing separation anxiety (Kahn et al., 2020). Thus, a range of extinction-based interventions exist which can be adapted to caregiver preference and child needs, and which can improve both child sleep and parental wellbeing.

1.11.3.2 Scheduled Awakenings. This intervention involves first establishing the number of times a child usually spontaneously wakes, followed by pre-emptive scheduled awakenings. These are usually scheduled for around 15-30 minutes before an expected spontaneous waking and the child is comforted in the usual way before returning to sleep. Scheduled awakenings are gradually spaced further apart and appear to increase the length of consolidated sleep between wakes (Mindell et al., 2006). This approach has been successfully used to lengthen consolidated sleep periods in breastfeeding infants (Pinilla & Birch, 1993). The continued use of usual comforting behaviours means this intervention could be acceptable to a wide range of parents.

1.11.3.3 Bedtime Fading/Positive Bedtime Routines. Bedtime fading/Positive bedtime routines is a stimulus control behavioural intervention which uses sleep physiology to establish sleep as a reinforcer of appropriate bedtime behaviours. By delaying bedtime until a time when the child usually falls asleep, the child's feelings of sleepiness increase the value of sleep as a reward, and also reduce the opportunity for, and thus the likelihood of, negative behaviours, such as tantrums (Delemere & Dounavi, 2018). Bedtime fading may be used with a set wake time and proscription of daytime sleep other than scheduled, age-appropriate naps to ensure the homeostatic drive for sleep is high at bedtime (Mindell et al., 2006). It is often used in conjunction with a positive bedtime routine and once the

desired behaviours are in place, bedtime can be incrementally moved back to a time which allows the child sufficient sleep opportunity. In addition to teaching appropriate behaviours, affective and physiological arousal are controlled by these methods, permitting sleep onset (Mindell et al., 2006).

Positive bedtime routines were first introduced to reduce tantrums associated with extinction-based interventions (Milan et al., 1982). However, they also develop circadian cues, can reduce arousal and, using positive reinforcement, they aim to help children learn desired bedtime behaviours and develop appropriate sleep associations (Honaker & Meltzer, 2020). A sequence of calming pre-bed activities are introduced and parents reward at each step with praise. This becomes a behavioural chain, where each activity cues the next, ending in behavioural quietude and finally sleep (Delemere & Dounavi, 2018). Given the numerous hypothesised benefits for sleep, bedtime routines are the first-line treatment for CSPs and are included as part of many multi-component interventions (AASM, 2014; Mindell et al., 2006; Morgenthaler et al., 2006). Evidence of the benefits of positive routines for young children's sleep is discussed in detail in chapter 2.

1.11.3.4 Caregiver Reservations about Extinction-based methods. Despite the evidence base for this range of behavioural treatments for child sleeplessness problems, many caregivers have reservations about using such methods and/or are unable to implement them (Blunden & Bails, 2013; D'Souza & Cassels, 2022; Whittall, 2021). For example, some parents have reported concerns about the emotional impacts of leaving their child to cry, as in extinction methods, which has come to be popularly termed 'sleep training' (Blunden & Bails, 2013; Cook et al., 2020; Whittall et al., 2021). Concerns that behavioural interventions might increase child anxiety and damage parent-child attachment have been examined and a five-year follow-up of behavioural sleep

interventions with young children found no effects on parent-child relationship, or wellbeing in either parent or child (Hiscock et al., 2008). However, parental concerns persist (Cook et al., 2020; Whittall et al., 2021), making understanding of the ways parents choose to manage their young children's sleep and the reasons behind their choices important. Such understanding is needed to engage caregivers and tailor sleep management approaches so that they are felt to be appropriate for a wide variety of families.

1.12 Chapter Summary and Conclusions

There are many sleep changes between birth and 3 years old. Child sleep patterns appear to be shaped by a complex interplay of factors ranging from the individual child's biological and temperamental characteristics, caregiver characteristics and behaviours, family functioning and household factors, to wider cultural beliefs about sleep. The presence of child sleeplessness problems can have a range of negative consequences for family and child and is difficult for many families. Fortunately, there are evidence-based approaches to managing these sleep disturbances, but these are not easily and readily implemented by all families. Due to the multiplicity of known influences on and consequences for health and wellbeing of toddler sleep, a systematic review was not deemed appropriate and so was not undertaken. Thus the review presented in this chapter cannot be considered fully comprehensive. The chapter does, however, provide a broad overview of the complex range of factors and outcomes associated with young children's sleep. Knowledge of the sleep-related behaviours caregivers undertake with their children, the reasons for them and families' experiences of managing their young children's sleep is therefore important for developing relevant and appropriate sleep education to support children and their families.

The next chapter will present an in-depth exploration of one particular behavioural treatment for CSPs, positive routines.

Chapter 2 Sleep-related Routines and Young Children's Sleep

Chapter One showed that routines, particularly at bedtime, are recommended to caregivers to benefit child sleep. This chapter presents a critical evaluation of the evidence relating to the efficacy of sleep-related routines and their components in children aged 1-3. As in chapter 1, research has not always considered use of sleep-related routines in this specific age group. Consequently, research which includes, but is not limited to children aged 1-3 is presented.

2.1 Introduction

Fiese et al. (2002) defined routines as observable, repetitive behaviours which occurred over time in the family context. Sytsma et al. (2001) identified a range of common family routines (sets of activities that occur in the same order and around the same time each day) in the morning, for meals, time with parents/caregivers, and at bedtime, as well as routines for household responsibilities, discipline and homework. Use of routines, particularly at bedtime, is commonly recommended to parents as a prevention and as a component of first-line treatment for many common CSPs (e.g. Meltzer, 2010; NHS, 2023).

Research has defined bedtime routines in a number of ways. Henderson and Jordan (2010) conceptualised bedtime routines as a predictable, observable set of activities regularly occurring in a consistent location, involving a child and caregiver interacting or supervising in the hour before bed. The activities used were grouped into 'adaptive' (e.g. reading, bathing) and 'maladaptive' (e.g. active play, watching television) categories, thought to benefit or impair child sleep respectively. Distal activities such as daytime napping and mealtimes were specifically excluded. In this definition, consistency of routine

included five dimensions measured using a single subscale: same location, same activities, same order of activities, same bedtime and same caregiver. Routine consistency was measured as the proportion of weekday and weekend nights in a month these dimensions were kept the same, using a 5-point categorical measure ranging from 'nearly always' to 'almost never'.

Mindell et al. (2015) used the definition 'predictable activities that occur in the hour or so before lights out', with activities at sleep onset specifically excluded to permit distinction between benefits of a regular set of pre-bed activities and particular sleep onset practices, some of which have been associated with CSPs. Consistency referred to the number of nights per week the same activities were carried out in the same order (Mindell et al., 2015).

Most recently, a Delphi consensus statement from a group of childhood experts defined an 'optimal' bedtime routine for 2-8 year olds as including a number of suggested calming and relaxing activities (such as singing and bathing) taking place the hour before bed, in a calm environment, and used fairly consistently across the week and weekend (Kitsaras et al., 2021b). The term 'fairly consistently' was used to allow for real-world fluctuations in implementation and acknowledge that flexibility might sometimes be required. A timing component of an age-appropriate bedtime was also included.

Current NHS guidance for parents defines a bedtime routine as a set pattern of wind-down activities beginning 30 minutes to two hours before bed (GOSH, 2020; NHS, 2023). Guidance for parents of young children includes having a set bedtime as part of a bedtime routine (GOSH, 2020; NHS, 2023).

At the core of all definitions of bedtime routines and their consistency of use is the use of the same set of activities in the period immediately prior to sleep onset being attempted and the proportion of nights/week they are used. Research and clinical definitions vary in whether bedtime routines take place in a consistent location, at the same time, the length of the pre-bed period during which activities occur, whether or not particular activities are recommended, and whether or not the same caregiver implements the routine. These variations have evolved for different purposes: to allow comprehensive measurement of aspects of bedtime routines (Henderson & Jordan, 2010), to determine the effects of particular elements of bedtime routines on child sleep (e.g. Mindell et al., 2015) and to provide guidance for parents reflective of up-to-date research in the area (e.g. GOSH, 2020; Kitsaras et al., 2021b; NHS, 2023).

2.2 How are Sleep-related Routines Measured and Assessed?

2.2.1. *Sleep Diaries*

Sleep diaries have been used to measure sleep-related routines. These often include routine start time, a checklist of activities and space to include additional activities, and the time the child goes to bed, enabling routine components, routine duration and bedtime to be measured (e.g. Prokasky et al., 2019; Staples et al., 2015). As sleep diaries are often carried out over a number of nights, night-to-night routine variability can also be measured. For example, Staples et al. (2015) calculated the average proportion of routine activities completed over seven nights. The Bedtime Routines Index (BRI) consists of a list of six 'optimal' activities (brushing teeth, reading a book, same bedtime, avoiding food/drinks, avoiding electronics, quiet activities) which are scored over a series of nightly real-time reports from caregivers of their pre-bed activities (Kitsaras et al., 2021b). A total

average score for the week is then computed, indicating the number of optimal activities performed per night.

Sleep diaries where parents add their activities without prompts may be more likely to capture practices caregivers regard as important for their child's sleep than those with checklists, where routine activities are predetermined by the researchers (e.g. Prokasky et al., 2019; Staples et al., 2015). A drawback, however, of listing activities in sleep diaries is that responses may not allow for understanding of how parents carry out an activity. For example, there may be different kinds of play, which could impact child sleep differently, but parents may not specify the kind of play that occurred. As they provide information about multiple days, sleep diaries may provide a fairly accurate picture of how frequently particular routine activities are used. The real-time electronic reporting via mobile phone used by Kitsaras et al. (2021c) further ensured that parents did not forget to record information for a particular night, or nights.

2.2.2 Questionnaires

Several caregiver questionnaires have been used to measure routines in order to determine relationships between bedtime routines and young children's sleep outcomes. The revised version of the Brief Infant Sleep Questionnaire (BISQ-R) is validated for use by caregivers of children aged 0-5 years, asks about bedtime and the number of nights per week it is the same, as well as a number of other sleep domains and offers a checklist of potential bedtime activities with space for caregivers to add additional practices in their routine (Mindell et al., 2019; Sadeh, 2004).

The Bedtime Routines Questionnaire (BRQ) was developed to enable comparable measurements of bedtime routines of 2-8 year olds to be made in a cost-effective manner (Henderson & Jordan, 2010). Based on US parental sleep diaries and review of sleep literature, a list of adaptive and maladaptive activities was created and reviewed by an expert panel. Two further scales including consistency (how frequently caregiver, location and timing are the same) and child reactivity (the extent to which children reacted negatively to changes to routines) were also included (Henderson & Jordan, 2010). Subscales are intended to stand alone and have been used independently in further studies (e.g. Fiese et al., 2021).

A novel questionnaire was designed by Hale et al. (2011) to assess whether or not language-based activities were used in bedtime routines. Two items asked 'do you have a regular routine of things you do before your child is put to bed', then asked for the 'kind of things you do'. Bedtime was also recorded. Activities such as praying, reading or playing a game were then coded as either language-based or not.

The Childhood Routines Inventory (CRI) captures children's daily routines across four sub-scales: Daily living routines, Discipline routines, Household responsibilities and Homework routines (Sytsma et al., 2001). It was originally designed for use in 5-12 year olds, but has been used in studies of 3 and 4 year olds (Koulouglioti et al., 2009; 2014). The Daily living routines subscale has 11 items which ask about the frequency and regularity of the child's routines including eating breakfast and dinner around the same time, eating with family, spending special time talking/reading with a family member, hugging/kissing a family member before bed, doing the same things each night before bed, going to bed and waking up at the same time on weekdays. Parents answer on a 4-point scale ranging from

‘never’ to ‘nearly always’ how frequently their child has engaged in each routine over the last month.

Questionnaires have the advantage of allowing comparison across large cohorts and can be easily and cheaply distributed. However, as one-off measures, they can be subject to caregiver errors in estimating how frequently they implement elements of their routines. A further drawback is the inclusion of checklists of routine activities. The BRQ consists of questions about predetermined bedtime activities and scoring judges caregivers’ routine components as ‘adaptive’, or otherwise, although evidence for benefits to child sleep of particular components is not currently well-established (see section 2.5 for detailed discussion; Henderson & Jordan, 2010; Kitsaras et al., 2021b). The BISQ-R permits participants to report activities they use in addition to those on a predetermined checklist. However, providing lists of expected activities may bias parents to prioritise reporting some activities over others, given that typical bedtime routines, such as ‘bath, book, bed’ are commonly advised. There may also be strong social pressure to include some activities (e.g. reading) which can be used as a way of signalling ‘good’ parenting (Hall et al., 2018).

Although limited by containing only two items, the novel questionnaire designed by Hale et al. (2011) has the advantage of not presupposing any particular bedtime activities that participants might report. However, this raises the question of what parents perceive as a component of their routine: some aspects of what they do may seem unimportant, or might be considered part of how they carry out another activity. For example talking to their child as they bath them, might not be identified as a stand-alone element. The CRI has the advantage of considering daily routines which might affect child sleep via circadian entrainment and emotional security pathways, however, as it was designed for older children it does not capture daytime routines related to sleep, which are likely to influence

bedtime and night-time sleep in 0-3 year olds (Koulouglioti et al., 2009; Systma et al., 2001). Furthermore, it does not permit caregivers to include routine elements they consider important.

2.2.3 Direct Observation

Direct observation of routines is usually by video recording of the bedtime routine, which has the advantage of being less intrusive than presence of an observer and is thus less liable to disrupt the practices and behaviours under observation. Routines and target behaviours as they are carried out, such as mutual parent-child enjoyment, can be coded by objective observers (e.g. Hoyniak, Bates et al., 2021; Philbrook et al., 2022). Direct observation has the advantages of allowing understanding of how practices are carried out and is not subject to errors in caregiver memory of activities performed or estimation of regularity. However, many caregivers may be unwilling to allow the intrusion of a camera in their home and caregiver behaviour may be changed by the knowledge of observation. Observation is both costly and time-consuming, making this method impractical for measuring behaviour over time. Additionally, the fixed position of cameras may mean that certain elements of the routine cannot be captured, for example if children leave the room. Further drawbacks are that elements such as caregiver and child feelings cannot be directly accessed and observers may vary in their interpretations of behaviour.

2.2.4 Semi-structured Interviews

Semi-structured interviews can have the advantage of allowing participants to talk about their routines in their own words, without using prescribed checklists of activities. They can also permit exploration of caregivers' cognitions about and during their routines.

Question schedules can be open-ended, as in a mixed-methods study of high- and low-SES caregivers of 3 year olds in the North of England (Jones & Ball, 2014). Parents were asked about their rules and routines regarding sleep, the reasons for using these or not and what they considered an appropriate sleep schedule and location. This approach permitted participants to talk about elements of their routines which they considered important and allowed exploration of how activities were carried out, as well as why. Alternatively, a theory-driven question schedule can be used, such as the schedule designed by Kitsaras et al. (2021a) based on the Theoretical Domains Framework (a behaviour change framework summarising 84 possible determinants of behaviour) used to explore barriers and facilitators to establishing, implementing and maintaining optimal bedtime routines with 32 parents of 3-7 year olds in the North of England. The drawback of a theory-based approach is that it may not capture some aspects of routines that are important to participants.

Similarly, analysis of interview data can be deductive, with data coded in response to theory, or pre-determined areas of interest. For example, Jones & Ball (2014) used a predetermined set of codes to identify whether or not children had the same bedtime nightly, were read to as part of their typical routine, and whether they fell asleep in their own bed every night. Thus, participants' views of what constituted their bedtime routines were not explored, despite the use of an open-ended interview schedule. Alternatively, inductive data analysis, which codes data with no predetermined theory in mind, can be used to explore aspects of the data which are important to participants. For example, Sundnes & Andenaes (2016) used an inductive analytical approach in their exploration of ways 51 families regulated their infants' sleep. This type of data-driven approach can be particularly useful for identifying what participants do, their reasons and experiences of their practices.

2.3 What are the Mechanisms by which Routines Might Benefit Child Sleep?

Recent reviews have found use of bedtime routines is beneficial for child sleep outcomes (including shorter SOL, reduced night wakings, longer NSD and improved parent perceptions of child sleep) and protective against CSPs in 0-5 year olds (Mindell & Williamson, 2018; Newton et al., 2020). However, there is little empirical evidence about mechanisms of effect, which are likely to have multiple overlapping facets (Hoyniak et al., 2019; Mindell & Williamson, 2018). Sleep onset requires the co-ordinated reduction of cognitive and physiological arousal, which can be influenced by affective and attentive processes (Dahl, 1996; see Chapter 1, section 1.2.1). Theorised mechanisms by which routines benefit child sleep therefore include emotional security induction (making the child feel safe), arousal reduction (physiological and cognitive) and/or behavioural chaining/reinforcement, whereby one activity cues the next in a chain ending with sleep onset (Bathory & Tomopoulos, 2017; Jones, 1981; Mindell & Williamson, 2018; Sytsma et al., 2001).

Children's feelings of security are important to reduce vigilance sufficiently to permit sleep onset (Dahl, 1996; Dahl & El-Sheikh, 2007). Feeling secure may allow reduced attention to the environment and reduced cognitive arousal, in turn permitting reduced physiological arousal. Routines may promote security through being predictable, promoting a positive emotional family climate and providing opportunity for closeness between caregivers and children. Predictable activities, occurring in an expected sequence can create security as children know what to expect (Bathory & Tomopoulos, 2017). Routines in general have been associated with reduced family stress, increased caregiver self-efficacy and improved child behaviour (Fiese et al., 2002). Thus, regular use of routines could benefit child sleep indirectly through reduced conflict and more positive emotions within

the family (Mindell et al., 2015). Routines may also create secure feelings through close, positive interaction with caregivers.

There is some evidence for this proposed mechanism. An observational study of 45 families' bedtime practices found that maternal emotional availability (warm and sensitive responding, without irritability or anger) was associated with fewer parental returns to children when settling at bedtime, fewer night wakings and greater parental satisfaction with child sleep in infants under 24 months (Teti et al., 2010). An intervention study evaluating use of a consistent bedtime routine including massage or applying lotion and quiet activities with 405 children aged 7-36 months found that child sleep improved, with reduced SOL, fewer night wakings and fewer parent-perceived CSPs found in the intervention group compared to controls (Mindell et al., 2009). Mothers' mood improved, with reduced anger and tension, which could have potentially increased children's feelings of security (Mindell et al. 2009). Mutual parent-child enjoyment of activities, which could again promote feelings of emotional security, has also been associated with positive child sleep outcomes in 30 month olds (Dubois-Comtois et al., 2019; Hoyniak, Bates et al., 2021). This supports the suggestion that emotional climate (the feelings of caregiver and child and the emotional tone of the interactions between them) during routines might be as, or more, important than the particular pre-sleep activities chosen (Teti et al., 2010).

Reducing pre-sleep arousal is another likely and related benefit of routines for sleep onset (Bathory & Tomopulos, 2017; Mindell & Williamson, 2018). Arousal has three dimensions: cognitive (such as worries and racing thoughts), physiological or somatic (such as raised temperature, increased heart rate and muscle tension) and behavioural (the degree of activity the child exhibits; Delemere & Dounavi, 2018; Hoyniak, McQuillan et al.,

2021). Reducing behavioural arousal through a chain of activities in which activity gradually reduces to quiet use is thought to allow children to attend to internal sleep cues of tiredness (Delemere & Dounavi, 2018). Physiological, or somatic, arousal may also be reduced through using calming and relaxing activities as part of routines.

Evidence for this mechanism has been found in older children, but has not yet been researched in 0-3 year olds. Cognitive and physiological arousal have been associated with disturbed sleep in older children, for example a study of 123 UK 8-10 year olds found cognitive and, to a lesser extent, somatic arousal were associated with child- and parent-reported sleep disturbances (Gregory et al., 2008). In 52 7-14 year olds with an anxiety disorder, pre-sleep cognitive arousal was associated with shorter sleep and more sleep problems (Alfano et al., 2010). It has been suggested that somatic arousal is more likely to cause sleep disturbances in young children than cognitive arousal (Hoyniak, McQuillan et al., 2021). An association was found between greater pre-sleep physiological arousal during the bedtime routine and longer SOL in 4.5 year olds, while caregiver reports of toddlers' cognitive arousal were not associated with sleep outcomes (Hoyniak, McQuillan et al., 2021). Perhaps as children age, cognitive arousal plays a greater role in delaying sleep onset, or perhaps difficulties in measuring toddlers' cognitions account for the lack of associations. Rapid improvements in young children's sleep following an intervention of a bedtime routine including a bath in one study may have been caused by reducing physiological arousal: the bath may have helped to reduce core temperature, which is a strong circadian cue for sleep onset (Mindell et al., 2009). While there is evidence suggesting arousal reduction as a mechanism by which routines might improve young children's sleep, further empirical studies are needed.

Routines are also thought to smooth transitions between activities and increase compliance with desired bedtime behaviours through positive reinforcement, including parental praise and ending with a preferred activity (Bathory & Tomopoulos, 2017; Honaker & Meltzer, 2020; Mindell & Williamson, 2018; Systma et al., 2001). Behavioural chaining, whereby one activity becomes associated with the following activity has also been suggested as a possible way that bedtime routines could smooth transitions, as children expect to carry out particular activities in sequence, ending with sleep (Bathory & Tomopoulos, 2017). Evidence that routines can increase children's compliance at bedtime was first found in a study of three intellectually disabled children, where bedtime tantrums were almost entirely eliminated by use of a positive bedtime routine (Milan et al., 1982). However, a bedtime fading component was also included which may also have reduced negative bedtime behaviour by increasing sleepiness (Delemere & Dounavi, 2018). Only one study has attempted to distinguish bedtime compliance from other mechanisms by which bedtime routines might benefit child sleep: a survey of 156 caregivers of 3-5 year olds found that consistent bedtime routines were related to sleep quality through reduced bedtime anxiety and then increased bedtime compliance (Larsen & Jordan, 2022). This suggested that reducing children's anxiety by using a bedtime routine could lead to increased compliance and improved child sleep, illustrating the overlap between proposed mechanisms by which bedtime routines may impact sleep (Larsen & Jordan, 2022; Mindell & Williamson, 2018).

As seen in section 2.1, some definitions of bedtime routines include consistent timing of activities (e.g. Kitsaras et al., 2021b). This is likely to support children's sleep consolidation through circadian entrainment (Bathory & Tomopoulos, 2017; Honaker & Meltzer, 2020). Few studies distinguish between the effect of a regular bedtime and a regular bedtime routine, however the previously mentioned study by Tsai et al. (2021)

found that regular bedtime was associated with longer objectively-measured NSD. Further research is needed to determine the relative contributions of consistent activities and order versus regular timing of routines to improvements in child sleep.

Overall, bedtime routines appear to work in multiple and overlapping ways, with different aspects likely to be particularly beneficial for individual children. Evidence for 0-3 year olds is strongest for the effect of creating a sense of security in the child, however, this is largely due to a lack of studies of other proposed mechanisms in this age group. It is striking that the main focus of literature about sleep-related routines aimed at parents is on a consistent series of calming and relaxing activities (e.g. NHS, 2023), when creating feelings of emotional security is also an important mechanism by which routines could improve child sleep. Little is currently known about which processes (if any) parents perceive as benefiting their young children's sleep and why, and which are important to them.

2.4 What is the Evidence that Consistent Routines Benefit Child Sleep?

A range of research has shown that consistent routines are likely to benefit toddler sleep (Mindell & Williamson, 2018). Consistency, as seen in section 2.2 has been conceptualised differently as the number of nights/week the same set of pre-bed activities are used (Mindell et al., 2015; Sadeh, 2004), or how frequently the same activities are used in the same order, as well as how frequently the caregiver, location and timing of the routine are the same (Henderson & Jordan, 2010). This section considers the evidence for these different aspects of routine consistency in 1-3 year olds. Again, research is presented which includes, but is not limited to children in this age bracket.

2.4.1 Intervention Studies

Intervention studies which have introduced bedtime routines have reported improvements in caregiver-reported child sleep outcomes and caregiver mood. A 3-week intervention study of 405 children aged 7-36 months investigated effects on caregiver-reported child sleep of introducing a consistent bedtime routine defined as the same set of three pre-bed activities (bath, massage or applying lotion and quiet activities) to that of a control group who continued with their usual sleep practices (Mindell et al. 2009). Benefits to child sleep (SOL, number and duration of night wakings, longest continuous sleep, NSD and TSD), maternal perception of child sleep and maternal mood were found in the intervention group compared to controls. However, a study of two intervention groups experiencing a three-week internet-based intervention which provided personalised child sleep guidance either with or without the above prescribed bedtime routine in 264 6-36 month olds with parent-perceived CSPs found both intervention groups showed major improvements in caregiver-reported children's sleep (Mindell et al., 2011a). SOL, longest continuous sleep period, TSD and number and duration of night wakings improved compared to baseline measures (Mindell et al., 2009; Mindell et al., 2011a). Maternal sleep, mood, perception of child sleep and confidence in managing sleep also improved in the intervention groups compared to baseline. The internet component of this study recommended introduction of a nightly bedtime routine to all participants, along with recommendations to reduce active settling practices. Thus, it is unclear how much of the improvement in each group might have been due to effects of introducing a routine versus effects of reducing active settling, or even effects of improved maternal confidence and mood due to receiving support with child sleep through the intervention. No significant differences between the groups with and without the prescribed 3-step routine were found, suggesting that following a particular routine alone may not account for the

improvements in child sleep found in Mindell et al.'s (2009) study. One-year follow-up of the internet-based intervention showed that improvements in child sleep and parental perception of child sleep were maintained in the intervention groups (Mindell et al., 2011b).

A further three-week study of 123 families with 3-18 month olds found that a pre-bed routine of massage and quiet activities, in addition to usual bedtime practices showed a small improvement in the number of mother and children's night wakings compared to controls, with no difference in other child sleep measures (Mindell et al., 2018). Maternal daytime mood also improved in the intervention group, but not in the control group. However, these samples excluded participants who normally included a bath as part of their pre-bed activities. Given the popularity of bathing as part of toddler's bedtime routines (Mindell & Williamson, 2018), these groups may have been experiencing particular circumstances that shaped their bedtime routines and may not be reflective of the general population.

While intervention studies suggest benefits of introducing a routine on child sleep, maternal perception of child sleep and maternal mood, there are many limitations to this work. Firstly, the speed with which the intervention took effect in one study (improvement was seen within three nights) suggests that effects may have been due to physiological effects of post-bath temperature decrease or effects of reducing caregiver stress and/or household chaos, rather than effects of a routine which are likely to take longer to be realised (Mindell et al., 2009; Mindell, Leichman, et al., 2017). In another study, both intervention groups received general sleep management advice and were advised to use routines, meaning effects of implementing a particular, prescribed routine on sleep cannot be determined (Mindell et al., 2011a). While this study found improvements in child sleep

compared to baseline measures, thus ruling out pre-existing group differences, usual bedtime practices and bedtimes in intervention and control groups were not reported, meaning it could not be established which particular changes might have led to the observed improvements in child sleep (Mindell et al.; 2011a).

Introducing three-step bedtime routines improved maternal mood and/or confidence in these studies (Mindell et al., 2009; Mindell et al., 2011a), suggesting routines might benefit maternal wellbeing. However, it should be noted that other behavioural interventions for sleep have resulted in reduced maternal stress and improved maternal mood as well as improved child sleep (e.g. Gradisar et al., 2016; Hiscock et al., 2007). Thus, it is unclear whether the routine intervention itself increased support for parents taking part in a study, or better child sleep improved maternal mood (Mindell et al., 2018).

2.4.2 Correlational Studies

2.4.2.1 Studies Using Caregiver-reported Child Sleep Outcomes. Large-scale studies using caregiver-report of both routines and child sleep have consistently found beneficial concurrent and longitudinal associations between consistent use of bedtime routines (regular use of the same set of pre-bed activities) and sleep in children aged between 3 and 42 months, whether routines were measured using questionnaires or sleep diaries (e.g. Covington et al., 2019; Prokasky et al., 2019; Staples et al., 2015; Tsai et al., 2021). A study of 118 US 12-47-month olds found greater bedtime routine consistency was associated with longer sleep duration through reduced night wakings according to caregiver sleep diaries (Covington et al., 2019). In a survey of 5006 mothers of US and Canadian 0-35 month olds using the BISQ, irregular bedtime routines predicted increased night wakings, while regular routines predicted longer night-time sleep (Sadeh et al., 2009).

Greater bedtime routine consistency (defined as the same activities in the same order, same location, caregiver and timing) was found in a group of parent-reported good sleepers, measured by the BRQ than in poor sleepers in a study of 226 2-8 year olds (Henderson & Jordan, 2010). Less bedtime routine consistency measured using the BRQ predicted increased parent-reported sleep problem severity in 407 2-10 year olds, but was not associated with signalled night wakings (Shetty et al., 2022). Thus, parent-reported studies appear to show benefits of consistent bedtime routines for child sleep, with evidence strongest for benefits of regularly using the same set of activities. Benefits of consistent timing, location and caregiver cannot be determined due to the use of a composite measure of consistency in the BRQ.

Particularly strong support for the benefits of regular use of a bedtime routine comes from the dose-dependent relationships between more frequent use of routines (the same set of pre-bed activities) and improved sleep outcomes found in 0-35 month olds and 36-59 month olds. An international cross-sectional study of over 10,000 parents of 0-5 year olds in countries including the UK, India, China and US using the BISQ found dose-dependent relationships with earlier bedtimes, reduced SOL, longer sleep duration, fewer night wakings and reduced parent-perceived sleep problems associated with increased consistency of bedtime routine, after controlling for maternal education (Mindell et al., 2015). Results from different countries were combined by Mindell et al. (2015), meaning that it cannot be determined whether these results are applicable in all sampled countries. A further study of 1,034 Chinese 0-35 month olds also found that greater routine consistency was associated with earlier bedtimes, increased sleep duration, fewer and shorter night wakings and shorter SOL (Yang et al., 2017).

Consistent use of bedtime routines has also been shown to have benefits for children's sleep longitudinally as well as cross-sectionally. Preschoolers (36 months and above) with a current bedtime routine (3 nights or more), whose parents retrospectively reported having a bedtime routine before their child was 12 months, had better sleep outcomes than those who had not had a routine in infancy, indicating a longitudinal, as well as concurrent benefit of bedtime routines for child sleep (Mindell et al., 2015). A longitudinal study of 468 US mothers using the adaptive activities and consistency subscales of the BRQ found longer sleep duration and earlier bedtime were correlated with more consistent adaptive bedtime routines when children were 12, 18 and 24 months (Fiese et al., 2021). More consistent adaptive routines at 12 months predicted fewer night-time waking and fewer parent-reported sleep problems at 18 months. Results indicate long-term benefits to sleep of using bedtime routines with young children, with evidence again strongest for the benefit of regular use of the same activities for child sleep.

Overall, studies using parent-reported routine use and sleep outcomes indicate favourable results of bedtime routines for child sleep (including reduced night wakings and SOL, earlier bedtimes, increased night-time (though not total) sleep duration). However, such studies may be subject to single-rater bias, as caregivers using regular bedtime routines may systematically hold different perceptions of child sleep than those who do not use routines. It is notable that routine intervention studies reporting on caregiver outcomes have found improved maternal mood and confidence in managing child sleep, as well as reduced perception of CSPs (Mindell et al., 2009; Mindell et al., 2011a; Mindell et al., 2018). Thus, studies which have used objective measures of sleep are important in distinguishing effects on child sleep from effects on caregiver perception of child sleep, although both may be important for family wellbeing.

2.4.2.2 Studies Using Objective Measures of Child Sleep. Studies using only caregiver report of both routine implementation and child outcomes have been criticised as potentially at risk of single-rater bias. However, a number of studies using actigraphy to measure child sleep outcomes objectively have also found links with consistency of bedtime routines both concurrently and longitudinally. Greater adherence to routines (the proportion of usual bedtime activities completed over 7 nights) was concurrently associated with greater TSD in 87 US children at 36 and 42 months, but not at 30 months (Staples et al., 2015). However, greater routine adherence at 30 months did predict increased nightly sleep duration at 36 months. Unusually, this study found that routine adherence was not related to signalled night wakings at any age. A study of 320 Taiwanese 6-month olds found that timing of bedtime routine (before 9pm) was associated with longer infant NSD, while greater consistency of bedtime routine measured using the BISQ was associated with reduced night-to-night variability in sleep duration (Tsai et al., 2021). This indicates that timing of bedtime routines might be associated with children's sleep duration. There is limited evidence supporting this finding in further study of 250 US 33-71 month olds, which found that the relationship between caregiver work hours and schedule and objectively measured total child sleep duration was mediated by routine consistency measured using the BRQ, which includes timing of bedtime (Craft et al., 2021; Henderson & Jordan, 2010). However, the composite measure of routine consistency in this study means that the relative contributions of routine timing and using the same activities could not be determined.

While the above studies indicate that regular use of the same activities and/or the same bedtime might benefit children's sleep duration, two studies found that sleep duration was not benefited by bedtime routines. A two-week study of 185 US 30-month olds found that longer and more variable bedtime routines (duration and activities

included) were associated with shorter parent-reported child sleep duration, but not actigraphic measures (Prokasky et al., 2019). A further, mixed-methods UK study of 84 3 year olds found no differences in total 24-hour sleep duration between those who read as part of their typical pre-bed routine, those who put children to bed nightly, or those who used the same bedtime nightly and those who did not practise these behaviours (Jones & Ball, 2014). Sleep onset time, wake time and daytime nap duration recorded in sleep diaries were validated by actigraphy in a sub-sample. This study took account of daytime sleep and found that total sleep time was unrelated to bedtime practices, however, sleep distribution appeared to differ between the groups, with night-time sleep longer and daytime sleep shorter in those who did practise reading, putting to bed and having regular bedtimes with their children. This provides some support for a relationship between bedtime routine use and children's NSD. As night waking was not reported, however, the finding of no effect on TSD must be taken with caution, particularly in the light of studies reporting that bedtime routines reduce night wakings (Mindell et al., 2009; 2011a; 2018).

Taken together, studies using objective measures of child sleep raise interesting questions about the role played by sleep-related routines in influencing children's sleep distribution. There is some support for the benefit of bedtime routines on sleep duration, although which aspects of consistency might benefit which sleep outcomes is unclear. The effects of regular timing versus the same set of activities could only be distinguished in one study, where different sleep domains appeared to be influenced by these two dimensions of routine consistency (Tsai et al., 2021). Effects of consistent location and caregiver may benefit child sleep, but have not been examined separately from routine timing and regular activities. One study has indicated a possible relationship between bedtime routines, young children's night-time sleep outcomes and 24-hour sleep distribution, however little is

currently known about this relationship. Studies which focus on 24-hour sleep-related routines in this age group are now needed.

2.5 What is the Evidence for Inclusion/Exclusion of Particular Components of Children's Sleep-related Routines?

Definitions of bedtime routines and guidance for parents on using them either do not specify particular components to be included, or give examples of activities, recognising that these might vary. Common recommendations include what are considered to be pleasant, calming activities such as bathing, reading stories, playing music (GOSH, 2020; NHS 2022), and activities involving parent-child interaction, such as singing, cuddling or playing (e.g Kitsaras et al., 2021b; Mindell & Williamson, 2018). Some components more commonly regarded as part of sleep hygiene have also been included in advice on sleep routines for young children. For example, NHS advice on sleep routines with young children has recently been broadened to include suggestions of avoiding late naptimes, indicating that daytime sleep may need to be considered as a component of young children's sleep-related routines (NHS, 2023). Similarly, daytime activity is recommended as part of young children's daytime routines to benefit sleep (GOSH, 2020; Meltzer, 2010; NHS, 2023). Guidance also frequently suggests avoiding some activities, such as electronics use before bed (NHS, 2023; GOSH, 2020). The following section considers the evidence for including and excluding particular components in young children's bedtime and daytime routines to benefit their sleep.

2.5.1 Language-based Activities

Hale et al. (2011) grouped singing and playing a game with other language-based activities (telling or reading stories, praying) in a study of 4,274 three-year olds. Use of language-based activities in bedtime routines at age 3 were associated with slightly increased sleep duration at age 5, after controlling for household structure, maternal depressive symptoms and income. However, parents who included language-based activities also had more regular bedtimes, meaning that effects of activities and regular bedtime could not be distinguished (Hale et al., 2011). Similarly, reading was associated with longer child night-time sleep after controlling for daytime sleep in Latino 4 year olds (Brown et al., 2016). However, the reading group were also more likely to implement a regular bedtime, again meaning effects of this activity could not be distinguished from effects of routine timing.

It has been suggested that maternal emotional availability during language-based activities could improve child sleep (Hale et al., 2011; Teti et al., 2010). A survey of 76 Swedish parents of 0-3 year olds which asked parents for recommended strategies for creating a positive family sleep situation found some parents who perceived the feeling of closeness and security created by talking about the day (Gustafsson et al., 2021). The importance of reading for both sleep and for creating a sense of family togetherness was reported in a qualitative study in families with 29 parents of UK 3-5 year olds (Hall et al., 2018). Notably, this study found that how reading was 'done' affected children's sleep onset, with calm reading by one parent perceived as contributing to reducing child arousal and reducing SOL, while another parents' exciting reading was thought to increase child arousal and inhibited SOL. This suggests the importance of understanding not only which activities are part of a bedtime routine, but also how they are carried out, as this could affect how they influence child sleep.

2.5.2 Bathing and Massage

Intervention studies have found some support for including bathing and massage in bedtime routines (Field & Hernandez-Reif, 2001; Field et al. 2016; Mindell et al., 2009; Mindell et al., 2011a, Mindell et al., 2018). Effects of massage versus reading stories were compared in a four-week study of 23 infants aged 8-36 months with sleep onset difficulties (>30 mins) or caregiver-defined problematic bedtime behaviour. Children were assigned either to a 15-minute pre-bed massage or reading routine, along with instructions to carry out usual bedtime preparations in the same order and maintain the same bedtime (Field & Hernandez-Reif, 2001). Children in the massage condition showed a reduced number of disruptive behaviours and reduced SOL compared to the reading group. Mothers of massaged children reported reduced anxiety and perception of their child as difficult to put to bed. However, reduced napping in the massage group compared to the reading group may have led to the shorter SOL. Parents were also instructed not to lie with children as they were reading, which may have reduced levels of physical contact and increased parent and child stress, which could have affected both child sleep and maternal mood and child sleep perception.

As previously discussed, a consistent three-step routine of bath, massage or applying lotion and quiet activities was associated with improved child sleep, maternal perception of child sleep and maternal mood in two studies (Mindell et al. 2009; Mindell et al., 2011a). These studies supported the benefit of bathing for child sleep as rapid sleep improvement suggested a physiological response to bathing, rather than routines might have led to improvements (Mindell, Leichman, et al., 2017). Cutaneous skin warming has been found to reduce SOL in adults, and bathing may have brought about this effect in toddlers (Raymann et al., 2005). A study of 123 3-18 month olds which introduced a two-

step routine of a massage and quiet activities with no bath led to fewer child sleep improvements, again suggesting bathing may have been the key element in the preceding studies (Mindell et al., 2018). It is also possible that a longer routine permitted more wind-down time for children, thus whether massage and/or bathing are particularly beneficial components of a bedtime routine is currently unclear.

2.5.3 Screen Time

Screen time is thought to affect child sleep by increasing sedentary activity, causing later bedtimes and consequent shorter sleep, or effects of blue light suppressing melatonin production and sleep onset (Nathanson & Beyens, 2018). Watching television is discouraged by current guidance on bedtime routines (e.g. GOSH, 2020; NHS, 2023; Kitsaras, 2021c). Studies of total daily screen time and evening screen time in toddlers are largely observational, using parent-report and have largely shown negative associations with sleep duration (Janssen et al., 2020). A survey of parents of 1702 UK 16-month olds found that children experiencing more than one hour of television viewing after 6.30pm had later bedtimes and consequent shorter sleep than those who watched less than an hour each evening (McDonald et al., 2014). This suggested displacement of sleep by screen use (McDonald et al., 2014). A study using observational methods and actigraphy to measure child sleep in 470 US 30 month olds reported similar findings: more observed screen use during the hour before bed was associated with later sleep, shorter sleep and greater night-to-night variability in children's sleep, as well as increased parent perception of CSPs (Staples et al., 2021). A survey of 402 parents of US 3-5 year olds found that more daily and evening television watching was associated with later bedtime and wake times, as well as reduced sleep consolidation, after controlling for parental education, employment and income (Nathanson & Beyens, 2018). Interestingly, this study also found that increased

daily television viewing and evening smartphone use were associated with increased daytime napping, and that evening tablet viewing was associated with poorer sleep consolidation, suggesting that different media may affect different sleep domains (Nathanson & Beyens, 2018). These results also point to the necessity of considering young children's sleep-related routines over 24 hours, with findings that media use can affect daytime and night-time sleep.

Little research has considered the context or nature of children's viewing and whether different types of media content affect sleep differently (Janssen et al., 2020). One recent study asked parents about the amount of time their children spent viewing 'entertaining' programmes versus 'relaxing/calming' programmes in a day, however only the effects of entertaining programmes on sleep were analysed (Axelsson et al., 2022). Greater time watching entertaining programmes was associated with shorter sleep, however, like many studies of screen time and sleep in children, the study was limited by an unvalidated measure of programme content which was subject to parental interpretation (Axelsson et al., 2022; Janssen et al., 2020). While watching television has been associated with poor sleep outcomes in many studies, a qualitative study of Swedish parents also reported finding it beneficial for toddler sleep, when the family watched calmly together (Gustafsson et al., 2021). It has been suggested that screen use can benefit sleep in children with neurodevelopmental disabilities by helping them relax, highlighting the need to consider individual differences in whether particular routine activities are beneficial or not for sleep (Mindell & Williamson, 2018; Staples et al., 2021).

While overall associations between duration of screen use at any time of day and child sleep outcomes are negative, there is a need for research considering whether there

are types of media use that can benefit sleep, and whether effects of media use vary between groups of children, e.g. those with and without neurodevelopmental disabilities.

2.5.4 'Adaptive' and 'Maladaptive' Bedtime Routine Activities

Rather than investigate a particular activity, some research has considered the effects on child sleep of multiple bedtime routine activities, grouped according to whether they are hypothesised to benefit or inhibit healthy child sleep (e.g. Fiese et al., 2021; Henderson & Jordan, 2010). Adaptive activities are thought to include saying goodnight, hugging, kissing, brushing teeth, putting on pyjamas, going to the toilet, taking a bath or shower, prayers and tucking children in. Maladaptive activities include active play, video games, games and/or toys, watching television, a snack or drink and listening to music. More adaptive activities were included in bedtime routines in a group of parent-reported good sleepers than in poor sleepers (Henderson & Jordan, 2010). A longitudinal study of 468 US mothers found longer sleep duration was correlated with more adaptive activities in bedtime routines when children were 18 and 24 months and earlier bedtime was correlated with more adaptive activities at bedtime at 12 and 24 months, although maladaptive activities were not measured (Fiese et al., 2021). While these studies indicate there may be a benefit of routines composed of particular activities, the composite measures used do not permit individual beneficial activities to be identified. Furthermore, some of the activities grouped as maladaptive in the BRQ (such as games/toys and listening to music) have been associated positively with sleep outcomes when grouped with other activities (Henderson & Jordan, 2010; Hale et al., 2011).

2.5.5 Daytime Sleep

Bedtime routines have been explored in relation to young children's sleep, but daytime routines that may benefit toddlers' sleep have received less attention. Daytime sleep can impact night-time sleep, therefore understanding of daytime sleep-related routines in addition to bedtime routines is important (Meltzer, 2010). Families with more structured approaches to bedtime routines may have more structured approaches to daytime sleep, making it important to determine the relative effect of daytime and bedtime practices on toddler sleep outcomes to develop guidance about sleep routines at this age. Children aged 1-3 are in the process of dropping naps and parent practices appear to influence their daytime sleep, therefore daytime routines may be particularly pertinent to sleep in this age group (Galland et al., 2012; Touchette et al., 2013). In a study of parents' socialisation of young children, 17 Norwegian parents reported intentionally regulating sleep and wake to support the sleep of 2-year olds throughout the day and night, indicating that some parents are performing sleep-related practices around the clock with their toddlers (Sundnes & Andenaes, 2016). Objectively-measured longer and later naps were associated with shorter night-time sleep in one study of 50 18-month olds (Nakagawa et al., 2016). Longer naps were associated with shorter night-time sleep in a further study of 106 18-month olds (Nakagawa et al., 2021). A three-week intervention study of 79 3-30-month olds with sleep disturbances found that introducing nap routines and extending the final waking period of the day increased day and night sleep duration and reduced night wakings (Skuladottir et al., 2005). This intervention also included other advice about reducing undesirable sleep associations, making it unclear whether the nap routine component alone accounted for improvements. Overall, however, evidence seems to support the benefit of timing daytime sleep in toddlers' sleep-related routines to extend the waking period prior to bedtime, although it is unclear what timing might be most beneficial.

2.5.6 Physical Activity

Daytime physical activity has been recommended as part of healthy routines for young children's sleep (Meltzer, 2010). However, there is limited empirical evidence for the association in young children and the direction of effect is unclear (Antczak et al., 2020; Gazmararian & Smith, 2020). A meta-analysis of 42 studies on effects of physical activity on sleep in 3-13 year olds found little evidence of an association between physical activity and multiple sleep parameters in children, with only vigorous activity weakly positively associated with sleep duration and quality (Antczak et al., 2020). The review did not stratify results by age group, yet increased age was associated with a stronger relationship between physical activity and sleep, raising the question of whether and how physical activity and sleep are related in 3-year olds. A further systematic review of screen time, movement behaviours and sleep outcomes in under-5-year-olds found some evidence that total physical activity and outdoor play were positively associated with toddler sleep outcomes (Janssen et al., 2020).

2.5.7 Other Daytime Routines

There is evidence that other daytime routines, in addition to those concerning daytime sleep, could benefit child sleep. A questionnaire study of 278 US 3-year olds found daytime routines (such as consistent mealtimes, eating with family and special time talking with family) were associated with night-time sleep outcomes, whereas having a bedtime routine was not (Koulouglioti et al., 2009). The sleep measure was a subscale consisting of only three questions about parent perception of whether children slept enough, which participants may have interpreted differently, meaning further corroboration of results with more precise sleep measures is required. The study does, however, raise the question

of whether such daytime routines could benefit young children's sleep either through acting as *zeitgebers* in the case of mealtimes and/or increasing children's feelings of security and perception of caregivers' emotional availability in the case of talking together. It is not currently known whether parents carry out daytime routines to benefit their toddlers' sleep and if so, which practices they perceive as beneficial.

2.5.8 Evidence for Routine Components: Summary

Overall, while routinely using language-based activities (e.g. reading), bathing and massage before bed have been associated with improved sleep outcomes in young children, studies have not yet distinguished between the effects of these individual components and the more general effects of having a consistent routine of any sort and/or a consistent bedtime (Field et al., 2016; Hale et al., 2011; Mindell et al., 2009; Mindell et al., 2011a; Mindell, Leichman, et al., 2017; Mindell & Williamson, 2018). Additionally, Mindell & Williamson (2018) suggested that activities which promote calm might vary between children, with bathing, for example, beneficial for sleep in some children, but not others. Therefore, it is currently unknown which aspects of routines might be most effective or most important to include for parents seeking to improve young children's sleep (Mindell & Williamson, 2018).

There is evidence that daytime routines, particularly nap timing and screen use duration, influence child sleep outcomes. Much less evidence exists for other daytime routines, with mixed, weak evidence for benefits of physical activity on sleep in this age group and scant evidence for benefits of consistent mealtimes, or other daily routines with young children. Daytime routines that may be related to sleep have received little research

attention and it is currently unknown which aspects of their daily routines, if any, parents consider to benefit their children's sleep.

2.6 Chapter Summary and Conclusions

Regular implementation of bedtime routines has been associated with improvements in young children's sleep outcomes and maternal mood. However, it is not known whether these benefits are due to the components or consistency (or both) of routines, or parents' feelings about using them. Definitions of 'bedtime routine' vary and it is not known what caregivers understand by this term (does it include a bedtime? sleep onset activities? daytime activities?). Nor is the full range of behaviours which caregivers routinely carry out to benefit their toddlers' sleep known, as most research uses checklists which suggest activities of interest and focus only on bedtime practices. Furthermore, it is not known how caregivers carry out particular practices, although there is evidence suggesting that processes that occur as a result of using routines, such as emotional security induction and arousal reduction may benefit child sleep. As in Chapter One, a broad overview of the measurement and evidence for different aspects of routines is presented. However, because of the multiplicity of different elements making up children's routine, a systematic review was not realistic and so not undertaken. Thus, some relevant studies may have been omitted. However, the presented summary provides a useful overview of the landscape of the literature relating to sleep-related routines in young children.

The next chapter presents what is known about the extent to which parents use sleep-related routines with their 1-3 year olds and the factors affecting their use.

Chapter 3 What is Known about Whether and Why Caregivers use Sleep-related Routines?

Use of routines, either as a stand-alone or part of broader sleep hygiene, is suggested to caregivers to benefit their children's sleep, as seen in Chapter One. Chapter Two reviewed the evidence for benefits of routines on child sleep. It was shown that, while data are limited, regularly using the same set of pre-bed activities appears to benefit child sleep outcomes. For this reason, it is important to know the extent to which families typically use routines and the factors which can affect their use to provide appropriate guidance for families.

3.1 How Prevalent is the Use of Bedtime Routines with Young Children?

Bedtime routines prevalence data does not currently consider daytime practices, despite the evidence that they are linked for 0-3 year olds (see Chapter 2, section 2.5.5). Studies indicate that while many caregivers report having bedtime routines for their young children, these are often followed inconsistently. A survey of 3, 217 US caregivers of 3-year olds found that while 80% of families had a bedtime routine and regular bedtime, only two-thirds observed the routine and bedtime nightly (Hale et al., 2009). In a large cross-cultural sample, spanning Australasia, North America, East and Southeast Asia, the same routine was followed nightly with 0-5 year olds by 48% of caregivers, of whom 29% followed their routine four nights/week or fewer (Mindell et al., 2015). A study of 118 low-income, predominantly ethnic minority caregivers of 12-47 month olds in the US found 90% reported having a bedtime routine, while only 55% reported implementing it nightly (Covington et al., 2019). A further study of 40 mixed-ethnicity, low-income caregivers of US 6-36 month olds found that almost 90% had a bedtime routine, but only 30% implemented

it nightly (Ordway et al., 2020). These studies relied on a single report of bedtime routines over the preceding fortnight. However, a UK study of 185 caregivers of 2-7 year-olds using real-time messaging over 7 nights found that around a third of respondents kept the same bedtime nightly, while only a quarter read nightly to children (Kitsaras et al., 2021c). This raises the questions of why some parents do not have bedtime routines and why bedtime routines are not always implemented by those who endorse them.

The content of bedtime routines also varies, although certain activities are popular across samples. US studies have found that interactive parent-child elements (e.g. reading) and hygiene-related elements (e.g. bathing) are common bedtime routine components for 0-5 year-olds, along with television viewing and electronic device use (Covington et al., 2019; Hale et al., 2009; Henderson & Jordan, 2010; Martinez & Thompson-Lastad, 2015; Ordway et al., 2020; Staples et al., 2015). Large-scale cross-cultural questionnaire studies have also found bedtime routines for 0-3 year-olds globally commonly include pre-sleep activities such as reading, bathing, watching television and singing to children, among others (Mindell & Williamson, 2018). Prevalence of particular activities varies between countries: for example, bathing is more common in the UK than the US, Singapore, India and China, while singing and praying are less common in the UK (Mindell & Williamson, 2018). Notably, activities which have been considered as maladaptive for sleep, such as watching television and play are common in many families across cultures, highlighting the need to understand parents' reasons for particular sleep-related practices (Mindell & Williamson, 2018; Ordway et al., 2020).

Studies of bedtime routines in the UK have found that brushing teeth, reading, screen use, and a regular bedtime were common components (Jones & Ball, 2014; Kitsaras et al., 2021c). However, as discussed in Chapter Two, section 2.2, these studies are limited

by reporting on pre-determined bedtime practices. Thus, no comprehensive picture of families' bedtime routines in the UK currently exists and it is unknown which activities caregivers perceive as important for their young children's sleep. Furthermore, two of the three studies reporting on bedtime routines with young children in the UK focused on children aged three (Jones & Ball, 2014) and three to seven years (Kitsaras et al., 2021c), with only one (Mindell et al., 2018) reporting on routines with children under three years. This means that further exploration of sleep-related routines with one-to-three-year olds in the UK is needed.

3.2 Factors Affecting Bedtime Routine Consistency and Content

A number of demographic, household and caregiver factors have been associated with differences in prevalence and consistency of use of bedtime routines, as well as their content. This indicates that contextual factors, which may interact, play a part in shaping both content and implementation of routines (Mindell & Williamson, 2018).

3.2.1 Demographic Factors

Child age has been reported to affect the content of bedtime routines. Fiese et al. (2021) found that the number of adaptive activities (see section 2.5.4 for details) included in children's bedtime routines increased between 6 and 24 months. A large cross-cultural survey found that infants were more likely to drink milk and be rocked in their bedtime routine than toddlers (Mindell et al., 2010; Mindell & Williamson, 2018). Higher proportions of toddlers than infants however, watched television, ran around and were read to before bed. This indicates that caregivers may change the content of their routines in response to children's developmental stage. Given the increase in inclusion of activities

which may impair child sleep (watching television and running around), understanding parents' reasons for using such activities with their toddlers is important for the development of guidance on sleep management.

Household structure is another factor associated with having bedtime routines, their content and how consistently they are implemented. Increased household size (Hale et al., 2009) was negatively associated with having a bedtime routine in 3,217 families of 3 year olds, and single parents were less likely than 2-parent households to use bedtime routines consistently. Caregiver employment also appears to affect children's sleep-related routines. Craft (2021) found that working more hours and shift work predicted less consistent bedtime routines in 250 caregivers of 33-71 month olds. Parents of 3-7 year-olds who worked full-time had less optimal routines as measured by the BRI than those who did not (Kitsaras et al., 2021c). It is currently unknown how employment affects sleep-related routines and how caregivers can be supported.

Socioeconomic measures have also been associated with differences in routine content and implementation. A study of 130 US mothers of 12-47-month olds found that fewer participants who experienced housing insecurity and food insecurity (30% and 38% respectively) reported implementing their bedtime routines nightly than those who were not experiencing such hardship (60% and 61% respectively; Covington et al., 2019). Perceiving oneself as well-off relative to one's community has been associated with more consistent bedtime routines and including more adaptive activities as measured by the BRQ (Fiese et al., 2021). Higher income families were found to be more likely to use interactive and hygiene-related activities as part of their bedtime routines than lower income families in a study of 3,217 US 3-year olds (Hale et al., 2009). This suggests that income and resources may play a role in the use of routines.

Racial/ethnic minority status has been associated with less consistent bedtime routines and bedtimes in US studies, but not in the UK (Hale et al., 2009; Kitsaras et al., 2021c). White children in the US were found to have earlier bedtimes, higher odds of having a bedtime routine and higher odds of consistent implementation of a bedtime routine than children from other racial/ethnic groups (Hale et al., 2009). They were also more likely to engage in interactive and hygiene-related activities (such as reading and bathing) during their bedtime routines. Conversely, Kitsaras et al., (2021c) found no evidence of differences in the use of activities which were beneficial to sleep or consistency of bedtime routines between racial/ethnic groups in the UK in a study of 185 parents of 3-7-year olds. This could reflect different cultural norms in the UK versus the US (Smith, Hardy, et al., 2019).

The consistency with which bedtime routines are implemented also differs by geographical region. The survey described above found that 0-3-year olds from predominantly Asian countries (e.g. China, Hong Kong, India, Japan) were less likely to have a consistent bedtime routine (5 or more nights/week) than children in predominantly Caucasian countries (e.g. UK, Australia, US, Canada; Mindell et al., 2010). Variation between countries could be wide, for example 40% of respondents in India indicated bedtime routines were followed consistently compared with 80% of UK respondents. This suggests there may be cultural variation in whether and how bedtime routines are used, meaning exploring use of routines in individual countries is needed to inform tailored advice.

3.2.2 Caregiver Factors

Mixed findings exist for the relationship between maternal education and use of routines with young children. Maternal education was associated with whether a child had a bedtime routine, but not with whether it was implemented four or more nights a week (Hale et al., 2009). Covington et al. (2019) also found that level of maternal education was unrelated to the parent-reported number of nights a bedtime routine was implemented. However, in a study of 251 caregivers of pre-schoolers, Craft (2021) found that caregivers with a Masters or Doctorate level education reported significantly more use of bedtime routines.

There are also mixed findings for effects of maternal psychopathology on routine implementation. Maternal depressive symptoms were associated with reduced implementation of nightly bedtime routines compared to mothers who were not depressed (Covington et al., 2019). Conversely, Craft (2021) found that parental depressive symptoms were unrelated to bedtime routine consistency. These different findings could be explained by different measures of both depression and bedtime routine use: Covington et al. (2019) compared whether bedtime routines measured by the extended BISQ (Sadeh et al., 2009) were used nightly or not by mothers who screened positive for depression (29.3%) on a 3-item survey and those who screened negative. Craft (2021) conversely, used a continuous rather than a dichotomous measure of maternal depression and bedtime routine use was measured with the BRQ (Henderson & Jordan, 2010). Thus it may be that depressed mothers are able to implement bedtime routines consistently to some degree, but that implementation every single night, as measured by Covington et al. (2019) is more difficult when depressed, or perhaps different aspects of depression, captured by different measures, are related differently to maternal use of routines. Ordway et al. (2020) considered the relationship of different types of maternal psychopathology measured using the Brief Symptom Inventory (Derogatis, 1993) and the Parenting Stress Index Short-Form

(Abidin, 1990) on bedtime routine use measured using the BISQ with their children. They also found that maternal depression was unrelated to variation in nightly routines in 40 low-income, ethnically-diverse caregivers of 6-36-month olds. However, parental anxiety was negatively associated with parent-reported consistency in the bedtime routine, while parental stress was associated with actigraphically-recorded bedtime variability in this study (Ordway et al., 2020). Thus, it may be that different aspects of psychopathology captured by different measures are associated with different aspects of sleep-related routine consistency.

Caregivers' feelings about their child's sleep-related routines may affect whether routines are used, and how consistently. For example, negative parental feelings (feeling sad, overwhelmed, worried, and hassled) during a 24-hour period were quantitatively associated with parent-reported child night waking in a year-long study of 47 families with asthmatic 5-7 year olds, although the direction of relationship was unclear (Fiese et al., 2007). Bedtime routine disruption was also associated with night waking in this study, leading the authors to hypothesise that parental negative mood might have resulted in later bedtimes/changes to the bedtime routine (Fiese et al., 2007). Additionally, parents using routines have reported greater confidence and reduced anxiety around bedtime compared to those not using routines, which could suggest that parents who are more confident feel more able to implement routines, or that routines have a benefit for maternal wellbeing (Field et al., 2016; Evans, & Rodger, 2008; Mindell, Lee, et al., 2017; Mindell et al., 2009). The relationship between a range of caregiver feelings and their use of sleep-related routines with their children now requires investigation.

3.3 Caregiver-reported Barriers and Facilitators to the Consistent Use of Sleep-related Routines

In this section, different approaches taken by the qualitative research in this area are first presented, followed by presentation of barriers and facilitators of consistent use of sleep-related routines indicated across the literature.

Despite the evidence that many caregivers do not implement their bedtime routines consistently with their children, few qualitative studies have explored caregivers' experiences of bedtime routines with their young children. One mixed-methods and three qualitative studies have focused specifically on bedtime routines (Jones & Ball, 2014; Kitsaras et al., 2021a; Koulouglioti et al., 2011; Lindsay et al., 2018). Jones & Ball (2014) used semi-structured interviews as part of a mixed-methods study to explore rules and routines for sleep and reasons for them in 84 high- and low-SES parents of 3 year olds. However, only three routine components were included in analyses (reading, putting to sleep in bed and regular bedtime) meaning that a comprehensive picture of bedtime routines and parents' experiences of them could not be ascertained. Seven focus groups were used to ask 37 Brazilian immigrant mothers of 2-5 year olds about their beliefs, attitudes and practices related to their child's sleep and bedtime routines to identify modifiable behaviours relating to childhood obesity (Lindsay et al., 2018). Kitsaras et al. (2021a) used semi-structured interviews based on the Theoretical Domains Framework to explore barriers to, and facilitators of optimal bedtime routines with 32 parents of 3-7 year olds. Both Lindsay et al. (2018) and Kitsaras et al. (2021a) focused on identifying ways of changing sleep-related behaviours that were considered suboptimal. Finally, a further qualitative study used focus groups to ask 12 single mothers of 2-5 year olds about their experiences of mealtime and bedtime routines with their children (Koulouglioti et al.,

2011). An open-ended question schedule and inductive data analysis were used to explore participants' experiences. Across these studies, practical, family and caregiver factors were identified as barriers and facilitators to consistent implementation of sleep-related routines.

To the author's knowledge, only one mixed-methods study has focused specifically on parents' attitudes to daytime napping (Jones & Ball, 2013). An anthropological, conversational-style interview was used to ask 84 high- and low-SES parents of 3 year olds about whether their child napped and how they felt about it. Data was then coded with four predetermined codes which captured whether parents allowed, encouraged or prevented naps, or if the child did not nap and the nap duration of the allow/encourage group was compared to that of the group who prevented naps. Thus, parents' emotional experiences and attitudes to naps were not explored in depth.

A further three qualitative studies have asked parents about barriers and/or facilitators to optimal sleep in their children, meaning that routines were touched on tangentially (Gustafsson et al., 2021; Martinez & Thompson-Lastad, 2015; Muller et al., 2019b). Gustafsson et al. (2021) used a qualitative survey of 93 parents of 0-3 year olds to ask for recommended strategies for creating a positive family sleep situation. Martinez & Thompson-Lastad (2015) interviewed 18 Latino parents of 2-5 year olds about perceived optimal bedtime routines and sleep practices. Muller et al (2019b) carried out semi-structured interviews with 31 mothers, Maori and non-Maori, high- and low-SES mothers to explore their views of barriers and facilitators to optimal sleep in their 4 year olds. The barriers and facilitators to consistent use of sleep-related routines with young children identified across these studies are next presented.

3.3.1 Facilitators

3.3.1.1 External Schedules. Schedules imposed by parental employment, daycare and/or schools could all facilitate consistent bedtime routines with young children. A participant in one study described moving from shift work to a regular work pattern as a facilitator of consistent bedtime routines (Muller et al., 2019b). The same study reported that daycare napping procedures consistent with home setting were helpful for some participants (Muller et al., 2019b). A number of participants found that a school-aged siblings' schedule meant bedtime routines of all children in the family were kept early and consistent due to the early start required for school (Lindsay et al., 2018).

3.3.1.2 Partner/Family Support. Family support could facilitate consistent bedtime routines, with the implementation of routines shared with a partner in some families, or kept consistent by other family members when children stayed with extended family (Muller et al., 2019b).

3.3.1.3 Caregiver Cognitions. Parents' beliefs that routines are beneficial for child sleep was a facilitator of implementing bedtime routines in one study (Kitsaras et al., 2021a). This was consistent with a study by Lindsay et al. (2018), where participants believed that child sleep was important for health and that, for this reason, they should ensure their children had good sleep routines. Parents believed that consistency was important for their children's sleep and worked hard to provide consistent bedtime routines (Muller et al., 2019b).

One study found that parents' positive feelings about completion of successful evening routine motivated implementation of bedtime routines with children (Kitsaras et al., 2021a).

3.3.2 Barriers

3.3.2.1 External Schedules. While they could facilitate use of child sleep-related routines, employment, daycare and school schedules were barriers reported by three qualitative studies. Parent work schedules and those of other members of the household were reported as making it difficult to use routines consistently (Lindsay et al., 2018; Martinez & Thompson-Lastad, 2015; Muller et al., 2019b). Working parents' lack of control over daytime napping at daycare was a problem for parents in two studies (Lindsay et al., 2018; Muller et al., 2019b). Siblings' school schedules and other scheduled family activities were further barriers to consistent routines for some (Lindsay et al., 2018; Martinez & Thompson-Lastad, 2015).

3.3.2.2 Household and Home Environment. Household and home environment factors could also make consistent bedtime routines difficult. Roomsharing due to insufficient bedrooms was a barrier to routinely managing sleep as parents would prefer, sometimes meaning bedsharing was unavoidable (Martinez & Thompson-Lastad, 2015). Noise from other family members in crowded households, and neighbourhood noise could also make consistent routines difficult (Lindsay et al., 2018; Martinez & Thompson-Lastad, 2015). Household and home environment barriers were found only in studies which included low SES samples, indicating the importance of studying experiences of child sleep and routines in populations with a range of demographic characteristics.

3.3.2.3 Lack of Partner/Family Support. Whereas support from family and/or a partner facilitated use of sleep-related routines, lack of such support was reported as a barrier in three studies. Some single mothers reported that their children's fathers did not follow their routines, and New Zealand mothers found it difficult to re-establish routines when children returned from staying with other family members (Koulouglioti et al., 2011; Lindsay et al., 2018; Muller et al., 2019b). Disagreements between co-parents about children's bedtime routines was a barrier to consistent implementation for some Brazilian immigrant mothers (Lindsay et al., 2018).

3.3.2.4 Caregiver Tiredness and Fatigue. Maternal fatigue was a barrier to consistent meal and bedtime routines in one study, which meant parents often gave into child demands (Koulouglioti et al., 2011). Parental tiredness was also reported as a barrier to optimal bedtime routines in another study, although bedtime routines could alleviate the difficulties of remembering to do everything when parents were tired (Kitsaras et al., 2021a). These studies highlighted emotional and cognitive facets of parental tiredness: inability to deal with child demands and inability to think of everything that needed to be done in an evening.

3.3.2.5 Screen Use. In two studies, parents reported that children's use of and attachment to electronics such as iPads was a barrier to consistent bedtime routines (Lindsay et al., 2018; Martinez & Thompson-Lastad, 2015). In both studies this was because children wanted to stay up and continue watching television or the iPad. In one study, some parents described feeling guilty for removing electronics, some disagreed with partners about whether children should be allowed screens in bed, while some thought it was the only way their child could relax and go to sleep (Martinez & Thompson-Lastad, 2015).

3.3.2.6 Lack of Knowledge of Healthy Bedtime Routines. Qualitative studies have reported mixed findings about the role played by knowledge of healthy bedtime routines. Lack of knowledge about what constitutes a healthy routine was a barrier found in one study of 32 predominantly white, low-income UK-based parents of 3-7-year-olds. In this study, participants described relying on their own childhood experiences for their knowledge in semi-structured interviews based on the Theoretical Domains Framework (Kitsaras et al., 2021a). Many parents did not know how to change routines and they did not know who to approach for advice with their bedtime routines. However, knowledge was not a barrier in another study using focus groups, where 37 US-based Brazilian immigrant mothers of 2-5-year-olds were reportedly aware of the importance of consistent sleep schedules and adequate child sleep duration. However, the same mothers reported inconsistent schedules and late bedtimes despite this knowledge (Lindsay et al., 2018). This led the authors to identify a gap between caregiver knowledge of recommended practices and their parenting practices. Taken together, these studies suggest there may be different levels of knowledge of recommended sleep practices in different caregiver populations, but also imply that knowledge of recommendations alone may not lead to caregiver implementation.

3.3.2.7 Caregiver Cognitions. Parents' beliefs and attitudes about sleep and routines have been found to be both a barrier and facilitator of implementing bedtime and daytime sleep routines. Parents of 3-year olds who did and did not use bedtime and nap routines had differing attitudes, with negative views about routines expressed by those who did not use bedtime routines, and negative attitudes towards napping expressed by those who prevented children's daytime sleep (Jones & Ball, 2013; Jones & Ball, 2014). Gustafsson et al. (2021) reported differing attitudes to routines in 76 caregivers of 0-3-year

olds, with some parents recommending fixed schedules and others advocating following child cues. This could represent different beliefs about routines, although, given the wide age range (including newborns who might be perceived to have different parenting needs from older children), it is unclear whether this represents different cognitions about routines or different beliefs about parenting infants and toddlers.

Three studies captured parental feelings which could be barriers to implementing bedtime routines (Jones & Ball, 2014; Kitsaras et al., 2021a; Koulouglioti et al., 2011). Single mothers reported the stress caused by difficult mealtimes and how this could affect bedtime (Koulouglioti et al., 2011). However, given the focus on both mealtime and bedtime routines, challenges of and feelings caused by particular aspects of bedtime routines were not fully explored. Negative feelings towards using bedtime routines were barriers to managing sleep in two studies, however, specific emotions and how these might relate to particular practices and routine implementation were not identified. (Jones & Ball, 2014; Kitsaras et al., 2021a). No research to date has systematically explored caregivers' feelings about and during their sleep-related routines with toddlers.

3.4 Rationale for the Present Study

Implementing bedtime routines has been associated with an improvement in children's sleep outcomes and maternal mood (Mindell & Williamson, 2018). However, it is not known whether the components or consistency (or both) of routines, or parents' feelings about using them are associated with children's sleep outcomes in the toddler years (see Chapter 2, sections 2.4 and 2.5). Definitions of 'bedtime routine' vary and it is not known what caregivers understand by this term (does it include a bedtime? sleep onset activities? see Chapter 2, section 2.1). Nor is the full range of activities which caregivers

routinely carry out to benefit their toddlers' sleep known, as most research uses checklists which specify predetermined activities of interest and focus only on bedtime routines.

Additionally, it is not known *how* caregivers carry out particular practices and how they think this benefits their young children's sleep. Questionnaires and sleep diaries do not gather this data and qualitative studies have addressed this question in relation to broader strategies for improving child sleep, rather than routines specifically (see Chapter 2, section 2.2). However, understanding what caregivers do and why maybe important for developing guidance, particularly in light of the gap identified between some caregivers' knowledge of healthy sleep guidelines and their inconsistent implementation of recommended practices (Lindsay et al., 2018).

Previous mixed-method and qualitative research on children's sleep-related routines in the UK has focused on predetermined bedtime practices in 3 year olds and 3-7 year olds (Jones & Ball, 2014; Kitsaras et al., 2021a; see Chapter 3, section 3.3). However, there are a number of reasons why exploration of use and experiences of sleep-related routines in caregivers of 1-3 year olds is important. Firstly, sleep undergoes significant developmental changes in this age range, meaning that caregivers also use daytime practices, including routinely, to regulate children's sleep (Sundnes & Andenaes, 2016). It is currently unknown whether caregivers consider any of their daytime routines to benefit their children's sleep and how daytime routine components might relate to sleep-related routines across the day and night. Secondly, children of this age are in the process of consolidating night-time sleep, a process which is heavily influenced by environmental factors (Touchette et al., 2013; see Chapter 1, sections 1.3 and 1.9). Understanding of the sleep-related routines used by caregivers in the toddler period is therefore needed, given the importance of environmental factors, including caregiver behaviours, in shaping sleep at this stage of

development (Jones & Ball, 2014; Touchette et al., 2013; Teng et al., 2012; Sadeh et al., 2009; see Chapter 1, section 1.9.2). Thirdly, there may be different experiences for parents in implementing routines with 1-3 year olds than with older children, as toddlers undergo significant changes in their mobility and communication abilities. As parents value sleep guidance which is specific to their child's developmental stage (Hatton & Gardani, 2018), it is important to capture possible issues in implementing routines as children become increasingly independent and as sleep consolidation develops.

While parents frequently report feeling positive about using bedtime routines, many do not use their sleep-related routines consistently (Mindell & Williamson, 2018; see Chapter 3, section 3.1). Additionally, some parents do not have bedtime routines at all and have reported negative feelings about routines (Jones & Ball, 2014). Evidence suggests that parents' emotional experiences may be related to their implementation of routines (Jones & Ball, 2014; Kitsaras et al., 2021a; see Chapter 3, section 3.3). However, it is not currently known how parents' levels of enjoyment and/or ease of implementation are related to the various components of routines which are included and/or whether or not sleep-related routines are even implemented. It is also unknown how their negative emotions may influence their use (or not) of sleep-related routines. Understanding caregivers' feelings during and about their sleep-related routines may also be important for supporting caregivers' wellbeing and improving overall family functioning. As not all parents follow advice about using routines, understanding caregivers' feelings about sleep-related routines could help healthcare professionals (HCPs) to support families in creating and implementing suitable routines, and thereby increase the number of families benefiting from better child sleep.

Increased understanding of barriers and facilitators to the use of sleep-related routines with young children, including caregivers' emotional experiences, is needed to understand how best to support and advise parents to support their toddlers' sleep development. Overall, while many important barriers and facilitators to caregivers' implementation of consistent sleep-related routines have been identified, comprehensive exploration of the barriers and facilitators caregivers of 1-3 year olds experience related to their children's sleep-related routines is still needed (see Chapter 3, section 3.3). Some previous qualitative research has focused broadly on strategies for child sleep or different types of family routines, rather than those specifically perceived as sleep-related. Where studies have focused on bedtime routines, studies asked about predetermined activities and aspects of participant experiences. These theory-led approaches mean that experiences important to participants may not have been discussed. The use of broad age groups may have obscured child age-related barriers in some studies, while other studies have focused on older children. No study has focused on 1-3 year olds, despite the particular developmental challenges that could be posed by increasing independence and sleep development at this age, or indeed the potential facilitators of children's increasing understanding and communication skills.

A further requirement for development of appropriate guidance is an understanding of under what circumstances findings might and might not be applicable. Previous qualitative research has highlighted barriers to implementing routines, such as overcrowded housing, which may be important priorities to understand and address with populations with particular demographic characteristics, but which may not apply in other situations (see Chapter 3, section 3.3). However, few studies have described the child sleep characteristics of their samples, and those that have report only parent perceptions of aspects of child sleep as problematic or not (Gustafsson et al., 2021; Muller et al., 2019b;

Sviggum et al., 2018). However, a range of child sleep factors are associated with parent perception of CSPs, including child sleep duration and night waking, and perception that child sleep negatively affects parental sleep (e.g. Lupini et al., 2022; Mindell, Lee, et al., 2017; Mindell et al., 2022; see Chapter One, section 1.8.2 for further discussion).

Understanding of the sample child sleep characteristics could therefore be clinically relevant, for example, findings from a group of parents experiencing frequent night wakes might not be relevant to parents struggling with bedtime resistance, but largely experiencing continuous sleep. No qualitative research in this area has reported participants' own sleep characteristics, although this may be highly relevant given the finding by Kitsaras et al. (2021a) that parental tiredness is a barrier to use of bedtime routines. Aspects of children's sleep ecology (sleep location, caregiver behaviours at child sleep initiation and use of sleep-related routines) have also been associated with CSPs, and thus it may be clinically relevant to understand the sleep ecology characteristics in participating families (e.g. Sadeh et al., 2009; see section 1.9.2 for further discussion).

A mixed-methods approach using two phases was therefore chosen for the original research presented in this thesis. Phase One was an online questionnaire which gathered details of participants' demographic, child and parental sleep characteristics and sleep ecology, which was analysed descriptively. Further to this, where the sample size permitted, tests of comparison were used to establish whether the group who proceeded to interviews in Phase Two differed from those who did not in child sleep, parental sleep or sleep ecology characteristics, or parental sleep perceptions.

Phase Two was an online semi-structured interview which explored what parents routinely did to benefit their child's sleep/wake patterns, their reasons for doing so, their feelings about their routines and any barriers and facilitators they perceived to

implementing them consistently. An open-ended interview schedule was designed, which did not pre-determine particular routine behaviours to be asked about. This aimed to allow participants to describe the routine components they perceived benefited their child's sleep and to allow exploration of how activities were carried out. Previous studies indicate barriers to consistent use of sleep-related routines, including caregiver, family, environmental and cultural factors, consistent with the transactional model of child sleep (Sadeh & Anders, 1993; Sadeh et al., 2010, see Chapter One, section 1.10 for further detail). This model emphasises the interaction between factors which influence child sleep. The present study therefore used interviews to allow caregivers to describe factors relevant to their circumstances, and to explore possible interrelated ways in which they affected their use of sleep-related routines with their toddlers. Consistent with this approach to data collection, reflexive thematic analysis with an inductive approach was chosen as an analytic strategy (Braun & Clarke, 2019; 2022). This data-driven approach to analysis was chosen to allow participants' experiences and priorities to guide analysis rather than a predetermined theory, as caregivers' perspectives are needed to shape appropriate guidance and support for families.

3.5 Chapter Summary and Conclusions

Many parents report having a bedtime routine and/or a bedtime for their young child. However, many parents do not use their routine consistently and bedtime routines often contain activities that are not recommended. Consistency and/or content of bedtime routines varies with child age, family socioeconomic status, household structure and caregiver employment, as well as geographical region. Caregiver mood, education and feelings about their routines may also affect implementation. To my knowledge, no prior qualitative research has specifically focused on caregivers' experiences of their 1-3 year

olds sleep-related routines, although it should be acknowledged that the review of literature presented in this chapter was not systematic (because of the multiple ways in which routines have been conceptualised and defined) and so it is possible that some relevant studies could have been omitted. However, the literature presented indicates that many factors, including employment and education schedules; home environment; family support or lack thereof; and caregiver tiredness, sleep knowledge and cognitions may influence the implementation of bedtime routines.

This chapter presented the rationale for the current mixed-methods research. In Phase One an online questionnaire was devised to capture demographic, child and parental sleep, parental sleep perception and sleep ecology characteristics of the sample. This was to establish potential transferability of qualitative results. Phase Two was designed to capture experiences of parents of 1-3 year-olds of using sleep-related routines over 24 hours. This was to explore what parents do routinely to manage their young children's sleep and the benefits they perceive. The study also aimed to explore how they feel during and about their children's sleep-related routines and the barriers and facilitators they perceive to consistent implementation of their routines.

The following chapter presents the study aims and full methodology for Phases One and Two of this study.

Chapter 4 Methodology

4.1 Study Aims

The overarching aim of the research presented in this thesis was to explore how UK parents experience using their sleep-related activities with their toddlers. Phase One of the study presented in this thesis aimed to describe the demographic, child and parental sleep and sleep ecology characteristics of the interviewed sample to establish any potentially clinically relevant characteristics of the group. Phase Two aimed to investigate what parents of 1-3 year olds in the UK routinely did over 24 hours to benefit their toddlers' sleep. The study also aimed to explore parents' perceptions of how these routine practices benefited their young children's sleep and how parents felt during and about their sleep-related routines. Finally, the study aimed to explore the barriers and facilitators parents perceived to consistently implementing their sleep-related routines with their toddlers.

4.1.1 Definition of 'Sleep-related Routines' in this Thesis

In the original research presented as part of this thesis 'sleep-related routines' are conceptualised in two different ways in the two different phases of the mixed-methods study (see Chapter Four, sections 4.2 and 4.3 for full details of each phase of the study). A table illustrating the overlap between the participants' questionnaire-reported and interview-reported definitions of sleep-related routines can be found in Appendix Q).

Phase One was an online questionnaire study for the purposes of describing the Phase Two sample. In this phase, routines are defined in accordance with prior research using the BISQ and BISQ-R (Mindell et al., 2019). 'Bedtime routines' are defined as the

same set of activities carried out in the same order in the hour before bed (Mindell et al., 2015; 2020). 'Routine consistency' in this phase refers to the number of nights/week that the bedtime routine is used (Mindell et al., 2015; 2020). 'Routine characteristics' also include bedtime and wake time, and the number of nights/week bedtime is kept the same (Mindell et al., 2019). Use of these definitions permits comparison of the routine characteristics of the participants interviewed in Phase Two with other previously published samples.

Phase Two was a qualitative study using semi-structured interviews to explore participants' experiences of using their own sleep-related routines with their children. For this reason, a more open-ended definition was used to acknowledge that caregivers may perceive that they undertake a range of sleep-related practices routinely throughout the day and night (Sundnes & Andenaes, 2016). Phase Two defines 'sleep-related routines' as regularly occurring behaviours caregivers undertake in the day or night, believing they benefit their young child's sleep. They may, or may not be observable, as omitting certain activities, such as using electronic devices, can be deliberate practices for promoting sleep. If regularly adhered to, such practices may be considered routine. Consistency of routines is conceptualised with two dimensions: regular timing and regular use of the same set of activities carried out in the same order. This thesis does not consider any particular activities or practices as optimal/adaptive or otherwise, as evidence for particular components of sleep-related routines is scant and does not consider variation in individual children's reactions or how practices are implemented.

Presentation of the qualitatively-reported barriers and facilitators and general discussion (chapters 9 and 10) extend the Phase Two definition of 'sleep-related routines', referring to participants' 'preferred sleep-related routines', meaning sleep-related routines,

which consisted of components parents *wanted* to implement. This definition acknowledges both the importance of caregivers' feelings about their child's sleep-related routines and some participants' reports that their routines contained components they found emotionally challenging.

4.1.2 Research Questions

Phase One aimed to explore the following questions:

- 1) What are the child and parental sleep characteristics of the interviewed participants?
- 2) How do the interviewed participants perceive their own and their child's sleep?
- 3) What are the sleep ecology characteristics of the interviewed families?
- 4) Are there differences in the child sleep, parental sleep, perceptions of sleep and sleep ecology characteristics of the Interviewed and Non-interviewed samples?

Phase Two explored the following four research questions:

- 1) What practices do parents in the UK use routinely with their 1-3-year olds to benefit their sleep?
- 2) How do parents think their routine practices benefit their toddlers' sleep?
- 3) What feelings do UK parents experience in relation to their sleep-related practices with their toddlers?
- 4) What are the parent-perceived barriers and facilitators to consistent use of their preferred sleep-related routines?

4.2 Study Design

This cross-sectional mixed methods study used an online questionnaire (Phase One) and semi-structured interviews (Phase Two) to explore how UK parents experience using their sleep-related activities with their toddlers. The Phase One questionnaire permitted a detailed description of the demographic, maternal and child sleep characteristics to provide a context for the Phase Two qualitative results. This allowed an understanding of contextual factors which may have contributed to the experiences participants reported. In Phase Two, semi-structured interviews allowed participants to describe the routine sleep-related activities and/or practices which they considered affected their toddlers' sleep and the benefits for child sleep they perceived, without presupposition of what those activities/practices might be. It further permitted in-depth exploration of their feelings during and about their own sleep-related routines (or lack thereof), as well as what they felt helped or hindered them in using sleep-related routines consistently.

4.3 Phase One: Online Questionnaire Study

4.3.1 Participants

4.3.1.1 Inclusion and Exclusion Criteria. English-speaking resident parents of a typically developing one-to-three-year-old, currently residing in the UK and aged over 18 were eligible to take part. As young children's sleep is managed as part of a family system (Sundnes & Andenaes, 2016), the study was open to mothers and fathers. Only resident parents (who lived with their child) were eligible so that they would be familiar with their toddler's usual daily and weekly routines. As parent-reported bedtime routine activities differ between countries (Mindell & Williamson, 2018), this study focused on a discrete cultural group by recruiting parents living in the UK. Exclusion criteria were any medical or

developmental condition in the child. This was in order that the sample be representative of sleep patterns found in typically developing toddlers. The experience of sleep-related routines might be very different for parents of children with such conditions than for parents of typically developing toddlers.

4.3.1.2 Recruitment. Participants were recruited through several online sources.

1. An advert to participate in a study interviewing parents about the everyday activities they use in relation to their toddler's sleep was posted on Facebook. The advert contained an anonymous link to the study questionnaire. With prior written permission, the advert was posted in closed parenting groups including 'Solihull Mums and Dads', '8/10 Mums' and 'Oxfordshire Breastfeeding Support' and on the researcher's own Facebook page, where it was shared via personal networks.
2. Adverts were posted on the parenting websites Mumsnet and Netmums.
3. The study was advertised on Twitter and retweeted by organisations including Oxford Brookes BabyLab and The Fatherhood Institute, in addition to the researcher's own network.

4.3.1.3 Sample. In Phase One, an opportunistic sample of 34 eligible participants completed the online questionnaire. Data from a further 7 participants were excluded due to incomplete responses ($n=6$) and ineligibility (due to child having an unspecified health condition, $n=1$). Phase One participants were predominantly mothers (mothers, $n=33$; fathers, $n=1$) and were aged between 29 and 41 years ($M = 35.84$, $SD = 3.08$). The UK median age at birth of first child in 2020 was 29.1 years, making participants slightly older on becoming a parent than the UK average (Office for National Statistics [ONS], 2020). Further demographic information about Phase One participants and their children is presented in Tables 2 and 3 (see section 4.3.1.1).

4.3.2 Measures

4.3.2.1 Online Questionnaire. This gathered demographic information and data on parent and child sleep using a combination of existing measures, which were adapted for this study. The topics of the 53 questions are presented in Table 1 (see Appendix C for full questionnaire).

4.3.2.2 Demographic Information. Parents were asked a range of demographic questions, including their age (years), relationship to the child about whom they were responding, education level, ethnicity, employment status and annual household income. Geographical location was an open response question. Family structure was measured with questions about number and age (years) of all children and relationship status (whether participants lived with a partner or were single). Respondents were also asked for information about their child, including child's age (months), biological sex and whether their child was born premature (<37 weeks' gestation).

4.3.2.3 Parents' Sleep. Questions were adapted for this study based on a cross-cultural study of child and maternal sleep characteristics (Mindell, Lee, et al., 2017). Parents were asked to think about their sleep over the preceding two weeks (or the last two typical weeks if the previous fortnight was unusual due to e.g. illness or holiday) based on the wording of questions about child sleep in the BISQ-R (Sadeh, 2004; Mindell et al., 2019). This ensured consistency in the reference time frame with child sleep measures. Parents were asked about how much sleep they obtained on average per night in hours, the number of times they woke in an average night, and how many minutes they were awake on an average night.

Parents' subjective experience of their sleep was captured by a question generated for this study asking how they felt about the amount of sleep they get. Respondents could select one answer from a 4-point scale from 'I get plenty of sleep', 'I get enough sleep', 'I do not get enough sleep' or 'I get not nearly enough sleep'. Four-point scales with no neutral mid-point were used to allow participants to be grouped into binary yes/no responses for some quantitative analyses. 'I get plenty of sleep' and 'I get enough sleep' were combined to make a category of 'enough sleep' and 'I do not get enough sleep' and 'I get not nearly enough sleep' were combined to make a 'not enough sleep' category.

4.3.2.4 Child Sleep and Sleep Ecology. Child sleep and sleep ecology were measured using the latest version of the Brief Infant Sleep Questionnaire – Revised (BISQ-R; Sadeh, 2004; Mindell et al., 2019). This allowed comparison of data with a number of large-scale, cross-cultural studies of bedtime routines in 0-5-year olds (e.g. Sadeh et al., 2009; Mindell, Lee, et al., 2017; Mindell & Williamson, 2018; Williamson et al., 2021). The BISQ-R is a parent-reported 33-item questionnaire with questions about child sleep over the previous two weeks (or the last two typical weeks if the previous fortnight was unusual). Questions cover three domains: i) child sleep, ii) parent perception of child sleep and iii) parent behaviours pertaining to child sleep.

This widely-used questionnaire has been validated against actigraphy and daily sleep logs (Sadeh, 2004). The Spanish translation has also shown excellent test-retest reliability, in addition to agreement between self-administration and clinical interview, demonstrating both inter-observer and intra-observer reliability (Cassanello et al., 2018). The BISQ-R can be used with a scoring system which scores each of the three domain sub-scales from 0-100, then averages the three scores to produce a score out of 100. Higher scores denote

better child sleep, better parent perception of child sleep and parent behaviours thought to promote independent and healthy sleep (Mindell et al., 2019). However, sub-scale scores are not widely reported in previously published samples (e.g. Mindell, Lee, et al., 2017; Mindell & Williamson, 2018). Therefore, for the purposes of sample description and comparison with previously reported samples, this study reported data from individual questions in each domain (e.g. sleep duration, number of nights/week routines were followed).

Minor adaptations were made to the existing BISQ-R for the purposes of this study (Sadeh, 2004; Mindell et al., 2019). Firstly, two questions which give a list of suggested bedtime and night waking activities with children were removed as they might prejudice participants' responses in the interviews. Secondly, minor language adaptations were made to increase clarity for a UK audience, for example, 'stroller' was replaced by 'pushchair' and 'crib' was replaced with 'cot'. Thirdly, to reduce participant burden, a question deemed irrelevant for the present study about child's body position during sleep was removed, along with demographic information requested earlier in the questionnaire. (See Appendix C for full online questionnaire.)

Child sleep items of the BISQ-R include questions about SOL, the length of longest unbroken stretch of nocturnal sleep, total NSD, number and duration of night wakes, bedtime and wake time and the number and duration of daytime naps. Total NSD and total daytime sleep duration (DSD) are added together to give total 24-hour sleep duration.

Parental perception of child sleep items ask about bedtime ease/difficulty, parental perception of CSP, parental confidence in managing their child's sleep, parental perception of child sleep quality and parental perception of child's mood on waking. These are

measured on 5-point Likert scales, ranging from positive to negative perception. For example, 'How confident do you feel about managing your child's sleep?' and has answers ranging between 'Very confident', 'Somewhat confident', 'Neutral', 'Somewhat unsure', 'Very unsure'. 'Do you consider your child's sleep a problem?' was measured with answers ranging from 'not a problem at all', 'a very small problem', 'a small problem', 'a moderate problem' and 'a serious problem'.

Parents were also asked whether they thought their child's sleep affected their own sleep. This question was adapted from the Mindell et al. (2017) study of child and maternal sleep which asked whether child sleep negatively affected maternal sleep; however, the word 'negatively' was omitted from the current study as it was thought some parents might not wish to use this word in relation to their child (Mindell, Lee, et al., 2017). Respondents could select one answer from a 4-point scale from 'Yes, very much', 'Yes, somewhat', 'Not really', or 'Not at all'. Participants answering 'Yes, very much' or 'Yes, somewhat' were shown a further open-ended response question asking how their sleep was affected by their child's sleep.

Sleep ecology items include timing and consistency of some aspects of bedtime routine, sleep location and caregiver bedtime behaviours. Questions about routines include what time the child's bedtime routine usually starts, the time the child is usually put to bed (lights out), usual wake time, how many nights/week the participant is involved with the child's bedtime routine, how many nights/week the child has the exact same bedtime routine and how many nights/week bedtime is the same (within 15 minutes).

Sleep location questions allow participants to select an answer from a range of predetermined options. Questions ask where the child usually falls asleep and where they

sleep for most of the night: in their 'own bedroom', 'a sibling or another's bedroom', 'parents' bedroom' or 'another room'. Three further questions ask whether they fall asleep, sleep most of the night and wake up in a 'cot', their 'own bed (any size)', 'parents' bed', 'co-sleeper (attached to parents' bed)', 'swing/pushchair', 'caregivers' arms' or 'other'.

A question about participants' bedtime behaviours with their child asks how the child usually falls asleep. Participants select one answer from 'being held or rocked', 'with an adult in the room, but not being held or rocked', or 'alone (without an adult in the room)'. Three further yes/no response questions also ask whether the child usually falls asleep while breastfeeding, bottle feeding or drinking from a sippy cup, whether the child usually falls asleep with a dummy and whether there are usually electronics (e.g. television, smartphone or tablet) on while the child falls asleep.

4.3.2.5 Invitation to Participate in Phase Two Interview Study. Participants who were interested in participating in the Phase Two interview study were asked to provide a contact email address and for consent to contact them to arrange an interview. Details of requirements for using Google Meet and Skype were provided and participants were asked to state their preferred interview medium and provide contact details e.g. Skype address.

Table 1*Number and Content of Questions Included in Each Section of the Online Questionnaire*

Questionnaire section	Number of questions	Included questions
Demographic information	13	Age Relationship to index child Geographical location Education level Ethnicity Employment status Annual household income. Number of children in household Age(s) of children in household Relationship status Index child's age Index child's biological sex Was index child born premature/full term
Parental sleep	4	Average sleep/night (hours) Average number of wakes/night Typical night wake duration (mins) Perception of amount of sleep

Questionnaire section	Number of questions	Included questions
Child sleep	9	Sleep onset latency (SOL) Length of longest unbroken stretch of nocturnal sleep Total night-time sleep duration (NSD) Number of nights/week child wakes Number of wakes/night Duration of night wakes (mins) Number of naps Duration of daytime naps (mins) Does child snore during sleep?
Parental perception of child sleep	6	How difficult is bedtime?* CSP perception Confidence in managing child sleep Does child's sleep affect parent's sleep? How well does child sleep?* Perception of child mood on waking*

Questionnaire section	Number of questions	Included questions
Sleep ecology	18	Nights/week parent is involved with child's bedtime/overnight Who puts child to bed at bedtime?* Time child's bedtime routine begins* Time child is put to bed (lights out) Wake time Nights/week child's bedtime routine is the same Nights/week child's bedtime is the same Does child drink breastmilk during bedtime routine?* Does child fall asleep with milk?* Does child fall asleep with dummy?* Does child fall asleep with electronics on (e.g. television, smartphone, tablet)?* How does child usually fall asleep (held/adult presence/alone)?

Questionnaire section	Number of questions	Included questions
		Room child is put to sleep in Where child is put to sleep (sleep surface) Which room does child sleep in for most of the night?* Where does child sleep for most of the night (sleep surface)?* Who responds when the child wakes?* Where does child wake up (sleep surface)?*
Invitation to participate in Phase Two	3	Contact email address Preferred name for interview Preferred interview medium (Google Meet, Skype, telephone)

* indicates questions not included in analyses in this thesis. Questions were not included for analysis where they covered bedtime activities which would be discussed in detail in interviews and reported as part of qualitative results, and were not strongly associated with CSPs in the research literature (see Chapter 1, section 1.9.2.1) or necessary for understanding the context in which child sleep was reported (see Chapter 1, section 1.7).

4.3.3 Piloting

The intention was for methods in Phase One and Phase Two to capture views of participants who both did and did not use routines with their children. Five parents known to the researcher or the researcher's friends and colleagues, who used and did not use routines with their children' therefore piloted the Phase One and Phase Two studies. Piloting aimed to establish whether questions made sense to participants and were open enough to capture a range of approaches to sleep management.

Following piloting and feedback, a few minor amendments were made to the Phase One questionnaire. Firstly, a question was added to the questionnaire asking for a preferred name to help establish rapport in the subsequent interview. Details of the requirements for using phone, Skype or Google Meet were also added so that participants could easily select an accessible method of interview. Thirdly, language with heteronormative assumptions was adapted, e.g. changing 'mother' and 'father' to 'myself' and 'co-parent' in questions about who usually put the child to bed and responded in the night. (See Appendix C for full online questionnaire text).

4.3.4 Procedure

Ethical approval was obtained from the Oxford Brookes University Research Ethics Committee (study number 201391; see Appendix H for ethics approval letter). Data were collected between August and September 2020. This was during the Covid-19 pandemic, when a range of social and movement restrictions were in place in different areas of the UK.

An online advert aiming to recruit up to twenty participants was posted on Facebook, Twitter and on the Netmums and Mumsnet parenting websites in August 2020. Participants were invited to participate in a 20-minute online questionnaire followed by an hour-long online interview about how they helped their toddler sleep and how they felt about the strategies they used (See Appendix A for online advert). Participants clicked on a link to a Qualtrics questionnaire comprising participant information (PI) sheet, General Data Protection Regulation (GDPR) notice, consent form, questionnaire and debrief sheet (See Appendices B, C and D for full PI, GDPR notice and debrief sheets). Informed consent was indicated by ticking a box online, which was required before participants continued to the questionnaire, and at the end by completing a section with their contact details so they could be contacted about an online interview (see Appendix C for full online questionnaire).

4.3.5 Data Analysis

All statistical analyses were conducted using Jamovi software (version 2.2.2; The jamovi project, 2021).

For the categorical variables 'parental perception of CSP', 'parental perception of their own sleep' and 'parental perception that child sleep affects their own sleep', categories were collapsed into new binary variables. For 'parental perception that child sleep affects their own sleep', 'Yes, very much' and 'yes, somewhat' were coded 1 and combined to make a 'yes' category. 'Not really' or 'not at all' were coded 0 and combined to make a 'no' category. 'Parental perception of their own sleep' was recoded, with 'I get plenty of sleep' and 'I get enough sleep' coded 1 and named 'enough sleep', while 'I do not

get enough sleep' or 'I get not nearly enough sleep' were coded 0 and named 'not enough sleep'. The variable 'parental confidence' was recoded into three categories: 'Very confident' and 'Somewhat confident' were coded 2 and named 'confident', 'Neutral' was coded 1 and named 'neutral', while 'Somewhat unsure' and 'Very unsure' were coded 0 and named 'unsure'.

For 'parental perception of CSP', in line with previous studies, answers of a 'small', 'moderate' or 'serious' problem were coded 1, indicating a CSP (Mindell et al., 2022; Williamson et al., 2021). Answers of 'not a problem at all' or 'a very small problem' were coded 0, representing no sleep problem. This variable was named 'Research-defined CSP'. This definition excludes parental responses of 'a very small problem', however, parents choosing this response have indicated that they find their child's sleep difficult in some way. It could be relevant to know whether parents consider their child's sleep problematic at any level, as this could indicate that they may seek help (Mindell et al., 2022). Therefore, an additional variable was created: 'Parent-defined CSP'. For this variable, only 'not a problem at all' was coded 0 and all other responses were coded 1, representing a parent-perceived sleep problem. Proportions of parents endorsing each definition of CSP are reported in Chapter 5, section 5.4.3).

There were only four items of missing data (from two participants) in the full Phase One sample. One participant (who progressed to Phase Two) did not enter their age. Another participant (Phase One only) had omitted their child's age and indicated with textual responses that questions about bedtime and child SOL were not applicable as they did not put their child to bed. This participant was excluded from analyses relating to child bedtime and SOL. The missing child age and maternal age responses were replaced with the respective median child and maternal ages for the Phase One sample.

Geographical location data was a free-response question asking which country participants' lived in. However, participant responses named countries, regions, counties or cities. To provide an indication of the approximate geographical spread of participants, country data were retained where provided. Where participants had provided a county or city, this data was converted to the appropriate UK region. Therefore both countries and UK regions are presented as geographical locations in the sample characteristics (see Table 2).

Variables were checked and found to be non-normally distributed, thus medians and IQRs are presented. Descriptive statistics were reported for demographic, parent and child sleep characteristics, parental perception of their own and child sleep and child sleep ecology. To permit comparison between groups, frequency tables present percentages as well as counts. Due to rounding, these may not always add up to exactly 100%.

To establish whether interviewed participants differed in any way from those who were not interviewed, these groups were compared for all reported variables, where sample size permitted. As data were non-parametric, Mann-Whitney U-tests and Fisher's Exact tests were conducted to test for differences between Interviewed and Non-interviewed participants. As this was an exploratory study, multiple tests were planned. This can increase the possibility of Type 1 error and Bonferroni corrections were accordingly used to reduce the risk of falsely finding differences between the two groups. Results are presented in Chapter 5.

4.4 Phase Two: Interview Study

4.4.1 Participants

Participants were recruited through the Phase One online questionnaire described above. All Phase One participants (n=34) were contacted by email to arrange an online interview, of whom 21 participants were interviewed. Of the 13 Phase One participants who did not progress to Phase Two, reasons included unavailability during the interview period (n=2); initial interest in arranging an interview but no subsequent confirmation (n=2); no response to invitations to participate in interviews (n=9). All the Phase Two interviewees were mothers, and were aged between 29 and 41 years (*Mdn* = 36.50, *SD* = 4.00). Index children were aged between 12 and 40 months (*Mdn* = 26.00, *IQR* = 18.00). Demographic details for Phase One and Phase Two participants and their children are shown in Tables 2 and 3.

4.4.1.1 Sample Characteristics. Similar distributions of demographic factors were found between Phase One and Phase Two samples as can be seen in Tables 2 and 3. To provide the context of the interview data presented in later chapters, the Phase Two sample demographic characteristics are described here. The Phase Two sample was predominantly white British (67%) and white Other (14%). The sample was generally highly educated with the majority having completed post-graduate study (76%). Participants were mostly employed outside the home (91%), with around half of those who were employed working part-time (48%) and around half working full-time (43%).

Household income levels for most participants were above £39,500 (90%). This suggests that participants were more highly educated and older at birth of first child than the UK population average (ONS, 2020). Participants lived in varied locations within the UK, with around a third reporting living in England (29%), a third living in South-East England

(33%) and the remaining third living in Scotland, Northern Ireland, North-East and North-West England, South-West England and the Midlands. Almost all Phase Two participants lived with a partner (95%) and around half had two children (52%), with slightly under half having only one child (43%).

Table 2

Participant Demographic Characteristics in Phase One (n = 34) and Phase Two (n = 21)

Variable	Phase One Frequency (%)	Phase Two Frequency (%)
Education		
Completed secondary/high school	2 (6)	1 (5)
Completed University or equivalent	6 (18)	4 (19)
Completed Post-graduate study/qualification	26 (76)	16 (76)
Ethnicity		
White British	22 (65)	14 (67)
White other	4 (12)	3 (14)
Mixed or multiple ethnic group	3 (9)	1 (5)
Arab	2 (6)	1 (5)
Asian	1 (3)	0 (0)
Chinese	1 (3)	1 (5)
Hispanic	1 (3)	1 (5)

Variable	Phase One Frequency (%)	Phase Two Frequency (%)
Employment status		
Works part-time	16 (47)	10 (48)
Works full-time	14 (41)	9 (43)
Not employed outside the home	4 (12)	2 (10)
Income		
Prefer not to answer	1(3)	0 (0)
£18,500 - £29,499	1 (3)	0 (0)
£29,500 - £39,499	3 (9)	2 (10)
£39,500 - £49,499	2 (6)	1 (5)
£49,500 - £59,499	6 (18)	5 (24)
£59,500 - £69,499	5 (15)	4 (19)
£69,500 or above	16 (47)	9 (43)
Geographical location		
UK	4 (12)	1 (5)
England	9 (26)	6 (29)
South-East England	11 (32)	7 (33)

Variable	Phase One	Phase Two
	Frequency (%)	Frequency (%)
South-West England	1 (3)	1 (5)
North-East England	2 (6)	1 (5)
North-West England	2 (6)	1 (5)
Midlands	3 (9)	2 (10)
Northern Ireland	1 (3)	1 (5)
Scotland	1 (3)	1 (5)
Relationship status		
Single parent	1 (3)	1 (5)
Living with partner	34 (97)	20 (95)
Number of children		
1	13 (38)	9 (43)
2	18 (53)	11 (52)
3	3 (9)	1 (5)

Demographic characteristics of index children in Phases One and Two are presented in Table 3. The age of the children about whom Phase Two parents responded ranged from 12 to 40 months (*Mdn* = 26.00, *IQR* = 18.00). Twelve of the children were boys (57%) and nine were girls (43%). One child had been born premature (5%) and the rest

were full-term (95%). Around half the children who were the focus of responses were the youngest child (48%), nine were only children (43%) and two were the oldest child (10%).

Table 3

Child Demographic Characteristics in Phase One (n = 34) and Two (n = 21)

Variable	Phase One (n = 34)	Phase Two (n = 21)
Median child age in months (IQR)	25.00 (18.75)	26.00 (18.00)
Born <37 weeks' gestation (y/n)		
	5 (15%)	1 (5%)
Born premature		
Born at full term	29 (85%)	20 (95%)
Biological sex		
Male	21 (62%)	12 (57%)
Female	13 (38%)	9 (43%)

4.4.2 Semi-structured Interview

A semi-structured online interview was used to gather detailed accounts of participants' experiences of using sleep-related routines with their children in their own words (see Appendix G for full interview schedule). Due to the expected 24-hour nature of parents' sleep-related routines, the interview schedule drew on the 'life mode' interview, a narrative episodic interview, where participants are asked to narrate the preceding 24 hours episode by episode (Andenaes, 2014; Sundnes & Andenaes, 2016). As this study was exploring routine sleep-related practices, participants were asked to describe what happened in a typical day, rather than in the preceding 24 hours (Andenaes, 2014). The word 'routines' was not used in this part of the interview as some participants might have regular practices which they did not regard as a routine; instead participants were asked about 'things you do' and whether these 'tend[ed] to be the same or vary' (Koulouglioti et al., 2011). After this part of the interview, participants were asked more focused questions about their opinions and experiences of routines. The word 'routines' was used in this section of the interview to allow exploration of participants' perception of the term as it would no longer potentially guide participants to change their accounts of sleep management. Question topic areas are detailed below.

A semi-structured interview schedule asked participants about

- 1) what 'good sleep' was for their toddler and if/how this affected their child
- 2) what they did to benefit their toddlers' sleep at points in their child's 24-hour sleep/wake cycle (between the evening meal and sleep onset, at night wakings, on waking in the morning, at naptime (where relevant), during the daytime and anything they avoided to benefit their toddler's sleep)
- 3) how they tended to feel during their sleep-related activities at each point of the 24-hour cycle
- 3) whether they tended to do the same thing most days or whether it varied

- 4) whether they would describe themselves as having a 'routine' with their child or not and why
- 5) their opinions about the advantages and disadvantages of routines relating to their child's sleep for their family
- 6) what helped or hindered them in using their routines
- 7) anything else they wanted to add or share about their experience of toddler sleep

Active listening was used to generate follow-up questions and prompts to each participant's narrative, using participants' own words, such as 'You told me that..., could you give an example of that?' or 'How do you feel when...?'.

4.4.3 Piloting

The interview schedule was changed slightly following the piloting previously described for the Phase One study. Firstly, a warm-up question asking for a brief description of household members was added. Secondly, questions on napping were moved before the questions on daytime activities in the finalised interview schedule, as in pilot interviews participants raised napping prior to talking about daytime activities.

4.4.4 Procedure

After completing the online questionnaire, all eligible participants who had given their email address were emailed by the researcher to arrange an interview time, with PI sheets, consent forms and GDPR notices attached (See Appendices B for PI sheet and C for GDPR notice as for Phase One; see Appendix F for Consent form for Phase Two interview study). Question topics for the interview were also included (see Appendix E for text of

invitation email). Once consent forms were received, an interview was arranged and a link to the Google Meet or Zoom meeting were emailed, or a call made via Skype at the agreed time.

Online and telephone interviews ranging between 36 minutes and 1 hour 15 minutes were conducted between August and September 2020 via Skype telephone call ($n = 3$), Skype video call ($n = 1$), Zoom ($n = 1$) or Google Meet ($n = 16$), as participants preferred. At the beginning of the interview, participants were told that there were no right or wrong answers and were offered the opportunity to ask any questions about the study. They were also reminded of their right not to answer any questions and to withdraw from the interview at any point without giving a reason.

Prior to interview, participants' questionnaire data from Phase One was reviewed and notes were made on the interview schedule regarding salient details about child sleep and routine use (e.g. whether children typically woke at night, whether children typically napped in the daytime, and the nights per week a bedtime routine was used). In the interview, participants were asked about these responses. For example, participants who did not report having the same routine every night of the week were asked 'You said on the questionnaire that [index child] has a similar routine [insert questionnaire data] times a week, could you tell me what is different on the other nights'?

Interviews were audio-recorded using a password-protected iPhone and uploaded to the researcher's password-protected Google drive. Recordings were later transcribed verbatim and any personally identifying information was removed. Recordings were then deleted and transcripts were stored securely in the researcher's Google Drive. Participants were contacted by email and thanked for their participation. They received a debrief

document and £10 Amazon voucher in appreciation of their time (See Appendix I for debrief sheet).

4.4.5 Data Analysis

Interview data were analysed using reflexive thematic analysis (Braun & Clarke, 2019; 2022). Thematic analysis involves six stages: becoming familiar with the data, initial coding, searching for themes, reviewing themes, defining and naming themes and writing up the analysis (Braun & Clarke, 2006). This method of analysis was chosen as the study aimed for a rich description of the data set as the area is under-reported and participants' views about using sleep-related routines with toddlers are not yet known (Braun & Clarke, 2022). Data was analysed at the semantic level and a realist perspective was taken, reporting "experiences, meaning and the reality of participants" (Braun & Clarke, 2006).

4.4.5.1 Familiarisation and Coding. Familiarisation with the data was through initial transcription and reading and re-reading of the transcripts. Following familiarisation, data were coded with the following research questions (RQ) in mind:

- 1) What activities do UK parents use routinely with their 1-3-year olds to benefit their sleep?
- 2) How do parents think their sleep-related routines benefit their toddlers' sleep?
- 3) What feelings do parents experience in relation to their sleep-related routines with their toddlers?
- 4) What are the parent-perceived barriers and facilitators to consistent use of their sleep-related routines?

An inductive, data-driven approach to coding was used, meaning that no theoretical framework was used in the analysis. However, background reading about sleep, parenting and routines influenced which aspects of routines and their relationship to toddlers' sleep were coded. These aspects include factors known to affect circadian rhythms; parenting strategies such as limit-setting or being child-led; sleep associations; and emotional states that might be conducive to sleep, or not (see section 4.4 for reflexivity statement). Coded transcripts were shared with and discussed with experienced researchers in the fields of young children's sleep (LW, GC), parenting (MM), and child development (AB) to ensure that codes reflected the data content, rather than researcher interests. Discussion included ensuring that codes related to the research questions, for example there was debate around whether the code 'avoiding sugar' was something participants 'did' to benefit their children's sleep, and whether avoiding things more generally could be considered an active sleep management choice. The precision of codes was also discussed: for example, the relevance of the code 'snuggles' was discussed and was changed to 'feeling close' where it was seen to be part of parents' emotional experience or 'routine activity - cuddle' where it was seen as a part of the routine to benefit child sleep.

MM was originally involved at the start of the project as a supervisor specialising in parenting. This role was subsequently taken over by AB, a researcher with considerable experience in developmental psychology and who has worked extensively with families. Discussions with the supervisory team included the wider context of individual units of meaning in the transcripts as a whole and the extent to which *participants* viewed their activities and perceived benefits as 'sleep-related'. They also ensured focus on participants' meanings at the semantic level, rather than researcher-inferred latent meanings (see

section 4.4 for full reflexivity statement). Fully coded transcripts were then entered into NVivo 12.

4.4.5.2 Theme Construction and Writing Up. Codes related to each research question were then extracted in turn from the main data set in NVivo 12. Initial themes were generated by grouping together related codes, for example, for research question one, 'parental presence' and 'cuddling to sleep' were included in the theme 'settling children'. This was an iterative process and themes were refined in discussion with three researchers with experience of qualitative projects with parents, two in the field of child sleep (LW, GC) and one from outside the child sleep field (AB). For example, it was discussed whether codes relating to the initial theme 'Judgement' in fact belonged with the initial theme 'Parenting Uncertainty' due to the causal link for some parents between feeling judged and then experiencing uncertainty about their own sleep-related routines. However, during discussion it was decided that 'Judgement' was a barrier to consistent implementation of participants' preferred routines with their children, and was a particular type of lack of support, leading to it becoming a subtheme of 'Support'.

In writing up, a description of each theme was supported by quotes from participants. A pseudonym and a brief description taken from the Phase One questionnaire is provided in brackets with each quotation indicating the age of the index child and the parents' perception of the extent to which their child's sleep is problematic for them (see section 4.2.2 for measures). This information is included to provide a very brief context of the child's likely stage of development and the parents' experience of their sleep.

The strength of expression of themes in this qualitative enquiry could not be determined by counts of participants describing particular practices alone. Discussion of

quantifying data in qualitative analysis has observed that counts of frequency of code occurrence may represent greater importance or significance, or may indicate a greater willingness or ability to talk about a given topic (Vaismoradi et al., 2013). Participants' descriptions of their routines were likely not exhaustive and they may have emphasised or omitted particular routine practices. Similarly, quantifying numbers of participants reporting use of particular practices did not fully indicate the significance of a practice as some participants found some practices essential for toddler sleep, while other, more frequently reported practices were not described in such strong terms by any participants.

However, in the context of the research questions it is relevant whether a particular practice or experience is widespread or reported by a smaller number of families. Therefore, the quantitative indicators 'all', 'most', 'some' and 'few' were used in the write-up, indicating the scale of particular patterns in the data. These terms also indicate the existence of patterns, as opposed to idiosyncracies in the data set (Braun & Clarke, 2012). Of particular import, however, to this study is the extent to which participants experienced beliefs that their sleep-related routines benefited their toddler's sleep, feelings related to those routines and the extent to which they perceived particular barriers and facilitators helped or hindered them in regularly carrying out their routines. Thus, participants' strength of feeling about particular themes and sub-themes are also reported to indicate the importance placed upon them by parents.

Acknowledging the idiosyncratic nature of families' sleep-related routines, some results are also presented in tabular form, e.g. the sleep-related activities reported by each participant over the 24-hour cycle. Results of qualitative analyses for the four research questions stated above are presented in Chapters 6, 7, 8 and 9 respectively.

4.5 Reflexivity Statement

For the qualitative analyses it is important to consider the role that the researcher themselves plays in the research process. Further reflection arising as a result of the study can be found in the introduction to Chapter 10.

At the time of the research, I was a parent with a child aged five, and had thus fairly recently experienced managing toddler sleep myself. I therefore approached this research considering myself an 'insider researcher' or integrated part of the topic I was exploring, a fellow parent undertaking research alongside my participants (Yanto & Pandin, 2023).

As a parent, I found a dissonance between the sleep advice I was given about certain areas (although not routines) and what I felt I could implement. This experience helped to shape the research gap I chose to explore. When looking at the literature, I found the caregivers' voices were largely absent, or were considered in regard to whether they did or did not do predetermined activities, silencing their thoughts about what benefited their toddlers' sleep. I felt strongly as a parent that those voices were important, and as a researcher that they were needed to shape relevant guidance for a range of families. From consulting parenting forums online and attending baby and toddler classes during my daughter's toddler years, I read and heard parents' views about why particular sleep approaches did or did not work and reservations about what particular approaches might do to their child. I knew that this area was of real concern to parents.

As explored by Hill and Dao (2021), however, I found that my status as 'insider' was determined by participants, as well as myself. Some regarded me as a parent, assuming I had knowledge of books or approaches they referenced. While this helped establish

rapport and helped interviews flow, re-reading the transcripts I sometimes reflected that I had made assumptions that what a participant meant (for example by being 'totally knackered') was the same as my own experience. Thus, I sometimes missed out on the opportunity to explore experiences of tiredness or fatigue.

While designing this study, my own preconceptions about routines became apparent. I am a 'routine' person, predisposed to like routines and incorporate them naturally into my life. Many of the people in my social networks take a similar approach, therefore designing a question schedule that did not presuppose one would have routines was a priority. 'Routine' is a loaded term and I tried to avoid constructing routines as something to be aspired to (Hall et al., 2018). Piloting interviews with mothers and fathers who did and did not take structured approaches to sleep helped me develop an interview schedule that did not assume a particular approach.

Despite my efforts, one participant did become worried in the second part of the interview where questions referred explicitly to 'routines' that she did not use this practice. I reflected back to her her own reasons for not doing so and she appeared reassured, however, this illustrated to me the power that I held as interviewer. I had tried to reduce this power imbalance by making clear that there were no right or wrong answers and by ensuring no predetermined sleep strategies or activities were referred to in recruitment material, pre-interview email, online questionnaire and the first part of the interview. However, an element of power imbalance remained. I may have regarded myself as an 'insider', but to some participants, I was an 'outsider', looking in (Hill & Dao, 2021). One participant explicitly joked about this by wondering aloud what the 'sleep experts' would think about her practices. It was unclear whether I was one of the 'sleep experts', or standing alongside her as a fellow parent. This tension may have affected what participants

told me and suggests that social desirability may have been a factor in some of their responses. However, mothers were honest about some difficult emotions and, for some, mental health experiences related to child sleep suggesting a degree of trust and rapport existed.

I strove to take an inductive approach, however, I was influenced by my prior reading about sleep mechanisms and my own experiences of managing toddler sleep. This knowledge shaped some of my follow-up questions in the interviews, where some early interviews and a growing fascination with circadian science were overly influential. Fortunately, the rapport established meant that participants felt able to tell me particular factors were not part of their thinking about child sleep management when my questions were too direct and leading. For example, participants did not consider socialising affected their children's sleep. However, this does mean that I may have missed opportunities to follow up on what was important to participants themselves as I was drawn instead to ask about possible mechanisms that interested me.

During the analysis, discussion with my supervisors helped to ensure I coded data at the semantic level and focused on what *participants* thought benefited their toddlers' sleep. Initially, I coded some responses as anxiety, which were recoded as 'worry about ...' as discussion allowed me to see that anxiety was a particular emotional state I had inferred, whereas participants were expressing a thought. Theme construction was also a collaborative process, with supervisors helping me to shape coherent themes and challenging me to ensure my interpretations were clearly tethered to participant quotations.

4.6 Chapter Summary

This chapter presented the methodology for the study presented in this thesis. Phase One was an online questionnaire, which aimed to explore participant demographic, child and parental sleep and child sleep ecology characteristics. It further aimed to collect data which would establish whether there were any differences in characteristics between Phase one participants and those who progressed to Phase Two. Phase One aimed to provide a context for the qualitative data to be gathered in Phase Two. Phase Two was an online semi-structured interview which explored what things participants typically did to benefit their toddlers' sleep and the benefits to child sleep they perceived. Participants' feelings during and about their sleep-related routines were also explored, and any barriers and facilitators to consistent implementation they found.

The next chapter presents results from Phase One, where child and parental sleep, parental sleep perceptions and sleep ecology characteristics of the participants who went on to Phase Two can be found, along with comparisons between Interviewed and Non-interviewed participants.

Chapter 5 Results from Phase One: Questionnaire Study

This chapter presents the quantitative results from the Phase One online questionnaire study. This gives the context of the child and caregiver sleep experienced by participants interviewed in the Phase Two study, their sleep perceptions and the sleep ecology experienced by the index child. Descriptive statistics are therefore presented for child and parental sleep, parental perceptions of child and parental sleep, and sleep ecology characteristics of the 21 participants who went on to interview. Results of tests of comparison of sleep, sleep perception and sleep ecology characteristics between Interviewed ($n = 21$) and Non-interviewed Phase One parents ($n = 13$) are also presented. (Descriptive data for Non-interviewed participants and full results of tests of comparison between Interviewed and Non-interviewed participants can be found in Appendices J, K, L, M, N and P.) The results are then discussed in relation to prior literature.

5.1 Introduction

Parents' experiences of their children's sleep-related routines could be affected by their own and their child's sleep characteristics, as well as their perception of their child's sleep as problematic. For example, parents of 3-12-month olds experiencing CSPs have previously reported powerfully negative influences of CSPs on their own emotional wellbeing (Muller et al., 2022). Parents of 0-4-year olds experiencing sleep and settling difficulties also experienced fatigue, depression, anxiety and stress (Giallo et al., 2011). Caregiver stress, fatigue and emotional distress fell after intervention for CSPs in 6-23-month olds, suggesting that changing child sleep circumstances can influence parents' feelings (Thome & Skuladottir, 2005). Recent research has found that the impact of child sleep on parental sleep can also be a factor in how parents' experience their child's sleep

(Lupini et al., 2022). The amount and quality of sleep parents experience might also therefore influence how they feel about their child's sleep-related routines. For example, parents who are woken when their children regularly wake in the night might have a different emotional experience than parents whose child regularly sleeps through the night, or whose child wakes but does not signal. Whether a parent-perceived CSP is related primarily to child night wakings, lengthy and/or difficult settling, effects of child sleep on parental sleep, or other factors might have different implications for treatment and support. For this reason, a description of child and parental sleep characteristics, along with parental sleep perceptions reported in Phase One are presented to give a context for the Phase Two qualitative results presented in later chapters.

In addition to child and parental sleep quantity and quality, a range of sleep ecology factors have been associated with parent-perceived CSPs. These include caregiver bedtime behaviours (particularly the extent to which active settling is used), and bedtime routine consistency (the number of nights/week the same routine is followed; see Chapter One, section 1.9 and Chapter Two, section 2.4.2 for further discussion). Understanding of the sleep-related behaviours and practices parents use is needed to provide context for the qualitative results presented in chapters 6 to 9. Understanding of the sleep, sleep perception and sleep ecology characteristics of participants may help in understanding when and for whom any recommendations for sleep-related guidance might or might not be applicable.

5.2 Study Aims

The aim of Phase One was to explore

- 1) What are the child and parental sleep characteristics of the interviewed participants?
- 2) How do the interviewed participants perceive their own and their child's sleep?
- 3) What are the sleep ecology characteristics of the interviewed families?
- 4) Are there differences in the sleep, perceptions of sleep and characteristics of routines of the Interviewed and Non-interviewed samples?

5.3 Data Analysis

Full details of the method and data analysis are presented in Chapter Four. The following in addition are specific to this chapter.

As Phase One aimed to describe demographic, child sleep, parental sleep, sleep perception and sleep ecology characteristics to provide context for the Phase Two qualitative results, this chapter presents results for Interviewed participants ($n = 21$) only. Descriptive statistics for Non-interviewed participants ($n = 13$) and tests of comparison between the Interviewed and Non-interviewed groups can be found in Appendices J, K, L, M, N and P.

5.4 Results

5.4.1. Child Sleep (Parent-reported)

Child sleep variables included child's TSD per typical 24 hours (hours), typical NSD and DSD (hours), typical SOL (minutes), usual total night wake duration (minutes), number of nights/week children woke and usual number of wakes/night. TSD is presented for the whole sample and for different child age groups, as total sleep duration recommendations

differ at age 1-2 years and 3 years (Hirschkowitz et al., 2015). Results are shown in Table 4. The typical number of naps/day are also presented. Additionally, frequencies for number of nights/week children woke and usual number of wakes/night are presented in Figures 1 and 2. (For all of the child sleep characteristics reported in this chapter, Non-interviewed participants' results are reported in Appendix L).

Table 4

Phase Two Child Sleep Characteristics (n = 21)

Child sleep variable	Mdn (IQR)	Minimum	Maximum
Total 24-hour sleep duration (hours)	11.00 (1.50)	9.50	14.50
1 year-olds	11.50 (1.67)	10.50	11.00
2 year-olds	11.00 (1.30)	9.50	12.00
3 year-olds	10.00 (1.09)	9.75	11.00
Total night-time sleep duration (NSD; hours)	10.00 (1.50)	9.00	12.00
Total daytime sleep duration (DSD; hours)	0.60 (1.50)	0.00	3.00
Number of nights/week child wakes	3.00 (6.00)	0	7
Wakes per night	1.00 (2.00)	0	7
Total night wake duration (mins)	15.00 (40.00)	0.00	180.00
Sleep onset latency (SOL; mins)	20.00 (15.00)	10.00	90.00

*Inter-quartile range

There was wide variation in all children's sleep variables. In particular, there was considerable variation in night waking behaviour. Five (24%) children typically did not wake at night. Ten (48%) woke more than half the nights of the week, of whom six (29%) woke every night (see Figure 1). When asked about the last night their child woke, two participants (10%) could not recall any wakings. Twelve (57%) children woke once, four (19%) woke two or three times and three (14%) woke five or more times/night (see Figure 2). Nine children (43%) no longer took daytime naps and twelve (57%) typically took one nap per day.

Figure 1

Frequencies of Nights/Week Children Woke (n=21)

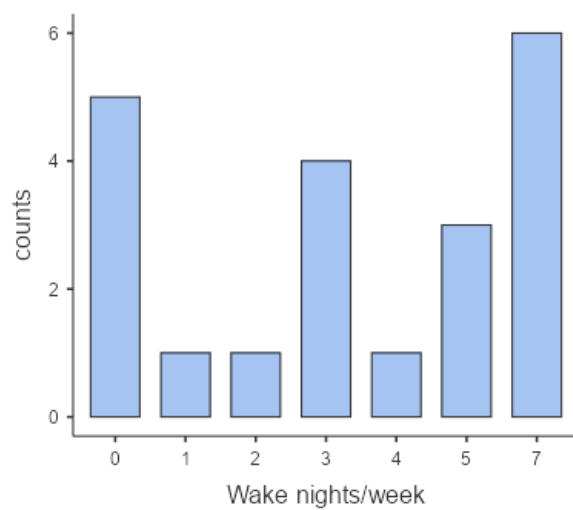
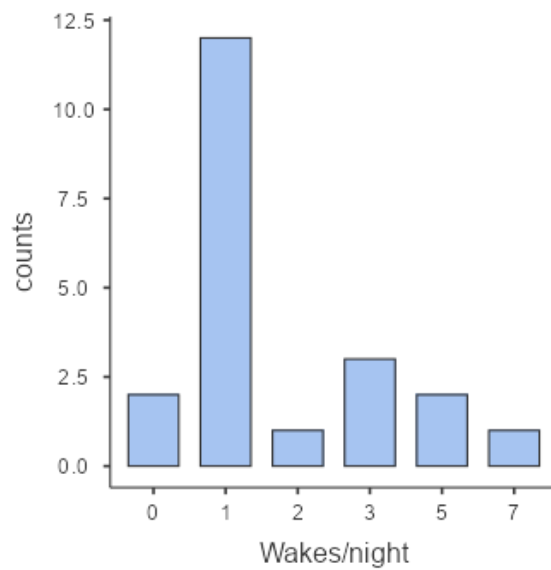


Figure 2

Frequencies of Child Wakes/Night (n=21)



5.4.2 Parental Sleep (Self-reported)

Participants reported the number of hours they usually slept per night, the total minutes they were awake in a typical night and the number of times they woke most nights (see Table 5). (For all of the parental sleep characteristics reported in this chapter, Non-interviewed participants' results are reported in Appendix M).

Table 5

Parental Sleep Characteristics (n=21)

Parental Sleep Variable	Mdn (IQR*)	Minimum	Maximum
Parental sleep duration (hours)	7.00 (1.50)	6.00	10.00

Parental total night wake duration (mins)	30.00 (35.00)	0.00	120.00
Parental number of wakes per night	2 (3.00)	0	8

*Interquartile range

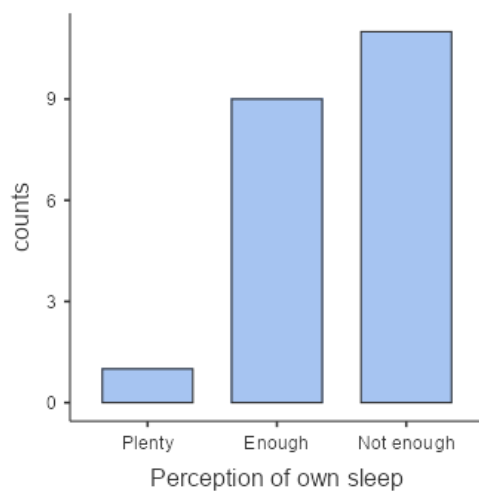
There was considerable variation in the usual sleep and night wake frequency and durations participants reported. Most (57%) reported waking more than once per night and a third (34%) woke four times a night or more.

5.4.3 Parental Sleep Perceptions

5.4.3.1 Parents' Perception of Their Own Sleep. Participants were asked about their perception of the amount of sleep they obtained. Most mothers (52%) felt they did not get enough sleep. Nine (43%) reported getting enough sleep, while only one participant (5%) felt she obtained 'plenty' of sleep. (Figure 3; see Appendix N, Figure N1 for comparison with Non-interviewed participants' sleep perceptions).

Figure 3

Frequencies of Participants' Perceptions of Their Own Sleep (n=21)



5.4.3.2 Parental Perceptions of Their Child's Sleep. Participants reported their perceptions of whether their child's sleep was problematic or not, whether their own sleep was affected by their child's and how confident they felt in managing their child's sleep. A summary of responses for parent and child sleep perception binary variables is initially presented ((See Appendix N for child sleep perceptions of Non-interviewed participants). Response categories within these variables are then further broken down and frequencies within each category are presented (see Figures 3, 4 and 5). Frequencies for parental confidence in managing child sleep are also presented (see Figure 6).

Table 6

Frequencies of Phase Two (n=21) Participants' Perceptions of Child Sleep

Parental Sleep Perception Variable	Phase Two (n = 21)	
	Response	Frequency (% of total)

CSP perception (Research-defined CSP)	Yes	7 (33.3)
	No	14 (66.6)
CSP perception (Parent-defined CSP)	Yes	13 (61.9)
	No	8 (38.1)
Perception that child sleep affects parent sleep	Yes	18 (85.7)
	No	3 (14.3)
Parental confidence in managing child sleep	Confident	14 (66.6)
	Neutral	6 (28.6)
	Unsure	1 (4.8)

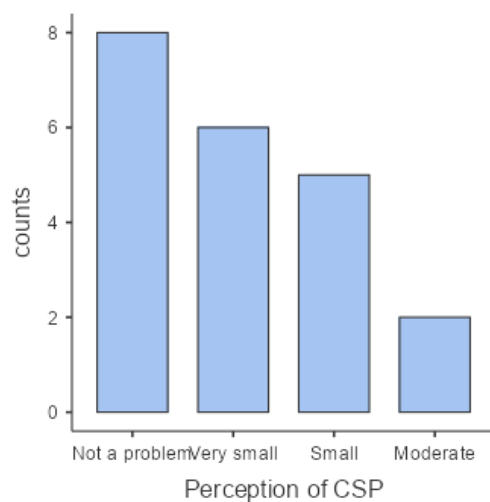
Note. **‘Research-defined CSP’** includes participants’ responses that their child’s sleep is a ‘small’, ‘moderate’ or ‘serious’ problem. **‘Parent-defined CSP’** includes participants’ responses that their child’s sleep is a ‘very small’, ‘small’, ‘moderate’ or ‘serious’ problem (see Chapter 4, section 4.2.5).

5.4.3.3 Parents’ Perception of CSPs. Seven (33.3%) participants perceived research-defined CSPs (e.g. Lupini et al., 2022; Mindell, Lee, et al., 2017; Mindell et al.,

2022; Williamson et al., 2021). However, 13 participants (62%) reported parent-defined CSPs, while 8 (38%) reported no CSP (see Table 6). Most of those who perceived a CSP reported ‘a very small problem’. No participants felt their child had a serious problem with sleep.

Figure 4

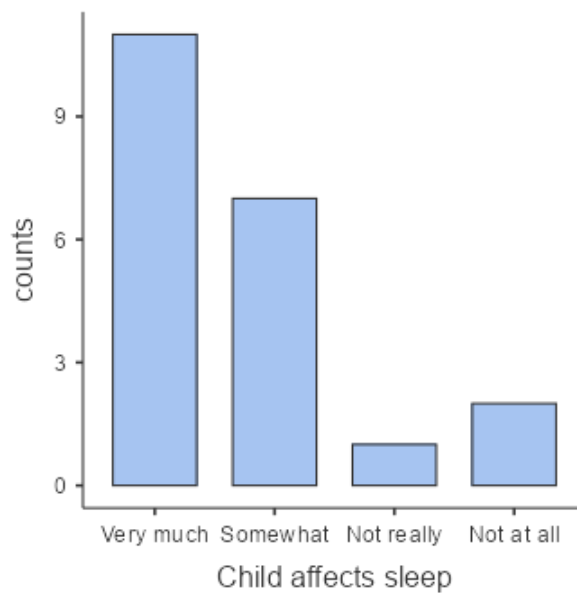
Frequencies of Participants’ Perception of CSP/No CSP (n=21)



5.4.3.4 Perception that Child Sleep Affected Parental Sleep. The majority of participants (86%) perceived that their child’s sleep affected their own sleep, with eleven (52%) reporting that their sleep was very much affected by their child. One participant (5%) felt their sleep was ‘not really’ affected, while two participants (10%) did not feel their sleep was affected at all by their child’s sleep. See Figure 5.

Figure 5

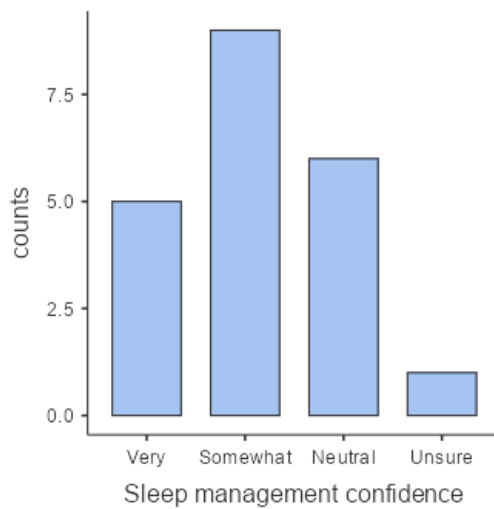
Frequencies of Participants' Perception of Whether Their Child's Sleep Affected Their Own Sleep (n=21)



5.4.3.5 Parental Confidence in Managing Child Sleep. The majority of participants (67%) reported confidence in their ability to manage their child's sleep. Of these, most reported feeling somewhat confident. Around a third of the sample (29%) felt neutral about their ability to manage their child's sleep and only 1 participant (5%) reported feeling somewhat unsure that they could manage their child's sleep. No participants felt very unsure about their ability (see Figure 6).

Figure 6

Frequencies of Participants' Confidence Levels in Managing Their Child's Sleep (n=21)



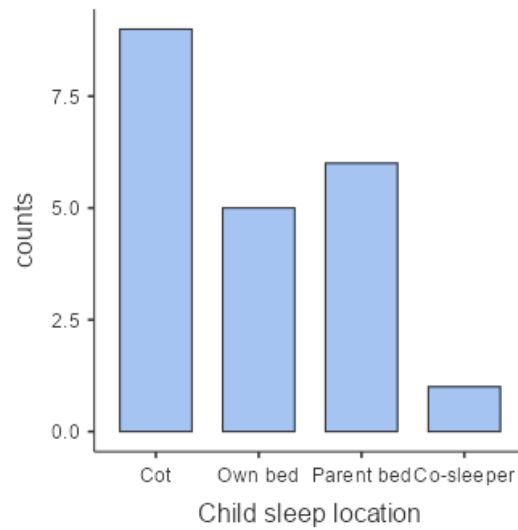
5.4.4 Child Sleep Ecology (Parent-reported)

Parents reported on child sleep location (room slept in and sleep surface) and parent behaviour at sleep initiation. (See Appendix P, Figures P1, P2 and P3 for sleep location and parent behaviour at sleep initiation of non-interviewed participants). They also reported characteristics of their routines, including the number of nights/week they were involved with their child at bedtime, the number of nights/week they followed the same bedtime routine with their child and the number of nights/week bedtime was the same, as well as usual bedtime and wake time. (See Appendix P, Table P1 and Figures P4 and P5 for routine characteristics of non-interviewed participants).

5.4.4.1 Children's Sleep Location. 13 (61.9%) participants' children slept in their own room and 8 (38.1%) participants' children slept in their parent's room. 14 (67%) children slept in their own cot or bed, 7 (30%) slept in their parent's bed or an attached co-sleeper (see Figure 7).

Figure 7

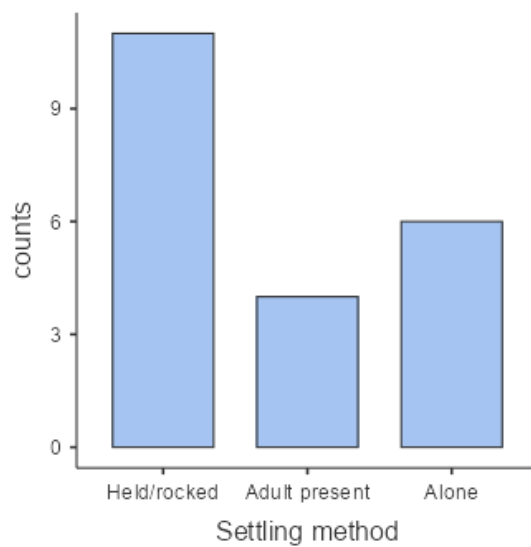
Frequencies of Child Sleep Location (n=21)



5.4.4.2 Parental Behaviours at Child's Sleep Initiation. 11 (52%) children were held or rocked to sleep. 4 (19%) fell asleep with an adult present, but providing no physical contact and 6 (29%) fell asleep alone (See Figure 8).

Figure 8

Frequencies of Parent Behaviours at Child Sleep Initiation (n=21)



5.4.4.3 Children's Sleep-related Routines. Twenty participants (95.5%) reported having a bedtime routine, with only one participant stating they never used the same routine at night. (For further details of what participants considered to be part of their routine see Appendix Q). Mothers reported the number of nights/week they were involved in their child's bedtime routine, the number of nights/week the same routine was followed and the number of nights/week the same bedtime was observed (within 15 minutes; see Table 7).

Table 7

Frequencies of Participants' Routine Involvement, Consistency of Bedtime Routines and Consistency of Bedtimes (n = 21)

Routine characteristic	Frequency (% of Total)
Nights/week parent involved in toddler bedtime routine	
5	1 (5)
6	2 (10)
7	18 (86)
Nights/week same bedtime routine	
0	1 (5)
3	1 (5)
4	3 (14)
5	4 (19)
6	1 (5)
7	11 (52)
Nights/week same bedtime	
2	1 (5)
3	3 (14)
5	7 (33)
6	2 (10)
7	8 (38)

Bedtime Routine Consistency. The majority of participants (86%) were involved in their toddlers' bedtime routines seven nights a week and all were involved for five nights a

week or more. Mothers reported using the same bedtime routine between zero and seven nights per week. The majority (52%) reported using the same routine every night of the week, 19% used the same routine five nights per week and 23% used the same routine 4 nights a week or fewer.

Bedtime Consistency. Bedtime was kept consistent between twice and seven times per week. Just over a third of participants (38%) reported having the same bedtime for their children seven nights a week. A third kept bedtime the same five nights a week and 19% of children had the same bedtime three nights a week or fewer.

Bedtimes and Wake Times. Typical bed and wake times were also reported. Bedtimes ranged between 6:45pm and 9:30pm, and averaged around 7:30pm (*Median* = 7:28pm, *IQR* = 48.78 minutes; see Figure 9). Children typically woke between 5:15am and 8:00am, with an average wake time of 6:30am (*Median* = 6:30am, *IQR* = 45 minutes; see Figure 10).

Figure 9

Frequencies of Child Bedtimes (pm) (n=21)

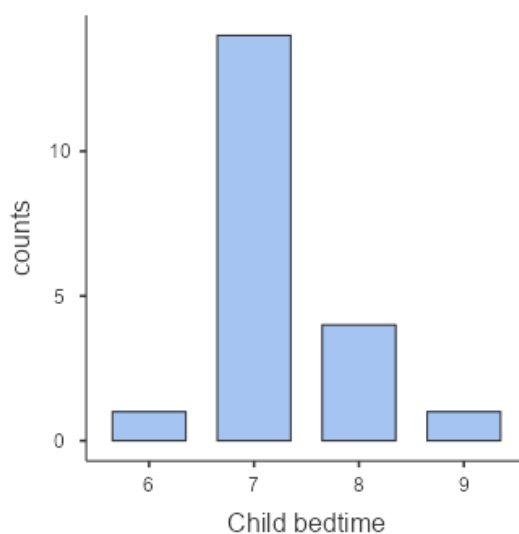
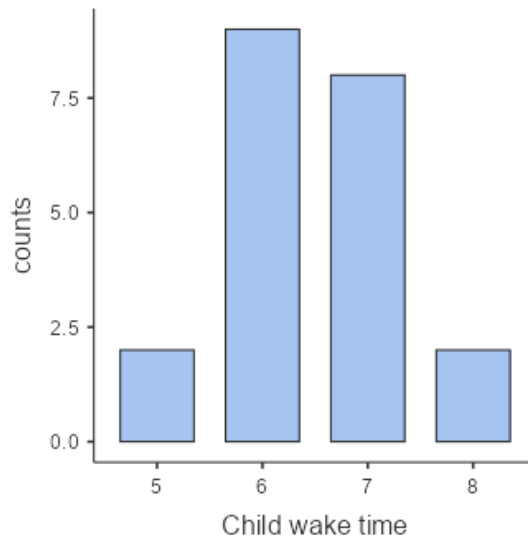


Figure 10

Frequencies of Child Wake Times (n=21)



5.4.5 Comparison of Interviewed and Non-interviewed Participant Characteristics

There were no significant differences in demographic characteristics between Interviewed and Non-interviewed participants and their children (see Appendices J and K for further details). Nor were any significant differences found between Interviewed and Non-interviewed participants in child and parental sleep characteristics (see Appendices L and M), parents' perceptions of their own or their child's sleep (see Appendix N), or sleep ecology characteristics (see Appendix P).

5.5 Discussion

Phase One aimed to describe the child and parental sleep characteristics and sleep ecology of the Phase Two interview study sample to provide a context for understanding

participants' experiences of their sleep-related routines, which are presented in later chapters. Overall, parent-reported sleep duration of interviewed mothers and children fell just within the National Sleep Foundation (NSF) recommendations, with mothers averaging 7 hours, 1-year-olds 11.5 hours, 2-year-olds 11 hours and 3-year-olds 10 hours total sleep (Hirshkowitz et al., 2015). As is usual in this age group, there was wide individual variation in all reported sleep variables. Parents reported that one third of children obtained less than the NSF recommended 11-14 hours' sleep per 24 hours and almost half of mothers obtained less than the recommended seven to nine hours of sleep for adults; it is perhaps unsurprising therefore that half felt they did not get enough sleep (Hirshkowitz et al., 2015).

Child sleep duration was shorter in the Phase Two sample than in previous parent-reported studies of child sleep. TSD (11 hours) was between 24 and 90 minutes shorter than parent-reported sleep duration in this age group in previous UK studies and a meta-analysis of cross-cultural sleep durations (Cook et al., 2018; Galland et al., 2012; Jones & Ball, 2014; Lin et al., 2019). The average 10 hours night-time sleep reported in the present study was half an hour shorter than that found in previous UK-based questionnaires and a meta-analysis of toddler sleep in predominantly Caucasian countries (Cook et al., 2018; Lin et al., 2019; Mindell et al., 2010). Around half of children regularly took one daytime nap, consistent with a previous report of sleep in 841 toddlers gathered by mobile app in the US (Mindell et al., 2016). However, DSD averaged only 35 minutes, shorter than reports in other samples in this age group of between 52 minutes and over 2 hours (Cook et al., 2018; Lin, 2019; Mindell et al., 2010). Child night-time, daytime and total sleep were thus shorter than in previous parent-reported samples.

More families in this study (34%) bedshared than the 7 to 15% reported in previous questionnaire studies in predominantly Caucasian countries (Mindell, Lee, et al., 2017; Sadeh et al., 2009; Teng et al., 2012). A higher proportion of children (38%) also slept in their parents' room than the 15 to 22% previously found in predominantly Caucasian countries (Mindell, Lee, et al., 2017; Sadeh et al., 2009; Teng et al., 2012). Additionally, more children in this study experienced parental presence at sleep initiation than previously reported in similar populations (e.g. Cook et al., 2018; Mindell et al., 2013; Mindell, Lee, et al., 2017; Sadeh et al., 2009; Teng et al., 2012). Only 29% of children fell asleep alone. This compared with over 70% falling asleep alone in Australia and New Zealand, around 60% in predominantly Caucasian countries and 50-60% in the UK (Cook et al., 2018; Sadeh et al., 2009; Mindell, Lee, et al., 2017; Teng et al., 2012). Compared to actigraphy, parent report can underestimate night waking and SOL when children settle and sleep independently from their parents (Tikotzky & Shaashua, 2012; see Chapter One, section 1.7 for further discussion). Thus, greater parental involvement in settling and proximity to children while sleeping could have made parents more aware of their child's sleep disturbances, causing them to report shorter sleep durations than in samples where most children slept independently.

However, the short average sleep duration in Phase Two participants was not accounted for by increased reporting of night waking or long SOL compared to other populations, as might be expected if different sleep ecology accounted for differences in reports of child sleep duration. The average SOL of 20 minutes was slightly shorter than reported in a prior UK-based study (Cook et al., 2018). Night wakings were also of similar frequency and duration to previous UK samples: children in the present study typically woke once a night for an average of 15 minutes, slightly less than parent reports of between 22 and 27 minutes in previous UK samples (Cook et al., 2018; Mindell et al., 2010).

This suggests that this group may have been experiencing shorter child sleep than previously published samples, although the use of one-off estimates of sleep durations means this finding should be taken with caution. There are potential adverse short and long-term health consequences of insufficient sleep in adults, while short sleep in young children has been associated with poorer cognitive, social and emotional functioning (Grandner et al., 2010; Hysing et al., 2016; Vaughn et al., 2015). Understanding the sleep practices of this group and the reasons for them may therefore be useful for developing guidance and support for promoting sleep health in families.

The variation in routine characteristics Phase Two participants exhibited also makes study of their experiences beneficial for developing guidance and support for families. The extent to which interviewed participants followed the same routine and maintained the same bedtime for their children throughout the week showed similar levels of variation to those found in previous studies. In the present study, bedtime routines were followed nightly by around half (57%) every night of the week and around a quarter followed the same routine four nights/week or fewer. Previous studies found the same routine was followed nightly by 48% in a large cross-cultural sample and 55% of parents in an ethnically and socioeconomically diverse US sample (Covington et al., 2019; Mindell et al., 2015). Average bedtime at around 7.30pm was around an hour earlier than previously reported in questionnaire studies in predominantly Caucasian countries, however, it was only 10 minutes earlier than that reported in a previous UK-based sample (Cook et al., 2018; Lin et al., 2019). Average wake time of 6.30 was around 45 minutes earlier than previously reported in questionnaire studies in predominantly Caucasian countries (Lin et al., 2019). Bedtime consistency was lower in the present study than a previous UK study: 48% kept the same bedtime six or seven nights/week in the Phase Two sample, compared to 79% (Jones & Ball, 2014). The importance of understanding barriers and facilitators of consistent

sleep routines in young children has been noted due to the role routines play in promoting healthy sleep (Mindell & Williamson, 2018). The range of consistency reported by participants in the current study allows examination of factors both promoting and preventing adherence to sleep-related routines.

The present study found proportions of parents perceiving a CSP using the prior research definition (33%) were similar to the quarter to a half of parents perceiving CSPs in previous studies (Cook et al., 2018; Mindell, Lee, et al., 2017; Mindell et al., 2022; Sadeh et al., 2009). However, when the definition of CSP was broadened to include ‘a very small problem’, around two-thirds perceived CSPs. Although previous research has not used this definition of a CSP, it may be important to understand the experiences of parents endorsing a ‘very small problem’ as it is possible that these parents will seek help for their child’s sleep and thus knowledge of the issues they face could be clinically relevant. An aspect some may have found problematic was disruption of their own sleep by that of their child. A high proportion (86%) felt their child’s sleep affected their own, suggesting that participants perceived shorter child and parental sleep duration as linked, consistent with prior research (Lupini et al., 2022). However, there may have been other aspects of their child sleep which they found problematic which were not captured by the use of a questionnaire, making the use of qualitative methods important to better understand their experiences of managing child sleep. For example, qualitative exploration of subjective wellbeing in parents of 3-12 month olds who perceived CSPs found parents experienced negative affect and reduced life satisfaction, aspects of CSPs not currently captured by quantitative methods (Muller et al., 2022). It should be noted that no parents in the present study perceived a serious sleep problem, thus any conclusions may not be applicable to families experiencing severe difficulties with child sleep.

Phase One also aimed to compare the demographic, child and parental sleep characteristics, parental sleep perceptions and sleep ecology of Interviewed and Non-interviewed participants. No differences were found, suggesting that those interviewed were experiencing broadly similar family sleep situations to those who took part in the Phase One questionnaire study only.

The nuances present in parents' experiences are illustrated by the finding that two-thirds of the Phase Two sample felt very or somewhat confident in managing their child's sleep, despite finding some aspect of their child's sleep problematic. This suggests that finding children's sleep problematic and feeling confident to manage sleep are not mutually exclusive. Parents who feel confident in managing their child's sleep, yet find it problematic might have chosen particular approaches, even though they created some problems for them, for a wide range of reasons. For example, decisions about use of particular approaches could be driven by a desire to facilitate breastfeeding or not, maximise sleep for other family members by reducing child crying, or to use specific parenting approaches, e.g. child-led or parent-led. Notably, a comparatively high proportion of participants in the present study remained present as their child fell asleep. Parental presence at sleep onset is widely discouraged as it has been associated with shorter children's NSD and increased night waking (Mindell et al., 2010). Understanding parents' perspectives on managing child sleep may therefore help in developing acceptable guidance and promoting adherence to recommendations. Further exploration of parents' reasons for taking particular approaches to managing their children's sleep using qualitative methods is now needed.

5.6 Strengths and Limitations

This study was limited by the use of online recruitment, which often leads, as in the present study, to recruiting highly educated participants of high socioeconomic status (Mindell, Lee, et al., 2017). Parents who were concerned about their children's sleep may have been more likely to take part, although levels of CSP perception in the sample were in line with those reported in studies globally which have also used the BISQ and BISQ-R (Cook et al., 2018; Mindell, Lee, et al., 2017; 2022; Sadeh et al., 2009). Despite the relative homogeneity of the participants' demographic characteristics, variation in consistency of routine use was similar to that found in international and low SES samples suggesting sufficient variation in practice to explore a range of parents' experiences of routines (Covington et al., 2019; Mindell et al., 2015). This variation is interesting in itself, as it indicates that even in ostensibly similar families, sleep-related routines may be quite different, depending on family circumstances, priorities, and differing sleep-related goals. Use of a questionnaire permitted exploration of which of a range of pre-specified behaviours parents used, however, understanding of why requires further study using qualitative methods.

Measures of parental sleep perception were limited by the use of two non-validated questions adapted from previous work (Mindell, Lee, et al., 2017). Parents were asked whether they perceived that they obtained 'enough' sleep, which was open to interpretation by participants as to what 'enough' might mean. The second asked whether their sleep was affected by their child's sleep, and removed the word 'negatively' from a similar question in a previous study (Mindell, Lee, et al., 2017). The high proportion of participants agreeing with this question in this study therefore cannot be compared to Mindell's study. It is unclear whether the high levels of agreement in this study (86%) could be due to participants feeling more able to agree with the neutral wording, or whether more mothers felt child sleep affected their own than in previously published research.

The study is further limited by use of approximated self-reports: parents were asked for 'typical' sleep outcomes (see Chapter One, section 1.7 for discussion of limitations of parent report). As discussed, the combination of parent-reported child sleep and the high levels of room and bed sharing parents used could have caused differences in estimates of child sleep between this study and previous research.

5.7 Chapter Summary and Conclusions

This chapter presented results from the online questionnaire pertaining to child and parental sleep and sleep ecology characteristics of Phase Two participants to provide a context for the qualitative results presented in the following chapters. The Phase Two sample perceived similar levels of CSPs to those reported in prior large-scale questionnaire studies and reported comparatively short sleep compared to sleep health guidelines. This suggests that understanding these participants' sleep-related practices may be relevant for developing guidance for families seeking to improve their toddlers' sleep. Reported variation in routine use was similar to that found in previous samples of different demographic characteristics, allowing exploration of reasons for varying levels of consistency. This sample therefore appears to be relevant for further exploration as sleep characteristics and routine use in terms of absolute levels and variability are similar to previously published samples. Further, there were no obvious differences between Interviewed and Non-interviewed participants in terms of child and parent sleep and sleep ecology.

Interesting, apparently contradictory, findings of high levels of confidence in managing child sleep despite perception of CSPs indicate that qualitative methods may be appropriate for further exploration of participants' experiences of managing child sleep.

Participants' high confidence in managing child sleep also suggests they may have chosen particular approaches to manage sleep. How parents choose to manage their children's sleep and their experiences of doing so requires exploration, as understanding parents' perspectives may be important for developing appropriate guidance and increasing adherence.

The following chapters will present the results from Phase Two interviews in relation to the four research questions: What do caregivers routinely do to benefit their toddlers' sleep? What benefits do they perceive? How do they feel about and during their routines? What barriers and facilitators to consistent implementation do they perceive?

Chapter 6 RQ1: What Activities Do Parents in the UK Use Routinely With Their 1-3 Year Olds Believing They Benefit Their Sleep?

Chapter One established that use of routines is recommended to caregivers to benefit child sleep. However, as presented in Chapter Two there is limited, good-quality evidence exploring the ways in which consistent use of bedtime routines, and both including and excluding particular activities, can benefit child sleep. The complexity of defining (and adequately assessing) 'sleep-related routines' was also discussed. Chapter Five demonstrated that Phase Two participants report similar variation in the extent to which they use bedtime routines as other previously published samples, suggesting their suitability as a sample in which use/non-use of routines can be investigated. This chapter presents an exploration of the activities mothers perceived as part of their sleep-related routines, which may be important to understand so that guidance for families can be more tailored.

6.1 Introduction

Routines (repetitive, predictable practices that occur regularly) particularly at bedtimes are behaviours commonly recommended to parents as a prevention and first-line treatment for CSPs (CSPs; e.g. Meltzer, 2010; NHS, 2023). As previously outlined in Chapter Two, a number of studies have found beneficial concurrent and longitudinal associations between consistent use of bedtime routines and young children's sleep outcomes, (e.g. Covington et al., 2018; Fiese et al., 2021; Hale et al., 2011; Prokasky et al., 2019; Sadeh et al., 2009; Staples et al., 2015; Tsai et al., 2021). Although evidence for benefits of particular components is limited, previous research has classified some activities as adaptive (e.g. reading, bathing) and some as maladaptive (e.g. play, television) for child sleep (Fiese et al.,

2021; Henderson & Jordan, 2010). This distinction has been reflected in guidance for parents and in qualitative work on bedtime routines to date (Lindsay et al., 2018; Kitsaras et al., 2021a; NHS, 2023). Despite the limited evidence for beneficial routine components, dose-dependent relationships between more frequent use of routines and improved sleep outcomes have been found, thus promotion of consistent sleep routines for young children is an important public health priority (Mindell et al., 2015; Yang et al., 2017; see Chapter 2, sections 2.4 and 2.5 for discussion).

Fewer studies have reported on common constituents of routines than have explored prevalence and consistency of bedtime routine use. These mostly US-based studies found that interactive elements between parent and child such as reading and hygiene-related elements such as bathing and brushing teeth are common bedtime routine components (Hale et al., 2009; Henderson & Jordan, 2010; Ordway et al., 2020; Staples et al., 2015; see Chapter 2 for more detailed discussion). Previous studies of bedtime routine components have drawn on US-based sleep diaries to compile lists of predetermined activities, however these may be culturally specific as there is evidence that prevalence of bedtime routine components varies by country (e.g. Hale et al., 2009; Henderson & Jordan, 2010; Mindell & Williamson, 2018). Requiring participants to list their bedtime activities in a sleep diary or questionnaire also raises the question of what parents perceive as a routine activity: some aspects of what they do may seem unimportant, such as chatting while children are bathing, or might be considered part of how they carry out another activity, such as dancing while brushing teeth (Kitsaras et al., 2021a). Additionally, such responses do not convey how parents carry out an activity. For example, there may be different kinds of play, but parents may not specify this on a list of their routine activities.

Data on routine activities to date refers only to pre-bed activities, when caregivers of toddlers have previously reported managing child sleep around the clock (Sundnes & Andenaes, 2016). Families with more structured approaches to bedtime routines may also have more structured approaches to daytime sleep. Daytime sleep-related routines are likely to impact night-time sleep making it important to understand what sleep-related activities caregivers regularly carry out to develop guidance about sleep routines at this age (Meltzer, 2010; Nakagawa et al., 2016; Skuladottir et al., 2005). This raises the question of what caregivers of toddlers in the UK consider to be part of their sleep-related routines over 24 hours.

A qualitative approach was chosen for the present research to allow parents to describe the routine activities they believed benefited their toddlers' sleep and to gain an understanding of how activities were carried out. Previous qualitative research in this area has begun by asking about use of predetermined activities rather than asking parents what they do (e.g. Lindsay et al., 2018; Kitsaras et al., 2021a). To understand caregivers' perspectives of what constituted their 24-hour sleep-related routines with toddlers, an open-ended approach to questioning was taken in the present study.

6.2 Study Aims

It is not currently known, to my knowledge, which activities are routinely used by parents in the UK over 24 hours in the belief that they benefit their toddlers' sleep. This research aimed to explore the question: What activities do parents in the UK use routinely with their 1-3-year olds, believing they benefit their sleep?

6.3 Method

Full details of the method are presented in Chapter Four. In brief, the present study used semi-structured interviews to ask parents to describe what they routinely did with their child at different points of the 24-hour sleep/wake cycle, which they perceived as benefiting their toddlers' sleep. As 'routine' can be a loaded term and there is a strong stereotype of a bedtime routine (e.g. bath/book/bed), participants were initially asked what things they did to benefit their child's sleep/wake patterns at different points of their child's 24-hour sleep/wake cycle (Hall, 2018; Koulouglioti et al., 2011). This was to elicit routine components which were important to participants, rather than answers they might feel were socially desirable (see Appendix G for full interview schedule).

Participants' routine activities are reported in this chapter and further exploration of maternally-perceived benefits for child sleep is presented in the following chapter.

6.4 Results

Participants described a range of activities they regularly carried out, which they perceived as benefiting their toddlers' sleep. Most were described as part of the bedtime routine, but others were conducted at different times of day but still considered to benefit night-time sleep. Some activities happened both during the day and at bedtime. A table presenting the individual sleep-related routine components described by each participant can be found in Appendix R and further supporting participants' quotations for each theme can be found in Appendix S.

Eight themes representing related groups of routine components were identified and are presented with associated sub-themes. Six themes consisted of routine components that

were carried out pre-sleep (in the daytime and prior to sleep, with most reported as part of parents' bedtime routines with their toddlers) and two themes were composed of activities that were reported at intended sleep onset. Themes representing pre-sleep routine components included managing daytime sleep; play; watching specific television programmes in the evening; personal care activities; giving a drink of milk; and language-based activities. Two themes were identified which represented routine components at intended sleep onset: creating a conducive sleep environment and settling children to sleep.

6.4.1 Pre-sleep Routine Components

A. Managing Daytime Sleep

This theme represents participants' descriptions of managing timing and duration of toddler's daytime sleep to ensure they were neither too tired, nor overtired, at bedtime. Most participants, particularly those with older toddlers, described routinely avoiding their toddlers taking lengthy naps in the late afternoon wherever possible. As Gemma (mother of 3-year-old; No CSP) put it: "avoiding him sleeping is a big part of the afternoon". For some participants this meant waking children from naps to avoid their toddler sleeping too late. Siobhan (mother of 1-year-old; Very small CSP) said:

Like the other day, he didn't have a nap until 4 o'clock, which meant he could only have a short nap. Because if he'd done his usual hour and a half, then it would have – goodness knows what time bedtime would have been!

Participants also reported actively trying to keep toddlers awake in the afternoon by avoiding afternoon car or buggy rides, or singing or using tablets to maintain wake in the car

if journeys were unavoidable. Some mothers also described going outdoors, using sensory play or interacting with children to prevent unscheduled naps, as Sonya (mother of 2-year-old; No CSP) described: “we’ll take her out for a walk or take her in the garden...not let her sit and do nothing basically, just in case she dozes off.”

Participants felt strongly that managing daytime sleep benefited their toddlers’ night-time sleep based on direct experience of same-night sleep difficulties when daytime sleep was not managed as usual. Reasons why they thought this was beneficial are examined in the next chapter.

B. Play

Around half of participants described using play either in the daytime, or as part of their evening routine to benefit their young children’s night-time sleep. Jess (mother of 1 year old; No CSP) described the importance of play for her and her daughter:

[we take her to] Tumble Tots, or messy play and things like that ... Yeah, it tires her out. It’s only there to tire her out! I’m sure she’s increased her mobility, or her hand-eye co-ordination, I’m sure, that’s great, but I’m only doing it so she gets tired.

Three subthemes: physical play, quiet play and ending play were all described as part of toddlers’ sleep-related routines.

B.1 Physical Play. Some participants described routinely using physical play in the daytime and evening to benefit their toddlers’ sleep. Physical play to benefit sleep was

usually undertaken out of the home, in the garden, at an activity centre for children, or another outdoor location as Faye (mother of 23-month-old; Very small CSP) described:

he always goes out – we always go out in the morning when he’s got loads of energy to burn. So, we try to be out the house by, I don’t know, 10 o’clock maximum? And it’s either a trip to the nearest park, or we take him out on one of his multiple vehicles, so his scooter or his little car, ride on car. And we take the dog out for a walk. But it’s normally a morning outing to get him to burn some energy.

Participants perceived physical play as allowing toddlers to get their energy out. Tania (mother of 1 year-old; No CSP) explained: “tonight we were outside trying to get him outside as much as possible, you know running off some energy”.

All the mothers who reported physical play as part of their routines considered it very important for their toddlers’ sleep.

B.2 Quiet play. Conversely, a few participants described the importance of quiet play in their evening routine. Participants using quiet play to benefit sleep allowed their toddlers to play with selected toys or activities and such play was usually indoors. Jen (mother of 14-month-old; No CSP) described this part of her daughter’s routine: “we try and have quiet, calm play... We won’t encourage and stimulate her into playing with noisy toys or anything that is a bit too much for her.”

B.3 Ending play. Routine strategies for ending evening play in the living area were reported by some participants. Gemma (mother of 3-year-old; No CSP) communicated the transition to the next part of the bedtime routine with a countdown:

So, I tend to give time warnings, like... 'After dinner, we can have 5 minutes [playing] in the garden', or 'Ok, now we've got 2 more minutes in the garden', 'We've got 1 more minute in the garden', 'Now we're going for a bath'

Others, like Jess (mother of 1 year-old; No CSP) described tidying toys away as part of their evening routine:

we don't miss out certain things like the chore and 'Twinkle Twinkle'. ... Because I think routine - for me, it was really important that we have this routine. I suppose I just want her to know that that's her trigger, that's her trigger point I suppose.

For a small number of participants, strategies for ending play were felt to have important benefits for their child's sleep, which are explored in the following chapter.

C. Watching Specific Television Programmes

This theme represented the use of chosen television programmes to benefit sleep as part of toddlers' evening routines. Some participants described purposely choosing television programmes that were watched in the family living space during the evening and often described watching with their children, for example Farah (mother of 2-year-old; Small CSP) said: "And we watch it [a kids' film or CBeebies] with them, so we always sit with them and cuddle and talk about what we're watching. Sometimes we're on our phone a bit as well, but it's like a wind-down time for everybody."

Most preferred children's programmes, for example Gemma (mother of 3-year-old; No CSP) used '*In the Night Garden*', perceived as purposely designed to promote sleep, with her son: "Yeah, so '*In the Night Garden*' I think is really good, it's like a sedative. It's got very low, calming tones, somnolent colours, low key, low pace, slow pace, very relaxing themes. Everything's fine in that world, it's lovely."

Calm television programmes were considered to benefit children's sleep by most of those using this activity. Perceived benefits are examined in the next chapter.

D. Personal Care Activities

This theme represented most participants' perception that personal care activities with their toddlers benefited their night-time sleep, as Lila (mother of 3 year-old; Very small CSP) expressed: "Sometimes if she wants to carry on playing... she does know that when I get her pyjamas and her nappy and once they're on it's not time for any more playing, it is time for bedtime."

There were two subthemes: bathing and getting changed for sleep. Getting changed for sleep was also part of some families' nap routines.

D.1 Bathing. The majority of participants described bathing children as a predictable part of their bedtime routine, which happened either nightly or on set nights. Most participants described bath-time as an enjoyable part of their sleep-related routines for their children. It was frequently a time for parents and children to talk and play together, with toys and water play, as Tania (mother of 1 year-old; No CSP) described: "I can hear my partner having a laugh with the children... And so they all enjoy that very much and the bath is generally splashy and silly and fun."

However, some mothers found that bath-time was not always calm or fun for children, as toddlers' increasing independence and changing preferences could mean they did not want to participate. Faye (mother of 23-month-old; Very small CSP) described

“battles at bath-time” with her toddler, giving the example of him refusing to be dried.

Some toddlers’ changing preferences could mean that they did not want to bathe at all, as

Lucy (mother of 3-year-old; Very small CSP) found:

It used to be that he really enjoyed it as well. But now, some days he does and some days he doesn’t. So sometimes there’s a bit more of a ‘Come on now, it’s a bath day’ sort of thing. ... Yeah. Sometimes it ends up being ‘We’ll just get you in, we’ll just got to wash your hair, we’ve just got to do it, you smell a little bit’! So, it’s just a really quick just get him in and get it done.

Notably, while considered part of the bedtime routine by most participants, bathing did not always occur every night due to time factors, child resistance and health issues, such as skin problems.

D.2 Getting Changed for Sleep. Getting changed for sleep, into nappy and pyjamas and/or sleeping bag was described as part of the bedtime routine by most participants and for a small number was also part of their naptime routine. Getting changed for bed was described by most participants as happening in the same order and at the same time. Anna (mother of a 2-and-a-half-year-old; small CSP) said: “We try and go [upstairs] at the same time, we change him into his pyjamas, his nappy.”

This could be another activity that involved conflict between parents and children, with children sometimes running away or having to be “wrangled”, as Amy (mother of 2 year old; Small CSP) described. Some children regarded it as a game to avoid being changed, as Tania (mother of 1 year old; No CSP) explained: “[we’re] pursuing him to try and get a nappy on him ... do another nappy change ... we put his pyjamas on. ... He gleefully undoes all the poppers and takes his pyjamas off. We put the pyjamas on...”.

Despite the challenges for some in getting their toddlers to comply, almost all participants perceived changing their toddler for bed as an important part of their bedtime routine.

E. Giving a Drink of Milk

Giving a drink of milk was perceived by some as beneficial to sleep, but did not involve children transitioning to sleep while drinking. Some mothers gave toddlers a drink of milk in a cup or bottle, or breastfed as part of the bedtime routine. For example, Farah (mother of 2 year old; Small CSP) said “they’ve got their little cups of milk, they have their milk while we read a book”. Milk was usually offered in the bedroom, however, children did not fall asleep while drinking, as Sonya (mother of 2-year-old; No CSP) made clear: “And she still has a bottle before bed, so she has a bottle in her room and then goes in her cot.” Participants saw this as an important element of their sleep-related routines, with some also giving milk before naps.

F. Language-based Activities

This theme represents elements of bedtime routines which used language in some way and were used to benefit their toddlers’ night-time sleep. For example, Tania (mother of 1 year old; No CSP) described the importance of reading stories in her child’s bedtime routine:

then we sit in Child 2’s bedroom and we have stories. ... It’s something we’ve always done. It’s a nice time, you’ll usually have one or both of them on your knee or right up close. So it’s cuddly... it’s also where everyone starts to calm down really. So if it’s

been silly, the silliness stops at story time and that gets everyone in the right frame of mind for bed.

There were four sub-themes: reading stories, talking about the day, singing songs and saying 'goodnight'.

F.1 Reading Stories. Most participants reported reading to their toddlers as a regular part of their bedtime routine. Bedtime stories were always read upstairs in a bedroom. It was often described as a time of physical closeness, taking place in a comfortable location, such as a sofa or in bed, as Siobhan, (mother of 1-year-old; Very small CSP) described: "we all get into bed, me, including big sister, read a story in here".

Children often participated in reading, choosing particular stories and/or joining in the reading, as Lucy (mother of 3 year-old; Very small CSP) described: "there's just little phrases where [child] jumps in and shouts them out". Some parents described story-time as calm, for example Portia (mother of 3 year-old, Moderate CSP) described her "soothing story voice". However, it could be a chaotic time, as Siobhan (mother of 1 year-old; Very small CSP) found: "sometimes storytime has to get cut a bit short because everyone's just getting a little bit crazy."

Reading formed part of most participants' bedtime routines and some also used it prior to daytime naps.

F. 2 Talking About the Day. This subtheme represents participants recounting the day's events with their child prior to sleep and/or sharing plans for what would happen after the child woke. Lila (mother of 3-year-old; Very small CSP) explained: "I ask her what

she's done in the day, what we're going to do next day." Talking together mostly took place with the child in their sleeping location and physically close to their parent. Children were encouraged to talk about their experience of the day, like Faye's (mother of 23-month-old; Very small CSP) son:

I started just sitting him on my lap for a bit longer, just stroking him, cuddling him.

So, I thought 'Maybe I'll just try going through his day to let him process everything and see if that helps him wind down a little bit quicker'.

However, some participants used this activity as they carried out other parts of the bedtime routine, as Liz (mother of 3-year-old; Very small CSP) explained:

Yeah, we would usually have a chat about the day. Usually we get that done in the bath actually, if they're getting a bath, we would chat in the bath. ... and then they usually have something very, very, very important to tell me just as I'm starting to read their story.

Mothers who used this activity emphasised its importance for helping their child to sleep, particularly for bringing about sleep more quickly.

F. 3 Singing Songs. Some mothers reported singing to children as part of their bedtime routine. Participants, such as Liz (mother of 3-year-old; Very small CSP), described singing nursery rhymes and/or lullabies, with the song(s) used usually kept consistent:

so they know that I always sing 'You Are My Sunshine' and then 'Daisy, Daisy' and then 'If You Were The Only Boy In The World' and then 'Twinkle, Twinkle' and then 'Rock a Bye Baby' and then I - we've started singing Brahms' Lullaby.

The importance of this activity for sleep perceived by the small number of those who used it was expressed by Faye (mother of 23 month old; Very small CSP): “So that’s the same lullaby that we’ve been singing to him, poor thing, since he was born... Yeah, it kind of, it signals to all of us, I think, that he’s nearly in bed.”

F. 4 Saying ‘Goodnight’ to Family. Saying ‘goodnight’ to family members formed part of the bedtime routine for some families and usually happened “in the same way each night”, as Portia (mother of 3-year-old; Moderate CSP) described. Some participants describing this activity saw it as meaningful to their children, who expressed the desire to say ‘goodnight’ to family before sleep, as Siobhan (mother of 1-year-old; Very small CSP) expressed: “he [child] likes to say ‘Bye bye’ to Daddy and Child 2”.

6.4.2 Routine Components at Sleep Onset

In contrast to the routine elements reported in previous themes which were perceived as benefiting sleep by being used at a particular, pre-sleep, point of the 24-hour period, in the following two themes participants described routine elements which were used at intended sleep onset: creating a conducive sleep environment and settling children to sleep.

G. Creating a Conducive Sleep Environment

This theme represented participants’ perception that taking their child to a particular sleep environment formed part of the routine and their efforts to create an environment that was conducive to their child’s sleep. Beca (mother of 2 year-old; Very small CSP)

described this part of her daughter's bedtime routine: "So basically I generally try to take her up to her room away from other stuff, with stories, she may or may not want."

There were three subthemes, representing aspects of their child's sleep location participants considered beneficial to sleep: having a dedicated sleep location, managing light levels and using white noise.

G.1 Having a Dedicated Sleep Location. All interviewed participants described taking children to a particular bedroom for sleeping at night, either the parents' room or the child's room. Of the participants whose children regularly napped in the daytime, the majority used the same sleeping space for daytime and night-time sleep. Beca (mother of 2-year-old; Very small CSP) described this as "a space that is allocated for sleep". Some participants reported features of the space, which they felt kept their child safe, such as having safety gates or monitors, or being able to hear their child from their sleep location. For example, Louisa (mother of 1 year-old; Small CSP) said: "I'll just listen to her on the monitor or from my room". Participants expressed a strong belief that having a consistent, dedicated, safe sleep location benefited their toddler's sleep.

G.2 Managing Lighting Levels. Most perceived low lighting levels in the sleep environment as benefiting children's night-time sleep. Some mothers, like Laura (mother of 1 year-old; Small CSP), used similar lighting conditions for daytime napping to those used for the night-time sleep period: "we treat [naptime] like bedtime at home for naps, so dark room". Others, such as Nicola (mother of 2-year-old; No CSP), described turning lights off after bedtime activities as marking the time for sleep: "and then when the stories are over and the lights are out, he likes to cuddle... and will nod off".

Participants described using a range of specific lighting levels/conditions and for some this was felt to be of vital importance to their child's sleep.

G.3 White Noise. Some participants described using white noise as beneficial to their child's sleep. White noise was used as children transitioned to sleep for both daytime and night-time sleep. Nikki (mother of 19 month old; Moderate CSP) explained: "from about 7 months when she [child] started napping in her cot, she would only again nap if it replicated the night time conditions of dark, sleeping bag and white noise". Some mothers who used white noise regarded it as a necessary condition for their child to sleep.

H. Settling Children to Sleep

This theme represents the ways participants facilitated their children's sleep onset at the transition from wake to sleep. Four subthemes represented settling methods used and are presented in decreasing order of parental interaction: giving milk to support the transition to sleep, supporting transition to sleep using cuddles or touch, parental presence and allowing children to self-settle. Participants did not always use the same method for supporting transition to sleep at different points in the day and night. Additionally, some parents reported routinely using different methods in response to what they perceived as different types of night wakings. For example, Jen (mother of 14 month old; No CSP) described some of the different methods she used to settle her daughter:

Last time she woke at night we left her. Again because her cry was just whingeing, she wasn't in need of anything, so within half an hour, she went back to sleep. ...

But usually, 8 times out of 10 currently we will leave her, unless she indicates that she's in distress - we've got a camera so obviously I can see her – unless she

indicates that she's in distress or if she goes on too long, if she goes on more than 20, 30 minutes, I'll then go in, try to pick her up, hug her.

H.1 Giving Milk to Support Transition to Sleep. Giving milk to aid children's transition to sleep was used across the 24-hour sleep/wake cycle by those who breastfed and those who used formula or cow's milk. This was distinct from the pre-sleep activity of giving a drink of milk presented as Theme E, where children did not fall asleep, and parents did not intend them to do so. When using milk to settle, participants specifically intended giving milk to bring about sleep onset.

At bedtime, milk was only given to aid transition to sleep by breastfeeding, which intrinsically involved cuddles and physical closeness between mother and child. Sometimes children breastfed to sleep quickly and easily, as Tania (mother of 1 year old; No CSP) described: "Sometimes it's very nice because he's tired and he snuggles down and he has a breastfeed and he goes to sleep". However, children could be restless and take some time to transition to sleep while being fed, making feeding to sleep a lengthy process, as Amy (mother of 2-year-old; Small CSP) sometimes found: "But if he's messing about, twisting about and going on different sides and stuff, then it takes half an hour, 40 minutes, that's when it gets a bit annoying."

At night wakings, giving milk to aid transition to sleep, either in a cup or by breastfeeding, was particularly valued by participants. More mothers routinely used giving milk to return children to sleep after a night wake than used this settling practice at bedtime or naptime, as it was often perceived as a quick and efficient process for returning children to sleep, as Nikki (mother of 19-month-old; Moderate CSP) found: "I'll feed her back to sleep. But it is quite quickly". Giving milk in a cup or bottle was also described as

returning toddlers to sleep quickly by Fatima (mother of 3-year-old; No CSP): “he’ll just drink it ... and hand it back to me and go back to sleep”. Participants who gave milk to aid return to sleep at night wakings found that it helped ensure minimal interruption to their children’s sleep and their own.

H.2 Supporting Transition to Sleep with Physical Contact. While cuddling was often described in combination with other activities such as watching television and breastfeeding, this subtheme represents the use of physical contact alone for helping children transition to sleep. Participants who used physical contact such as cuddling, stroking or holding hands at sleep onset perceived it as aiding transition to sleep. In some families, children were cuddled to sleep every night. In other families, the type of physical contact varied on different nights, as Sonya (mother of 2-year-old; No CSP) described:

and she’ll either go in her cot sleep already, either having fallen asleep on either me or my husband or she’ll go in her cot and we’ll sit with her and pat her bum and hold her hand and whatever she decides she needs.

More participants reported using cuddles or touch to return children to sleep at night wakings than did so at bedtime. During night wakings, cuddles were usually given lying down in the child’s or parents’ bed, as Nicola (mother of 2-year-old; No CSP) described: “I’ll usually lie with him and through trial and error with my other children, he’s actually in a double bed.”

Mothers reported using cuddling, hand holding or stroking children to aid their transition to sleep when they perceived they needed comfort or reassurance of touch. For some mothers, using cuddling, holding hands or stroking to aid transition to sleep was a routine occurrence at bedtime or night wakings, while for others physical contact was regularly used in response to perceived child distress during night wakes.

H.3 Parental Presence. A small number of mothers routinely supported their child's transition to sleep with parental presence in the child's sleep location. Participants described staying present in their toddler's sleep location until they fell asleep, with no other activity or interaction involved. Beca (mother of 2-year-old; Very small CSP) found that: "what she [child]'s demanding of me is just presence...I can pretty much ignore her". Participants using this settling method usually spoke of their children requesting it as a necessary condition for falling asleep. Parental presence was only used for settling at bedtime and naptime, not at night waking.

H.4 Allowing Children to Self-settle. Some participants, such as Laura (mother of 1 year-old; Small CSP) described allowing their children to fall asleep alone: "[We put him] in his cot in his room... Down in the cot, walk out and then hopefully not see him again until 6.30 in the morning." Self-settling was often used consistently at bedtime, for daytime sleep (where toddlers still napped) and at night wakings.

Additionally, some participants who used breastfeeding or cuddling to support transition to sleep at bedtime allowed their children to self-settle during night wakings. At night wakings, mothers reported monitoring the child from their own bed in a separate room and giving their child time to resettle. Faye (mother of 23-month-old; Very small CSP) said:

he [child] resettles himself, and so we don't have to get up. So, I will wake up – we still sleep with the baby monitor next to us on, so we can hear what he's up to – but mainly he just goes back to sleep on his own.

In contrast to self-settling at bedtime, mothers described returning to their child and intervening less during self-settling after night wakings.

6.5 Discussion

Eight themes were identified, which represented groups of related routine components perceived by participants as benefiting their toddlers' sleep. The six pre-sleep routine components were managing daytime sleep; play; watching specific television programmes in the evening; personal care activities; giving milk; and language-based activities. The two routine components at intended sleep onset were having a conducive sleep environment and settling children to sleep. Interestingly, different participants often perceived the same component as benefiting their toddlers' sleep in different ways. Some of these different parent-perceived benefits are touched on in this discussion where relevant to describing how certain activities were carried out, or distinguishing between different types of activity, e.g. play. A full exploration of mothers' beliefs about how their routines benefited their children's sleep is presented in the following chapter.

Many of the components of sleep-related routines reported by parents in the present study are reported in previous research. Consistent with previous work on bedtime routines in the UK, the present study found parents used reading, bathing, singing, watching television, giving milk and physical play as part of their sleep-related routines (Mindell & Williamson, 2018). Participants also reported talking about the day with their child in the bedtime routine, saying 'goodnight' and getting changed for sleep, which have previously been identified as popular bedtime routine activities and associated with improved toddler sleep outcomes when measured in combination with other 'adaptive' or

‘interactive’ routine activities (Fiese et al., 2021; Hale et al., 2011; Henderson & Jordan, 2010).

However, some additional aspects of play, quiet play and ending play to cue impending sleep, were reported in the present study, which have not been identified in previous research. Aspects of play previously explored in the bedtime routines literature include ‘playing a game’, which Hale et al. (2011) found was positively associated with child sleep when included in ‘interactive’ routine activities. The BISQ-R lists ‘play’ as a possible bedtime routine activity and the BRQ includes ‘active play’, which has been negatively associated with child sleep outcomes when grouped with other ‘maladaptive’ bedtime routine components (Fiese et al., 2021; Henderson & Jordan, 2010; Mindell et al., 2019; Sadeh, 2004). Mothers’ descriptions of playing in this study suggest that some types of play may be beneficial to sleep, for example quiet play was described as relaxing and/or having low levels of stimulation for children, thus possibly reducing cognitive and/or physiological arousal (Dahl, 1996). Some participants described their partners playing with children, which could increase their sense of emotional security, which might also benefit sleep onset (Dahl, 1996; Hoyniak, Bates et al., 2021). Further distinction between types of play may therefore be needed in studies considering which routine activities benefit toddlers’ sleep.

The question of whether particular activities are always either adaptive or maladaptive elements of sleep routines is also raised by the finding that some parents use television intentionally to benefit their toddlers’ sleep. Watching television has been categorised as a maladaptive activity in the context of children’s sleep routines and is advised against in the hours before bed in clinical guidance (Fiese, 2021; GOSH, 2020; Henderson & Jordan, 2010; NHS, 2023). However, participants in this study described

choosing particular television programmes to benefit their toddler's sleep. This is consistent with studies finding that programme type affects sleep outcomes and that watching educational television instead of violent or adult programmes can reduce sleep problems in young children (Garrison et al., 2011; Garrison & Christakis, 2012; Sijtsma et al., 2015). Furthermore, some mothers in the present study perceived watching television as promoting physical closeness and cuddles, family relaxation and togetherness, and reducing toddlers' arousal levels, which could benefit sleep onset (Dahl, 1996; see Chapter 1, section 1.2.1).

The same routine activities could bring about different effects for the child, as ostensibly the same activity could be carried out in different ways. For example, play could be intense and physical and tire children, or could be calm, quiet and relax children. This is consistent with qualitative research on home literacy practices, where parents reported reading at bedtime could be either highly stimulating and thereby delay sleep onset, or calming, bringing sleep about quickly (Hall et al., 2018). Findings from the present study therefore suggest it may not be enough to look at the effects of the presence of individual activities within sleep-related routines on toddlers' sleep. It may also be important to look at the parent-perceived benefits of particular routine activities, how they are carried out and the effects they have on children. The present research illustrated that despite parents' best efforts, commonly recommended elements of bedtime routines, such as bathing, getting changed and reading can be highly arousing for individual children aged 1-3.

A further finding of the present study was that parents of toddlers routinely manage daytime sleep, with some also managing daytime activity levels and that these were perceived as making a strong contribution to maintaining sleep/wake rhythms over 24 hours. This extends previous findings that sleep-related activities are not just confined

to the evening pre-sleep period, but are used at different points in the 24-hour cycle with babies and 18 month olds (Sundnes & Andeaes, 2016). This study adds support that managing sleep continues to be a round-the-clock endeavour for parents of toddlers up to age 3 and that assessment of sleep-related routines needs to include a 24-hourly perspective. Parent reports of the importance of 24-hour caregiving and the interrelation between toddlers' daily activity and sleep in the present work are consistent with the World Health Organization [WHO]'s (2019) guidance on physical and sedentary activity and sleep in under-5-year-olds. These guidelines emphasise the importance of considering daily movement and sleep together.

The 24-hourly perspective of this study has shed light on the ways parents' behaviours can be influenced by their goals and priorities at different times of day and night. Participants sometimes used different settling methods at night waking from those used at bedtime or naptimes. For example, some parents using self-settling at bedtime also reported using active comforting at night waking, where a child was perceived as exhibiting unusual distress. This flexible approach is likely to be an adaptive practice in response to night wakings (Coulombe & Reid, 2014). The present study supports the suggestion that participants may prioritise other factors during night wakings than consistency of settling approach.

One of these priorities may be the short-term need for maximum possible sleep, outweighing potential longer-term negative sleep consequences for some parents. Parents in the present study perceived some methods of settling children as beneficial to their sleep, which previous studies have associated with poorer sleep outcomes in 0-3-year olds. Breastfeeding or bottlefeeding to sleep in the evening and after night wakings, and parental presence at sleep onset have been associated with increased night wakings (Ahn

et al., 2016; Mindell et al., 2012; Mindell et al., 2010; Ordway et al., 2020). Thus, it has been suggested, parents should be advised to breastfeed earlier in the pre-sleep routine, rather than at sleep onset, to allow children to fall asleep independently (Mindell et al., 2012). However, parents in the present study valued feeding to sleep as a tool for bringing about sleep onset. More participants in this study reported using this practice at night waking than at bedtime, perceiving it as minimising sleep disruption to parent and child. Thus, a child's night waking behaviour may drive use of feeding at night waking in some families, rather than feeding to sleep at bedtime driving night wakes. Understanding of the range of parental motivations for particular sleep-related behaviours is important in tailoring appropriate support for families and further exploration of parents' perceptions is now required.

The range of motivations for caregivers' sleep-related routine behaviours is implied by the wide variation in individual families' sleep-related routines, even in the present relatively homogeneous sample. There was much variation in the number and combination of activities used (see Appendix R), as well as how they were carried out. While some routine elements were popular across most participants, it was notable that some less common activities held strong meaning for particular families, such as providing opportunities for closeness between family members. Participants appeared to include particular components in their toddlers' sleep-related routines and carry them out in varying ways that were related to their perception of how they benefited child sleep, for example some used play because they prioritised tiring toddlers out physically, while others aimed for a calm, low-key atmosphere while playing. This suggests the need to explore caregivers' beliefs about how their sleep-related routines benefit their young children's sleep to develop appropriate guidance on using routines to benefit young children's sleep.

6.6 Strengths and Limitations

This study was limited by the use of a small sample composed of primarily white, middle-class, highly educated women aged above the UK average at the birth of their first child. (See Chapter 4, Tables 2 and 3 for sample characteristics and Chapter 5, sections 5.5.1 and 5.5.2 for discussion of general strengths and limitations of this sample and implications for transferability of results.) Routine activities have been shown to vary according to sociodemographic characteristics and thus this sample may not provide a generalizable picture of bedtime routine activities, although it is a useful description for this demographic and suggests important areas of enquiry to be explored in broader samples (Hale et al., 2009).

Despite the potential limitations of a relatively homogeneous sample, the routine components reported are in broad agreement with those found in cross-cultural studies (e.g. Mindell & Williamson, 2018). Despite these broad similarities, careful analysis of the routines suggested that there were subtle, but important differences in the ways that some pre-sleep activities and settling methods were used – both across families and in comparison to how these elements have been described in the existing literature (see Appendix R for illustration of the variation in participants' routines). This suggests that sleep-related routines are highly individual even in families with ostensibly similar sociodemographic characteristics.

A further limitation is that only mothers were interviewed, however in most cases, their partners were also involved in their child's sleep-related routines. This may therefore be an incomplete picture of families' sleep-related routines. Additionally, as participants

were asked in a one-off interview and no checklists or other measures of routine activities were used, it is possible that participants may have forgotten or omitted some routine components when responding. For example, not all participants mentioned putting lights out, which may indicate that they considered this obvious, rather than that they did not dim lights at bedtime. To counter this, however, each participant was emailed prior to the interview with the areas that would be discussed. While this study cannot be considered an exhaustive description of the practices and processes participants found beneficial for toddler sleep, it nonetheless provides a rich description of a range of routine practices that were meaningful to participants, and which they considered beneficial for their children's sleep.

Additionally, the use of interviews and open-ended questions to allow participants to describe their usual sleep-related routines conferred the benefit of reducing demands of social desirability inherent in the study, which can be powerful in this area of study (Hall et al., 2018; Hatton & Gardani, 2018). Participants had the freedom to describe all aspects of their routines which held meaning for them, including some which might not have been captured on a checklist or sleep diary, such as quiet play. Interviewing participants about *how* they carry out their routines, in addition to what they do, also elicited different aspects of some routine activities, such as how bathing could be calming or stimulating, and thus illustrated that the different ways activities are carried out may have different influences on children's sleep.

A further strength is the inclusion of questions about sleep-related routines over 24 hours, which has allowed participants to relate daytime activities and night waking strategies which may also be related to toddlers' sleep outcomes.

6.7 Implications

The present research suggests a number of methodological, theoretical and practical implications.

6.7.1 Methodological

1) Measures of routine use are now needed which allow discernment of the relative contributions of managing sleep and/or wake in the daytime from those of a bedtime routine.

2) Measures of bedtime routines should include assessment of a broader range of activities across 24 hours, which include concurrent activities (e.g. talking while bathing) and more nuanced measures of activities such as play and screen use.

3) There is value in allowing parents to report their activities without the limitation of checklists and to describe how they carry out their routines.

6.7.2 Theoretical

1) This research has implications for categorising routine components as adaptive or maladaptive. Families described using some activities previously categorised as maladaptive, such as play and watching television, in ways that might benefit sleep. It may be that particular activities are not in themselves adaptive or maladaptive, but rather that how they are carried out can result in different outcomes such as reducing arousal, creating

a sense of emotional safety or maintaining consistency which can impact toddler sleep outcomes.

2) The present work suggests that bedtime routines should be considered in the context of the full 24-hour sleep/wake cycle in 1-3 year olds.

6.7.3 Practical

1) There is wide variation in families' sleep-related routines and guidance for parents should acknowledge the highly individual and context-specific nature of family sleep-related routines. In addition to variation in routines *between* families, parents may have different priorities at night wakings than at other times of day, meaning settling methods may also vary *within* families for context-dependent reasons.

2) Some routine components that are regarded as maladaptive for sleep may hold meaning for families, for example, play, watching television and giving milk at sleep transition (Fiese et al., 2021; Henderson & Jordan, 2010). Guidance on types of play that may be more/less beneficial to toddler sleep in the evening may be welcomed by some parents. Similarly, guidance for parents about content, location and timing of television watching may be more acceptable than advocating avoidance and may be more reflective of parents' real-world experience of how television influences their child's sleep. Guidance on feeding children to sleep should consider parents' views of this practice as a powerfully beneficial tool for bringing about sleep onset in the short term.

3) In addition to bedtime routines and settling children at night waking, parents may benefit from guidance about establishing beneficial sleep-related routines at other points of the day, particularly timing of naps and strategies for maintaining daytime wake.

6.8 Future Research

A number of avenues for future inquiry arise from the current research.

1) Research is needed to establish the relative contributions of managing sleep and/or wake in the daytime and those of a bedtime routine on toddlers' night-time, daytime and 24-hour sleep outcomes.

2) Studies are needed to determine the effects of different types of play on toddlers' sleep so that evidence-based guidance can be provided for parents.

3) Studies should investigate whether there are any circumstances under which watching television does not inhibit and can even benefit child sleep, as this is a popular component of toddlers' sleep-related routines.

4) Mothers in the current Phase Two sample reported experiencing relatively little night waking in their children. Further qualitative research is now required with samples experiencing more problematic child sleep to understand their sleep-related goals over 24 hours and how these affect their sleep-related practices with their children at different points of the day or night.

5) Fathers also take part in children's bedtime routines and there is now a need to explore what they do over 24-hours to benefit their toddlers' sleep.

6.9 Chapter Summary and Conclusions

This chapter presented results from semi-structured interviews with mothers, in which they described the things they do over 24 hours with their 1-3 year olds to benefit their sleep. While the types of activities used to benefit child sleep include many which have previously been identified, it was notable that the whole 24 hour period, not just the pre-bed/settling period was considered important. Further, the activities used included some which previous research has considered as maladaptive. Mothers perceived not only the specific activity as important for their child's sleep, but also how it was carried out; the same activity could be carried out in different ways depending on the sleep-related benefits mothers intended and could have different effects on individual children. For example, bathing calmed some, while for others it was a fun activity. The processes occurring as a result of engaging in sleep-related routines may therefore be more important for promoting toddlers' sleep than the individual activities which are/are not included. Greater understanding of caregivers' perceptions of how routines benefit toddler sleep is required as these perceptions appear to influence the components of their toddlers' sleep-related routines and how they are carried out.

Chapter Seven will present the results from Phase Two interviews in relation to the second research question: How do parents think their sleep-related routines benefit their toddlers' sleep?

Chapter 7 RQ2: How Do Parents Think Their Sleep-related Routines Benefit Their Toddlers' Sleep?

The previous chapter illustrated the range of round the clock activities mothers routinely carried out with their toddlers, believing they benefited their sleep. While analysing data for Chapter 6, it became clear that parents could use the same activity but carry it out differently in part because of their different perceptions of how sleep-related routines benefited their child's sleep. For example, play was sometimes used to tire children out and was accordingly physical, however when used to reduce arousal, it involved playing quietly with selected toys. Recent research suggests that *how* sleep-related routines are carried out may be as important as *what* is done (e.g. Hoyniak, Bates et al., 2021). Therefore, understanding parent-perceived benefits of sleep-related routines may be important to develop appropriate guidance, which accords with their aims. This chapter presents the different ways mothers perceived their routines benefited toddler sleep.

7.1 Introduction

Although consistent implementation of a bedtime routine is associated with positive sleep outcomes in young children, little is currently understood about how this benefit is conferred (Fiese et al., 2021; Hoyniak, Bates et al., 2021; Mindell et al., 2015; Mindell, & Williamson, 2018; see Chapter 2, section 2.3). There is some limited evidence that the type of activities in the routine might affect child sleep (see Chapter 2, section 2.5). Recent research has also found associations between pre-sleep physiological arousal and positive parent-child emotions during the bedtime routine and sleep onset in young children (Dubois-Comtois et al., 2019; Hoyniak, Bates et al., 2021; Hoyniak, McQuillan et al.,

2021). Maternal emotional availability has also been associated with benefits for child sleep (Teti et al., 2010). This suggests that *how* sleep-related routines are carried out (ie. calmly, sensitively and with enjoyment) may matter in addition to *what* is done, and how regularly it happens.

Sleep onset requires the co-ordinated reduction of cognitive and physiological arousal, which can be influenced by affective and attentive processes (Dahl, 1996; see Chapter One, section 1.2.1). Thus, routines are likely to have multi-faceted and overlapping benefits for sleep (Mindell & Williamson, 2018). For example, a routine could create feelings of security in a child through being predictable. This could in turn reduce physiological arousal and attention to the surroundings as the child feels safe. How routine activities are carried out might therefore determine how they impact sleep onset. For example, parents might cuddle children while watching television, contributing to emotional security, while also reducing physiological arousal through sitting still and cognitive arousal through the choice of programme. This might contribute to a quick sleep onset. Alternatively, a child watching an exciting programme while physically enacting it might experience increased physiological arousal, and parent-child conflict about such behaviour might reduce their feelings of security. The same activity, watching television, in this case might lead to a more difficult bedtime and prolonged sleep onset.

Parents' understanding of the benefits of sleep-related routines, and their ultimate aims, may affect how they carry out their routines. For example, in a qualitative study of family literacy practices, a mother reported that she read calmly at bedtime to promote relaxation in her child so that they would sleep (Hall et al., 2018). Conversely, her husband read using an exciting range of voices, which provoked arousal and inhibited sleep onset (Hall et al., 2018). Little is currently known about parents' perceptions of the benefits of

their sleep-related routines with toddlers, although this may influence how they are carried out and consequent child sleep outcomes.

Understanding parents' perceptions of the benefits of sleep-related routines for their child's sleep is also important as routines are often used inconsistently and contain activities which are not always recommended (Covington et al., 2019; Kitsaras et al., 2021c; Mindell & Williamson, 2018; Ordway et al., 2020). Chapter 6 also showed that some parents in the present research consider some generally unrecommended activities to be part of routines which benefit their toddler's sleep. It is currently unknown why parents do not consistently adhere to their sleep-related routines and why they include activities which are advised against. Understanding parent-perceived benefits of their sleep-related routines with their children may therefore be important for developing relevant guidance and increasing adherence.

Previous studies have largely measured bedtime routines with questionnaires providing checklists of activities, or with space for parents to create or add to a list of routine elements (Hale et al., 2009; Henderson & Jordan, 2010; Mindell & Williamson, 2018; Ordway et al., 2020; Staples et al., 2015; see Chapter 2, section 2.2 for discussion of limitations). This means that some common routine components may be underreported and some activities which are regarded as maladaptive may in fact have perceived sleep-related benefits depending on the context and how they are carried out. A qualitative study of barriers and facilitators to bedtime routines among UK parents of 3-7-year olds found, for example, that some parents used singing and dancing while children brushed their teeth (Kitsaras et al., 2021a). Singing and dancing were unlikely to have been included on a checklist, as brushing teeth was the primary focus. Furthermore, without the context, dancing might be considered maladaptive for child sleep due to increasing physiological

arousal. In this context, however, it could benefit sleep by increasing child co-operation and preventing physiological, emotional and cognitive arousal due to parent-child conflict. With this understanding of how and why routines are enacted, advice for families might centre on making personal care activities enjoyable to reduce parent-child conflict, rather than blanket advice against a particular activity, dancing.

Bedtime routines have been explored in relation to young children's sleep, but daytime sleep-related routines have received less attention. 1-3-year olds are in the process of dropping naps and parent practices appear to influence their daytime sleep (Galland et al., 2012; Jones & Ball, 2013; Touchette et al., 2013). Therefore, daytime routines may be particularly pertinent to sleep in this age group. Chapter Six showed that parents carry out daytime activities including managing daytime sleep and physical activity to benefit their toddlers' sleep/wake cycle. Daytime sleep-related routines and associated parent-perceived benefits therefore require investigation in addition to bedtime routines to develop guidance about sleep-related routines in 1-3-year olds.

To my knowledge, only one mixed-methods study has asked UK-based parents in this age group specifically about reasons for their use of daytime and bedtime routines (Jones & Ball 2013; 2014). However, data were analysed using a pre-determined framework with only three aspects of their bedtime routines (consistent bedtime, reading and falling asleep in bed) and only a single daytime activity (encouraging/discouraging napping) being explored (Jones & Ball 2013; 2014). Thus, understanding of reasons shaping parents' sleep-related routines was limited. Previous qualitative studies have found that parents do perceive routines as beneficial for young children's sleep (Gustafsson et al., 2021; Martinez & Thompson-Lastad, 2015; Muller et al., 2019b; Sviggum et al., 2018). However, their perceptions of how routines benefit sleep have not been fully explored due to the broad

focus on recommended strategies for managing child sleep, rather than routines/the activities used by parents specifically.

The present research therefore focused specifically on how parents perceived their sleep-related routines benefited their child's sleep. The qualitative approach allowed parents to describe their 24-hour sleep-related routines more fully, to gain a deeper understanding of the context and perceived benefits of activities they reported using. The open-ended approach to questioning and inductive approach to analysis (see Chapter 4, sections 4.3.3 and 4.3.5) permitted exploration of perceived benefits of routines to child sleep, which parents considered important. These are currently lacking in the literature and may be most relevant for developing guidance and support for families.

7.2 Study Aims

This research aimed to explore the question: How do parents in the UK think their sleep-related routines benefit their young children's sleep?

7.3 Method

Full methodology is described in Chapter Four, but in addition the following are specific to this chapter.

Online interviews gathered detailed accounts of participants' experiences of using sleep-related routines with their children in their own words (see Appendix G for full interview schedule). The semi-structured interview schedule included questions about

- 1) what participants did to help their toddlers' sleep/wake patterns at different points of the 24-hour cycle
- 2) anything they avoided to help their toddler sleep
- 3) whether they thought their routines benefited their toddler sleep

Follow up questions were used to explore how participants felt the things they did affected their toddlers' sleep.

Interview data were analysed using reflexive thematic analysis with a semantic approach, where themes are constructed based on surface-level (rather than latent) meaning of the data (Braun & Clarke, 2006; 2012; 2019). An inductive approach to coding was used for this study, whereby data were coded without reference to any specific theoretical framework. However, coding was informed by awareness of proposed processes by which routines might benefit child sleep (e.g. reducing arousal, increasing feelings of security, reducing parent-child conflict, see Chapter Two, section 2.3 for more detail). Codes were discussed with three experienced researchers in the fields of young children's sleep and parenting, LW, GC and MM to ensure they reflected the semantic content of the data. Transcripts and codes were then entered into NVivo (version 12) for further analysis.

Themes representing different parent-perceived benefits were constructed and written up with illustrative quotations in discussion with LW, GC and AB. A particular focus of discussions was to ensure only perceived benefits for child sleep were considered, in line with the research question.

7.4 Results

Four themes and associated subthemes were identified which represented the ways in which parents thought their routine practices benefited their child's sleep. These themes were: Creating an optimal sleep window; Helping children wind down; Communicating time for sleep; and Creating an emotional state conducive to sleep. Further illustrative quotations for each theme can be found in Appendix T.

A. Creating an Optimal Sleep Window

This theme represented participants' perception that their routines helped manage their child's levels of sleepiness over 24 hours to ensure that children could settle to sleep easily at night-time and/or get what mothers perceived as 'enough' sleep. Many participants talked about an optimal time window which allowed a certain number of hours' sleep opportunity before their child's wake time and where their child was sufficiently tired to sleep, but not overtired. Louisa (mother of 1 year-old; Small CSP) explained the benefit of putting her one-year-old to bed during this optimal sleep window: "I mean it gets her the right amount of sleep. It gets us, hopefully, or helps to get us the right amount of sleep. She's not overtired because we don't do the bedtime too late."

Some parents aimed for a particular bedtime to avoid overtiredness, where toddlers became emotionally dysregulated or hyperenergetic, as Laura (mother of 1 year-old; Small CSP) explained:

bedtime is always on our minds from 6.30ish. And we always do it in the same order. Yeah, as soon as we get home you're thinking about bedtime basically.... I think it's because you don't want to get it wrong. You don't want him to get a

second wind and become overtired because I think I read somewhere it gets your cortisol going and your adrenalin, maybe.

For most participants the optimal window for putting their child to bed was one where the child was perceived as appropriately tired, rather than a particular time. However, this window could vary day-to-day as toddlers were perceived as experiencing different levels of tiredness depending on both external and developmental factors: the day's events, nursery/home, and most notably napping/not napping. Most participants therefore described using their sleep-related routines to help align optimal tiredness levels with a desired time window. Most mothers managed duration and timing of their toddler's daytime sleep to ensure their child would be sufficiently tired to settle to sleep easily at bedtime, as Faye (mother of a 23-month-old, Very small CSP) explained:

if he actually fell asleep a little bit later, say 1.30[pm] and he's still asleep at half past 3[pm] I do wake him up... Just so he can go to bed at his normal time. I find often that if he's had a long nap and it's ended quite late, bedtime can be a bit of a battle and he ends up falling asleep later than we'd like to and it doesn't necessarily mean that he then wakes up slightly later the next morning.

Participants perceived their child's 24-hour sleep/wake cycle as requiring regulation at this age to ensure they could achieve an optimal amount of sleep, which was appropriately timed. As well as avoiding napping too long or too late in the day, some also supported their children in obtaining sufficient daytime sleep to avoid overtiredness at bedtime and ensuing compromised night-time sleep. Nikki (mother of a 19-month-old, Moderate CSP) explained:

say she wants to go to bed at 10.30[am], if I put her down then even if it's for 10 minutes, she won't nap then for the rest of the day... Then it leads to poor night-time sleep because she's over tired by the time she gets to bed.

Many mothers perceived that children who missed the desired sleep window could not necessarily simply catch up by sleeping longer the next day, either due to their natural wake time or school/work schedules. Children's daytime sleep was therefore often limited to particular times to achieve appropriately timed and longer night-time sleep and longer sleep duration across 24 hours.

Participants also used physical play in the day or evening to ensure toddlers were tired enough to sleep around bedtime. This practice was seen as benefiting sleep by reducing toddler's energy levels, something which parents found could be difficult! However, for a few mothers, physical activity was a double-edged sword, as Faye (mother of a 23-month-old, Very small CSP) described: "if he hasn't had a good enough nap and then he's been doing loads of physical activity then he's overtired by bedtime.... it takes me longer to soothe him and leave him ready to actually sleep". Too much physical activity could again result in overtiredness and associated sleep onset problems at bedtime, meaning that mothers had to balance the amount of activity and daytime sleep to ensure toddlers were optimally drowsy at bedtime.

Almost all participants expressed strong conviction that managing tiredness levels by balancing daytime rest and activity directly affected night-time SOL and sleep duration. This was based on their experiences of missing their child's optimal sleep window. Using physical play to tire toddlers out was seen as a less consistently reliable strategy for

benefiting sleep than managing naps. It could reduce SOL, but only if nap timing/duration was also controlled.

B. Helping Children Wind Down

This theme represents mothers' perception that using particular calming activities, such as talking, stories and watching television helped reduce their toddlers' physiological and/or cognitive arousal in preparation for sleep. The previous theme described how scheduling sleep, across the 24-hour period, could be beneficial in avoiding excessive physiological arousal at bedtime. However, in this theme, participants described using activities at bedtime specifically to reduce toddlers' arousal to permit sleep onset.

Some thought that television helped children wind down. As described in the previous chapter, programme content was often purposely chosen to avoid emotional arousal. Lucy (mother of 3-year-old; Very small CSP) described how watching television additionally reduced her son's cognitive and physiological arousal as they sat together and relaxed: "[we're] just switching off from the day really. Trying to... Yeah, we just try and calm down with him and have him sit with us and calm down".

Some felt that talking with children before bed reduced toddlers' cognitive arousal. For example, Anna (mother of a 2-and-a-half-year-old; small CSP) felt talking helped her toddler process his thoughts and worries about the day's experiences before sleep: "he'll say 'I got upset' or 'I got scared' or this happened and that happened and I've been thinking about this. So, he has a bit of a debrief from the day".

For others, stories were a slow pace, low stimulation activity, which helped children wind down before sleep. Fatima (mother of 3-year-old; No CSP) described using story-telling to calm her son: “I’ll say ‘and the troll was walking along and saw a dinosaur that was sleepy’ and talk like that [slowly] to get him to wind down after those books that he laughs at and gets really excited at”.

A number of participants shared the view that watching television and reading stories could be stimulating or calming depending on their content and/or parents’ demeanour. However, talking with or to children was always perceived as helping them wind down, and in some cases was strongly believed to benefit sleep onset.

C. Communicating Time For Sleep

This theme represents parents’ beliefs that predictable routines enabled them to communicate to their children that bedtime was coming. In this theme, communicating what would happen, the child’s role in the process and a time-frame leading up to bedtime were the primary ways parents perceived consistent routines as benefiting sleep. Parents found this communication benefited sleep in two ways: firstly, it reduced parent-child conflict around bedtime. Secondly, it taught toddlers to reduce physiological arousal gradually in preparation for sleep.

Some perceived that their routines made it more likely that their children would cooperate with going to bed, as they understood what was expected of them, and when. The routine did not guarantee a lack of reluctance about going to bed, but it was perceived as a helpful form of non-verbal communication with young children, which reduced

conflict. Farah (mother of 2-year-old; Small CSP) explained how their bedtime routine helped her son accept it was time to sleep.

I think it [sleep-related routine] does help him - I think he's always known that this is time for sleep. Even if he messes around, he's happy to understand it. He doesn't scream at night, he doesn't get upset. So even though he doesn't always want to go to bed, he knows that it is time for bed... So, without having to get quite frustrated on our part, or having to shout at him or anything like that, he knows, we're able to communicate to him that it's bedtime.

The communication implicit in bedtime routines was also perceived as benefiting their child's sleep by communicating that it was time to settle down for sleep, as Sonya (mother of 2-year-old; No CSP) explained:

So, I think she knows it's time to go and get her bottle, she knows it's time to go and put her sleeping bag on. And I think it probably all helps with the winding down at night time, rather than being hyper and wired and wide awake and then suddenly told that she has to go to sleep.

Overall, participants expressed strong beliefs that their children knew their pre-bed routine and expected it to end with sleep. The "language" of the routine benefited sleep onset because shared expectations increased children's co-operation and/or because behavioural cues allowed children to self-regulate in preparation for sleep.

D. Encouraging an Emotional State Conducive To Sleep

This theme represents participants' perception that their sleep-related routines benefited their child's sleep by creating positive feelings of enjoyment and/or security and

avoiding emotions of fear, anger or sadness. In this theme, parents' primary aim was to bring about positive emotions perceived as permitting sleep onset and to avoid triggering negative emotions, which were thought to delay sleep onset.

Many participants believed that having an enjoyable pre-bed routine benefited their child's sleep onset. Parents described use of activities, such as stories, songs and playful strategies for encouraging children through elements of the routine they liked less and encouraging a positive emotional climate, as Portia (mother of 3-year-old; Moderate CSP) explained:

It's lovely. We've sussed it for now with having both the boys in the bath at the same time. And it's just lovely because after so long of him really not wanting to go in the bath at all, so I'd never make him... But on the whole, he enjoys it and then I'm always in there with him as well. We have a routine of making sure his towel's on the radiator to warm up and singing a song for brushing teeth...or getting him to shout, or make animal noises. Or we did the hokey cokey tonight to put the toothbrush in and out.

Many parents described actively avoiding arousing strong negative emotions which could be caused by pre-bed personal care activities and reading. These activities were either omitted from the pre-bed routine altogether or made more enjoyable with games, songs and apps, as Julia (mother of a three-year-old; No CSP) explained:

We try and remember to brush his teeth, but that doesn't happen every single night because sometimes it causes a monumental tantrum which isn't necessarily what you want really immediately before bed. But usually we use either the Hey Duggee or the Blippi toothbrushing song videos and they seem to work... if he's watching a character on a screen doing it, he's more than happy to do it as well. Fine by me,

apart from the fact that it then means he's had screen time but it's only a couple of minutes.

Julia described using screen time, which she considered potentially detrimental to sleep, to avoid negative emotions in her child, which was perceived as a priority for promoting sleep.

There were two sub-themes which represented particular emotions some parents sought to manage: Managing feelings around separation from family; and Creating feelings of security.

D.1 Managing Feelings Around Separation From Family. This sub-theme represented participants' use of particular practices to manage children's emotions around separating from family prior to sleep. If not managed, separation was perceived as inducing distress, which made sleep onset difficult.

Some parents managed this emotion by saying goodnight to family members before sleep. This was a very significant part of creating an emotional state conducive to sleep in some families as Tania (mother of a 1-year-old; No CSP) described:

The reason they fall asleep at half past 7 or 8 o'clock is because that's when my partner could be home by. So otherwise we might have had everyone go to sleep a bit earlier but we needed to do it so in a way that meant everyone could see their Daddy before they went to sleep because if you don't see Daddy at bedtime, that's just too terrible!

Many parents used settling strategies of cuddling or parental presence to maintain positive emotions in their toddler, through avoiding separation, thereby allowing an easier

transition to sleep. Nicola (mother of 2-year-old; No CSP) explained her reasoning for cuddling her son to sleep:

I think the next step would be for [child] to go to bed by himself and – or just read him a story and just leave for him to go to sleep. At the moment, he's not really able to do that. I try to not make bedtimes too stressful and to force that... he likes to cuddle, he likes to cuddle in. He likes to cuddle in a lot and will nod off.

Children were often perceived as needing parental involvement at sleep onset, a need that was thought to be developmental. Not meeting perceived needs resulted in strong negative emotions from children, which were considered as stressful for children and parents and detrimental to sleep. Parents did not always want to use these settling methods, but used them for the purpose of ensuring children went happily - and more quickly! - to sleep.

D.2 Creating Feelings of Security and Reassurance. This subtheme represents many mothers' perception that the predictability of their sleep-related routines created a sense of stability for their children. They perceived that routines benefited children's emotional regulation as the familiar pattern of activities allowed them to relax. Jen (mother of 14-month-old; No CSP) explained how her predictable bedtime routine reassured her daughter:

having some sort of routine is important because it makes them feel secure and safe, it makes them aware that actually –it makes them feel that they know what's coming next and they're a little bit more in control, as much as they can be.

Overall, participants felt strongly that routines benefited their children's sleep by helping them feel safe and secure.

7.5 Discussion

Mothers in this study perceived that their routines around the clock benefited their children's sleep in four main ways. Three of these, helping toddlers to wind down, communicating approaching bedtime through a consistent sequence of activities and creating an emotional state conducive to sleep, were perceived benefits of evening routines. Parents thus largely concurred with proposed mechanisms by which bedtime routines benefit sleep: inducing emotional security, reducing physiological and cognitive arousal and/or behavioural chaining/reinforcement (Bathory & Tomopoulos, 2017; Mindell & Williamson, 2018; Sytsma et al., 2001). They perceived that their routines offered a range of tools for managing their child's physiological and cognitive arousal and their emotional state in order to bring about sleep onset and permit sufficient sleep opportunity. This accords with Dahl's (1996) characterisation of the processes necessary for sleep onset (reduction of cognitive and physiological arousal, reduced attention and feelings of safety). This is also consistent with recent empirical evidence that physiological arousal and emotional climate at bedtime are associated with young children's sleep outcomes (Hoyniak, Bates et al., 2021; Hoyniak, McQuillan et al., 2021).

However, participants additionally felt that their daytime sleep-related routines benefited their toddlers' sleep by creating an optimal sleep window where the child was appropriately tired at bedtime. There was a strong perception based on direct experience that managing daytime rest and activity levels affected same-night sleep. This accords with the dual-process model of sleep, whereby a homeostatic process of sleep pressure brings about sleep in combination with a circadian process (Borbély 1982; Borbély, et al., 2016).

The current study illustrates the complexities of managing the above concurrent sleep-promoting processes in young children. Previous qualitative literature has shown that consistent bedtime routines are frequently recommended by parents of 0-5-year olds as a strategy for other parents to manage their young children's sleep (Gustafsson et al., 2021; Martinez & Thompson-Lastad, 2015; Muller et al., 2019b; Sviggum et al., 2018). Previous studies have reported a number of parent perceived benefits of routines for child sleep including calming and reassuring children, promoting circadian rhythms and connecting emotionally (Gustafsson et al., 2021; Martinez & Thompson-Lastad, 2015; Muller et al., 2019b; Sviggum et al., 2018). The current work adds how such perceived benefits overlap and illustrates aspects of their sleep-related routines parents perceive contribute to these processes. It also shows that there can be a conflict between maintaining consistency and maintaining an emotional state conducive to sleep when children are reluctant to participate in aspects of their routines. Managing sleep-related routines in young children is a complex endeavour and there are differences in sleep-related goals, as well as the acceptability of activities between families.

The need for an individual approach to supporting families is further indicated by the variation in child responses to routine activities reported in the present study. Activities including bathing, reading stories and watching television were performed differently across families and had varying parent-perceived effects on children's arousal before bed. It has previously been suggested that activities such as bathing and watching television may have different effects on child arousal for different individuals, particularly those with neurodiversities (Mindell & Williamson, 2018). Additionally, parents have previously reported that how bedtime reading is performed influences children's response (Hall et al., 2018). The current study supports Mindell & Williamson's (2018) recommendation that sleep-related routines should be tailored for individual families, as activities which promote

calm may vary between children. The present research illustrates such diverse responses, even in a relatively homogeneous sample of families and further demonstrates the importance of *how* routine activities are carried out with individual children. For example, focusing on avoiding arousal may be paramount for some children, while increasing a sense of family connection could be a priority for others.

A further key finding of this research was the importance of a range of emotional benefits of sleep-related routines for their children, which some parents perceived. Many participants perceived that their routines benefited their child's emotional regulation and increased parent-child connection. As reported in previous qualitative studies many participants in the current work also felt their routines reassured their children (Gustafsson et al., 2021; Muller et al., 2019b; 2019b; Sviggum et al., 2018). Some additionally felt they helped manage children's feelings around separation from parents, which could otherwise impede sleep, as reported by parents in prior research (Gustafsson et al., 2021; Sviggum et al., 2018). The present study added that some parents perceived their routines as a form of non-verbal communication, which benefited children emotionally by increasing their sense of control/autonomy. Using routines could therefore be particularly helpful in the toddler years as children's language skills are developing and following verbal instructions may be challenging.

Children's enjoyment of routine activities was important to many parents in the current study and shaped both the content and consistency of sleep-related routines. This is consistent with prior research on routines with UK-based parents (Jones & Ball, 2014; Kitsaras et al., 2021a). Research also supports the importance of enjoyable bedtime routines for sleep onset (Dubois-Comptois et al., 2019; Hoyniak, Bates et al., 2021). Children's responses to particular activities were often cited as reasons why they

were/were not used consistently. Thus, supporting parents to make more problematic elements of their routines enjoyable (e.g. by singing, playing during personal care activities) may help some parents to engage with and adhere to sleep-related routines. Some reported that independent settling was particularly problematic due to children's perceived distress. The importance of teaching children to fall asleep independently is widely discussed in guidance for parents (e.g. Bathory & Tomopoulos, 2017; GOSH, 2020; NHS, 2023). However, in the current study, children's protests at independent settling were perceived as incompatible with the perceived need to create an emotional state conducive for sleep onset.

In addition to bedtime routines, participants in the present study perceived benefits of sleep-related routines over 24 hours. They described the ways they tried to bring about tiredness at bedtime by means of balancing daytime activity and rest in their toddlers. Swedish and Norwegian parents have previously recommended adjusting daytime activity and rest for managing 0-3-year olds sleep and some UK parents reported discouraging naps to protect bedtime (Gustafsson et al., 2021; Jones & Ball, 2013; Sviggum et al., 2018). Reducing nap duration and late afternoon napping are associated with longer night-time sleep in young toddlers and have recently been added to guidance for UK-based parents (Bathory & Tomopoulos, 2017; Nakagawa et al., 2016; Nakagama et al., 2021; NHS, 2023). The current study extends these findings by illustrating the dynamic processes and complex parenting challenges involved in maintaining a consistent bedtime in 1-3 year olds. Parents described reading tiredness cues, planning activities to regulate arousal levels and/or maintain wake and considering timings of both naps and physical activity to achieve a state of tiredness, but not overtiredness at bedtime. This was particularly challenging in toddlers who were in the process of dropping naps.

7.6 Limitations and strengths

As previously acknowledged, this was a relatively homogeneous sample of mother who were older and more highly educated than the UK average (see Chapter 4, Tables 2 and 3 for sample characteristics and Chapter 5, sections 5.5.1 and 5.5.2 and Chapter 6, section 6.6 for discussion of general limitations of the sample in terms of their homogeneity and potential transferability of results). A key limitation is that only mothers were interviewed. For discussion of the general limitations of the inclusion of mothers only, see Chapter 6, section 6.6. However, of particular relevance to this research question is the possible difference between mothers and fathers in relation to their beliefs about the benefits of sleep-related routines. Mothers and fathers have been shown to hold different cognitions in relation to child sleep and these have been associated with differences in bedtime parenting behaviours (e.g. Cook et al., 2022a; Sadeh et al., 2007). Therefore, it is possible that mothers and fathers may hold different cognitions about sleep-related routines with their children, and that these cognitions may be associated with differences in how, or if, they implement them. Some mothers within this sample reported holding different beliefs from their partners and implementing routines differently with their children. This suggests the need for exploration of fathers' beliefs about the benefits of their toddlers' sleep-related routines and also an examination of sleep-related beliefs and behaviours within individual parenting dyads.

The general strengths and limitations of using of an open-ended question schedule without predetermined activities is discussed in chapter 6, section 6.6. This may have been a particular strength in relation to this research question, where allowing participants to describe what they do allowed the exploration of reasons for practices that are often advised against, such as watching television. Participants were also able to express

equivocation about the benefits of some activities that are commonly recommended, such as bathing and reading and report the strongly-perceived benefits of less stereotypical bedtime activities such as talking about the day. Overall, this allowed the highly individual nature of sleep-related routines and their parent-perceived benefits to be drawn out. However, given the limitation of the reliance on words as representations of participants' experiences, any benefits of sleep-related routines and their impacts on their children presented here must be considered as participants' perceptions alone. These perceived benefits now require empirical investigation.

Finally, the focus on routines over the 24-hour cycle was a key strength, which allowed parents to explain the ways they balanced rest and activity through the day to bring about an optimal level of tiredness at bedtime. This overlaps and extends descriptions of sleep-related strategies recommended by Swedish parents and draws out an important challenge to sleep management in this age group (Gustafsson et al., 2021). Additionally, asking parents why they carried out particular practices revealed the range of overlapping ways they felt routines helped manage toddlers' arousal and emotions and drew out their focus on a range of emotional considerations related to their sleep routines.

7.7 Implications

There are a number of methodological, theoretical and practical implications arising from the present research.

7.7.1 Methodological

1) The same routine activities can have different effects on individual children, which might benefit or inhibit sleep. Parents carry out ostensibly the same activities differently, depending on their intended goals. Research in this area should therefore consider how components of sleep-related routines are carried out and how children respond. This suggests that observational methods may be particularly beneficial in teasing out the ways in which bedtime routines are related to child sleep.

2) The present research further demonstrates that bedtime routines are firmly embedded in 24-hour contexts. This suggests the need for measuring and reporting 24-hour sleep-related routines when studying routines and toddler sleep.

7.7.2 Theoretical

1) The strong contribution of the homeostatic sleep drive to the processes by which sleep-related routines are perceived to benefit toddler sleep requires greater acknowledgement in research on routines and sleep in 1-3-year olds (see Chapter 1, section 1.2 for details of physiology of sleep). Bedtime routines have been primarily considered in relation to toddler sleep and are predominantly hypothesised to reduce physiological, attentional and emotional arousal, through providing a series of calming, predictable activities (Mindell & Williamson, 2018; see Chapter 2, section 2.3 for further detail). However, these processes may depend on a child being appropriately tired in the first place. For example, a child who is experiencing low sleep pressure may resist the bedtime routine, causing increased emotional and physiological arousal, and potentially creating negative associations with the bedtime routine. This is acknowledged in the clinical literature, however, is not currently emphasised in the research literature (Meltzer 2010;

Mindell & Williamson, 2018). This adds to the argument made in chapter 6 for the importance of considering bedtime routines in a 24-hour context in toddlers.

7.7.3 Practical

1) There is a need for personalised guidance for families on devising and implementing routines. Sleep-related routines should be tailored for individual families, depending on children's responses, and parental preferences and sleep-related goals.

2) As maintaining a routine, once devised, can be challenging with 1-3 year olds, coaching-style support might benefit some families. Practical and positive suggestions for encouraging toddlers to participate in their routines could be added to guidance.

3) Many parents considered their child's emotional state of paramount importance in choosing sleep-related practices. Promoting emotional benefits of sleep-related routines for children may therefore encourage some groups of parents to use sleep-related routines with their toddlers.

4) Some parents, although successfully implementing sleep-related routines, may benefit from guidance about the range of techniques to encourage independent sleep. Guidance on maintaining positive emotions in children when promoting independent sleep onset and/or support in implementing techniques may be needed by some.

5) Current NHS guidance includes ensuring naps are not too late in the day (NHS, 2023). This research indicates that balancing toddlers' levels of tiredness to achieve a consistent or desired bedtime may be more complex than this advice implies. Parents have

previously reported a desire for sleep advice tailored to particular developmental stages (Hatton & Gardani, 2018). The complexity of reading children's tiredness cues, managing daytime activities and rest to ensure nap-dropping toddlers are appropriately sleepy at bedtime could be a key area where guidance would be useful.

7.8 Future Research

A number of avenues of further research are suggested by the present work.

1) Further research into parents' beliefs about the benefits of sleep-related routines with their young children is now needed. In particular, research with parents taking different parenting approaches would provide a fuller picture of parents' goals and beliefs related to sleep-related routines with their children so that guidance appropriate to a range of families can be provided. Fathers' beliefs about the benefits of their toddlers' sleep-related routines are also needed so that guidance can be tailored to family units, rather than mothers alone.

2) Mothers perceived four main ways that their routines benefited their young children's sleep. Whether and in what ways these mechanisms benefit toddler sleep now requires empirical investigation. In particular, it might be helpful to determine the relative contribution of each to allow parents to understand whether, for example, prioritising child emotional state by skipping an activity or prioritising consistency is of greater benefit for particular aspects of child sleep in both the short- and long-term. As stated in Chapter 6, section 6.8, understanding the relative contribution to child sleep of processes occurring as a result of daytime routines and bedtime routines is an important research priority. It is possible that particular mechanisms are more important for particular groups of children,

for example those with and without an anxious temperament, and this also requires investigation.

3) Further exploration of possible beneficial use of technology, such as television viewing, for young children's sleep is needed. Parents perceived early evening viewing of calming television programmes with their children as enjoyable and beneficial for sleep as it reduced children's physiological arousal. This potential benefit now requires empirical investigation.

7.9 Chapter Summary and Conclusions

This chapter presented results from semi-structured interviews with mothers, in which they explained how they believed their toddlers' sleep-related routines benefited their sleep.

Participants perceived four main benefits of their routines: creating an optimal sleep window, helping children wind down, communicating time for sleep and encouraging an emotional state conducive to sleep. Individual families may have different goals and priorities when devising and implementing routines, such as aiming for a particular bedtime to ensure sufficient sleep opportunity or putting children to bed only when tired to reduce bedtime resistance. Emotional priorities of reassuring and comforting children may be particularly important in some families. Balancing toddlers' growing independence and changing preferences to maintain consistent routines, while also keeping a positive emotional tone can require many parenting skills. Daytime routines may also benefit child sleep in 1-3 year olds, where daytime sleep is reducing as night-time sleep consolidates.

Use of sleep-related routines is therefore a complex parenting behaviour because routines act on multiple concurrent processes associated with sleep onset and their successful implementation requires a range of parenting skills and choices. Access to ongoing, tailored support may therefore benefit families seeking to improve their toddlers' sleep. Promotion of routines could be broadened from the focus on use of recommended activities to calm children, to include both the emotional benefits of routines for children and guidance about managing arousal across the 24-hour period, as these were an important priority for some families.

This chapter reported some parent-perceived emotional benefits of routines, such as increased parent-child connection. Given the perceived importance of children's emotional state for sleep and the likelihood that caregiver feelings may contribute to children's feelings of enjoyment, safety and connection, exploration of the range of feelings mothers experience during and about their toddlers' sleep-related routines is now needed.

Chapter 8 will present the results from Phase Two interviews in relation to the third research question: What feelings do parents experience in relation to their sleep-related routines with their toddlers?

Chapter 8 RQ3: What Feelings Do Parents Experience In Relation To Their Sleep-related Routines With Their Toddlers?

The preceding chapter showed that parents' beliefs about the benefits of sleep-related routines can influence their composition and implementation. Previous research has suggested that caregivers' feelings can shape their sleep-related practices, as well as their beliefs. This chapter therefore presents results exploring the feelings participants experienced about and during their sleep-related routines with their toddlers.

8.1 Introduction

The transactional model of child sleep hypothesises that a range of caregiver factors (e.g. personality, psychopathology) influence parent-child relationships and caregiving behaviours, which are the most proximal influences on child sleep (Sadeh & Anders, 1993; see Chapter One, section 1.10). Caregiver behaviours are particularly pertinent to insomnia or sleeplessness in children, as some caregiver behaviours can lead children to learn maladaptive sleep associations or reinforce undesired behaviours such as night waking (AASM, 2014; Sadeh & Anders, 1993; see Chapter One, section 1.9.2 for more detailed discussion). Conversely, the caregiver practice of consistently implementing a bedtime routine has been associated with improved child sleep outcomes (Mindell et al., 2015; Tsai et al., 2021, see Chapter Two, section 2.4). This makes understanding of parent factors which shape caregiver sleep-related behaviours and practices important.

One such caregiver factor associated with differences in caregiver practices and children's sleep outcomes is parental cognitions about their own and their child's sleep (e.g. Cook et al., 2022a; Hughes et al., 2015; Piteo et al., 2013; Tikotzky & Shaashua, 2012;

see Chapter One, Section 1.9.2 for detailed discussion). Cognitions contain overlapping but distinct elements: feelings, thoughts, beliefs and attitudes are interrelated, but different constructs. For example, feelings of anxiety or guilt could correspond with a belief that sleep is important, if a parent perceives a CSP. However, a belief that sleep is important could also lead to feelings of parenting competency and satisfaction if a caregiver perceives their child is sleeping well. These different feelings, although related to the same sleep belief, could have different consequences for child sleep outcomes and caregiver wellbeing. Thus, exploring parent-reported feelings (emotional states or reactions) could be important for supporting families in managing their young child's sleep.

Caregiver feelings may affect children's sleep directly through the pre-sleep emotional climate experienced by the child. Dahl (1996) theorised the necessity of reducing vigilance to permit sleep, suggesting that feeling safe is necessary for sleep onset (see Chapter One, section 1.2.1). Caregiver emotional state during sleep-related routines could contribute directly to children's feelings of safety/vulnerability and thus permit/inhibit sleep onset (Fiese et al., 2007). Empirical research has found that positive caregiver emotions during bedtime routines are associated with improved child sleep outcomes in 30-month olds and three-five-year olds (Dubois-Comtois et al., 2019; Hoyniak, Bates et al., 2021). Conversely, negative caregiver feelings (including anger, doubt and difficulty limit-setting; feeling worried and hassled; and stress, depression and anxiety) have been associated with poorer parent-reported child sleep and increased parent-perceived CSPs compared to children of caregivers experiencing less negative feelings (Armitage et al., 2009; Fiese, 2007; Hughes et al., 2015; Johnson & McMahon, 2008; Piteo et al., 2013; Teti, 2017; Tikotzky et al., 2021; see Chapter One, section 1.9.2).

Caregiver feelings could also affect child sleep indirectly by influencing the choice of particular activities and/or how consistently they are implemented (Fiese et al., 2007; Teti & Crosby, 2012). For example, higher levels of anger and doubt about their own parenting competency in caregivers have been associated with increased active physical settling of children, as well as child sleep outcomes (Johnson & McMahon, 2008; Morrell & Steele, 2003; Morrell, 1999). Little is known, however, about how caregivers' feelings might affect their implementation of other aspects of their sleep-related routines. Fiese (2007) found that bedtime routine disruption and negative caregiver emotions were related to same-day night wakings in asthmatic five-seven-year olds, suggesting that parental negative mood might be associated with changes to the bedtime routine, which in turn affected child sleep. Mixed-methods and qualitative research suggests that caregiver feelings do affect parents' implementation of sleep-related routines. For example, some parents who felt that bedtime routines were effortful, unenjoyable or restrictive did not implement bedtime routines (Jones & Ball, 2014). Kitsaras et al. (2021a) observed that positive parental emotions were a reinforcer of bedtime routines, while negative emotions were a barrier to routines. However, specific feelings and how these might relate to particular routine activities or participants' overall experiences of implementing a sleep-related routine were not identified.

Feelings about their child's sleep-related routines may also have implications for parents' wellbeing. Qualitative research with mothers of three-four-year olds with CSPs in New Zealand have found mothers experience frustration, guilt, shame and feelings of responsibility in relation to their child's sleep (Smith, Galland, et al., 2019). Frustration and negative emotions were also reported in relation to three-four-year olds' sleep by mothers who did not perceive large CSPs (Muller et al., 2019a). Negative emotions in relation to bedtime routines and stress around mealtime routines have been reported by parents,

however, the range of feelings about sleep-related routines have not previously been explored in parents of typically developing 1-3-year olds living in the UK (Kitsaras et al., 2021a; Koulouglioti et al., 2011). Understanding caregivers' feelings about their sleep-related routines may be important for supporting their wellbeing, as well as their children's sleep.

Knowledge of caregivers' experiences of their sleep-related routines is important to develop appropriate and acceptable support and guidance for families, which acknowledges their experiences and feelings. It is as yet unclear what feelings caregivers experience during their sleep-related routines with toddlers and about those routines overall, thus this study took a qualitative approach, which permitted mothers to talk about feelings which might not yet be in the research literature. Some quantitative research on bedtime routines and child sleep has reported on caregiver mood and parental confidence. For example, depression, anxiety and stress have been associated with variation in the consistency with which bedtime routines are implemented (Covington et al., 2019; Ordway et al., 2020; see Chapter 3, section 3.2.2 for more detailed discussion.) Greater confidence and reduced anxiety around toddler's bedtimes have also been reported by those using routines compared to those who did not (Field et al., 2016; Evans & Rodger, 2008; Mindell, Lee et al., 2017; Mindell et al., 2009; see Chapter 3, section 3.2). It is currently unknown whether maternal mood affects implementation of routines, or whether consistent use of bedtime routines with small children has benefits for caregiver mental wellbeing.

Previous mixed-methods and qualitative research has reported on caregivers' feelings and bedtime routines (e.g. Jones & Ball, 2014; Kitsaras et al., 2021a). However, studies did not ask caregivers how they felt at different points during their routines, and primarily considered whether caregivers' feelings promote or inhibit the use of a bedtime

routine, rather than how parents experienced their children's bedtime routines. The present research was interested in the range of feelings parents experienced both during and about their sleep-related routines with young children. Such feelings might have implications for caregiver wellbeing and mental health, as well as child sleep, as the nature of routines implies regular exposure to any associated feelings. Furthermore, as seen in Chapter Six, caregivers of toddlers routinely carry out activities around the clock, which they believe benefit their young children's sleep. The present research therefore focused on daytime routines related to sleep as well as bedtime routines.

8.2 Study Aims

This research aimed to explore the question: What feelings do parents experience in relation to their sleep-related routines with their toddlers?

8.3 Method

Methodological information is provided in Chapter Four, but in addition the following are specific to this chapter.

This qualitative study used online semi-structured narrative episodic interviews to explore the experiences of 21 mothers of using sleep-related routines with their toddlers. In the first part of the interview, participants were asked 'how do you tend to feel?' about activities they described at different points of the 24-hour sleep/wake cycle. In the second part of the interview, participants were asked if they felt they had 'routines' related to sleep, followed by how they felt overall about any sleep-related routines they perceived they followed.

Interview data were analysed using reflexive thematic analysis with a semantic approach to identify feelings parents experienced during and about their overall sleep-related routines (Braun & Clarke, 2006; 2012; 2019; 2022; see Chapter Four for further detail). During re-familiarisation with transcripts to answer this research question, a table of feelings each participant specifically named in relation to their overall routines was generated (See Appendix U). Additionally, summary notes were made of the feelings each participant described in relation to their sleep-related routines. In discussion with LW and GC, some codes were identified as attempting to look for latent meaning and were changed to better reflect the semantic content of the participants' words.

Following re-familiarisation, the codes were grouped into themes with a central organizing concept and were presented to LW, GC and AB, along with tables of associated participant quotations to discuss how clearly they reflected the detail contained in participants' words. Refinements were made following on from discussion and themes were written up. The decision to include themes which were expressed by few participants was made as the research question sought to identify the range of feelings reported. Feelings which were strongly experienced, even if by a small number of participants, could still be important for the wellbeing of the participants who experienced them. Thus, the breadth of feelings reported was retained in the write-up, guided by potential implications for child sleep and/or maternal wellbeing.

8.4 Results

Nine themes were identified, two with associated sub-themes, which represented participants' feelings experienced during and about their sleep-related routines with their

child. Feelings could be in-the-moment, associated with specific activities, such as worries about safety while bathing toddlers; medium-term such as dread of a difficult bedtime following an unexpected afternoon nap; or long-term such as uncertainty about whether a particular settling method was optimal.

Participants reported positive feelings of happiness and enjoyment, relaxation and freedom, and negative feelings of guilt, sadness, restriction, frustration, worry and uncertainty about their sleep-related routines. Many also reported a neutral feeling of acceptance. Further quotations supporting each theme and subtheme can be found in Appendix V.

A. Happiness and Enjoyment

This theme represents participants' feelings of happiness and enjoyment of aspects of their sleep-related routines. Mothers particularly enjoyed activities which allowed physical and/or emotional closeness to their child. Cuddling was important to them, as was hearing their child's thoughts and seeing their personalities and preferences, as Faye (mother of 23-month-old; Very small CSP) described:

So, I feel that that [sic] bedtime reading is... a very good way of connecting with him [child]. And seeing, yeah, how his personality develops and what he's really interested in. And it's kind of our moment... it's my and his moment together.

Overall, activities which promoted a strong sense of family connection were described as enjoyable.

Some enjoyed seeing their child having fun during activities such as bath-time and playing. Louisa (mother of 1 year-old; Small CSP) described physical play after dinner:

“Maybe they’re [child and sibling] running around shrieking and playing together, or tumbling through a tunnel, or something like that. So, it’s normally quite a nice fun time if it happens.”

Where sleep onset was quick, participants often enjoyed the settling activities of cuddling to sleep, breastfeeding and self-settling. Nicola (mother of 2-year-old; No CSP) explained how her enjoyment was dependent on timing: “Sometimes I really like the hugs. There are other days when I feel completely touched out and I don’t want to be there... those are the days whenever he’s not fallen to sleep quickly.”

In addition to feeling happiness during particular activities, some participants reported being ‘happy’ with their overall sleep-related routines. Rather than a sense of enjoyment or closeness, this was a feeling that their routines were right for their families. Family happiness was a guiding principle for some in establishing sleep-related routines, as Tania (mother of 1 year-old; No CSP) explained:

the children have got to be happy in order for the grown-ups to be happy and the grown-ups have got to be happy for the children to be happy. So, you’ve got to just find a thing that works really.

Overall, feelings of happiness were linked to feelings of closeness and connection between mothers and children, and between the family unit as a whole.

B. Feeling Relaxed

This theme represents participants’ feelings of being relaxed during particular sleep-related routines. Some bedtime routine activities were considered relaxing if mothers were able to rest physically and/or mentally. Particular activities including bathing, reading

stories, breastfeeding, quiet play and watching television could be relaxing for some parents, as Farah (mother of 2-year-old; Small CSP) described:

Really relaxed, that's [quiet play time] probably the best bit of the evening.

Dinner's over with, you know, they're usually quite content and happy, we're all home, I'm back from work, we can all just be together. So I'm feeling really happy and relaxed at that point, yeah... Again, same, yeah, I'm relaxed and happy [when watching television].

For some mothers, a lack of worry about a lengthy and/or difficult bedtime allowed them to feel relaxed during their evening routines. For example, Beca (mother of 2-year-old; Very small CSP) said: "So if I think bedtime's going to be easy, I'm like, relaxed."

There was an associated subtheme, Feeling relaxed because of how routines are implemented.

B.1 Feeling Relaxed Because Of How Routines Are Implemented. This subtheme represents participants' feelings of being relaxed either due to adhering to sleep-related routines or due to a more flexible approach to child sleep. Having a regular routine was relaxing for some because of its automaticity and predictability, as Jen (mother of 14-month-old; No CSP) explained:

it's a bit like having a meal plan every week because it's a bit boring, but you haven't got to think about it every day. So, I just think it makes everyone more relaxed and everyone knows what they're doing and you have more time to think about other things and plan other things than sleep routine.

Conversely, a small number felt relaxed due to their flexibility around timings and sleep routines. They felt that a strict routine could be stressful for them and their child.

Fatima (mother of 3 year old; No CSP) explained her approach to her son's routines:

I try not to be really rigid about it [bedtime] because I don't really think that suits anybody ... I think we inevitably do [have a routine], but I like to think of it as more of a pattern and I'm not that stressed or strict if it doesn't work out that way.

Taking a more relaxed approach to timings freed some mothers from the pressure of an approach to child sleep which they perceived did not fit their personality.

C. Feeling Free

This subtheme represents the feelings of being free some participants experienced as a consequence of having sleep-related routines. Routines caused a number of participants to feel free as knowing when they would get child-free time gave a sense of autonomy. Jess (mother of 1 year-old; No CSP) liked the consistency of her daughter's sleep-related routine as "you have your life back by yourself by 7 o'clock". Nicola explained further the impact on her of knowing when her child would be asleep:

I like the routine, I like knowing what can be done within a certain amount of time and - Because my free time's probably going to be in the evening, isn't it, knowing it's probably going to be at this time and give me the opportunity to do something myself.

For some, freedom was also a consequence of sharing the implementation of the child's sleep-related routine with a partner. Laura (mother of 1 year-old; Small CSP) said: "I'd say you've got more freedom [if both parents can do bedtime]. Great as breastfeeding is, ... for us it's actually better that I couldn't in a way."

For a small number of participants, the feeling of liberation their routines offered co-existed with feelings that it also restricted them (see Appendix U). While they could see there were benefits of managing their child's sleep in this way, they also felt there were drawbacks as described in the next theme.

D. Feeling Restricted

This theme represents participants' feelings of being restricted or not by particular routine activities, or by their overall sleep-related routine. Some mothers talked about their toddler's perceived inability to sleep without them. Some felt they needed to tolerate their toddlers' needs to benefit their sleep, but could feel trapped by their routine settling activities. A small number described physical aversion to being constantly touched, where children breastfed and/or were cuddled to sleep. Nicola (mother of 2-year-old; No CSP) said "I get a bit of an aversion to him touching me. ... you just have to grin and bear it and get on with it."

Around half of participants perceived that their overall sleep-related routines could restrict social opportunities. This could be due to the child's need for a particular parent to settle them and/or due to timing of naps and bedtimes. Some perceived certain daytime or evening activities as impossible due to routines, as Gemma (mother of 3-year-old; No CSP) described:

I have to get to bed at 10. It's a very tight ship... but I sometimes think it's a bit of a soulless existence. And I'd quite like to just be wild and free. And more freewheeling and a bit more spontaneous, like at 6 at night, you could say 'right, we're going to go and watch the sunset'. But I just wouldn't do that.

For some participants, feelings of restriction were linked to worries about what might happen to their child's sleep and/or mood if sleep routines were not followed. Jen (mother of 14-month-old; No CSP) explained:

It [sleep routine] does [restrict], but it shouldn't do... I'm a bit more – I get a bit more obsessed with her sleep than my husband does because he will say... 'you can't be in prison, you can't live your life in the house because you both get bored'... I always just get concerned that it might affect her sleep in terms of, if she's really tired and she doesn't sleep, she might be really grumpy.

Many participants found sleep-related routines restricting in some way and for some, rigid adherence was perceived to limit families, impeding socialising and reducing joy and spontaneity. Mothers could feel trapped by their cognitions about their child's perceived needs and consequences of not following sleep schedules. This feeling could co-exist with appreciating the control over their own time their toddler's routine offered.

E. Sadness

This theme represents the sadness a small number of participants expressed about aspects of their child's sleep-related routines. Sadness was due to perceiving their sleep-related routines had caused distance in significant relationships (with a partner, a child or friends). Farah (mother of 2-year-old; Small CSP) expressed sadness at an aspect of her chosen routine, which meant she and her husband did not sleep in the same room and how this affected their relationship.

I think [I'd like] just maybe a closer connection with my husband. I'd – I feel – I mean, I know he's quite happy to sleep downstairs especially because he's not

having to be woken up by Child 1. But it just feels a bit sad that we're not sleeping together.

For Gemma (mother of 3-year-old; No CSP), it was routine that her husband put her toddler to bed. Her attempts to put her son to bed were rejected, which she found very distressing: "It's really hurtful, it hurts. That, really... I mean, it's good in a way because I want them to be attached to my husband because he's the one that's there. But it is quite hard to stomach". She felt sadness as her toddler's bedtime routine highlighted an emotional distance she perceived with her youngest child.

While expressed by only a few, feelings of sadness related to routines could be powerful.

F. Guilt

This theme represents some participants' feelings of guilt about aspects of their sleep-related routines. Guilt was primarily caused by participants' feeling aspects of their sleep-related routines might not be meeting the needs of all their children. Some felt the responsibility for balancing the needs of family members and could feel guilty if attaining this balance was difficult. Tania (mother of 1 year-old; No CSP) explained: "I feel guilty that it takes me away from Child 2 as well because ever since the baby was born, whenever time the baby has been asleep, I have been unavailable to Child 2."

Prioritising their own needs for time to themselves or for their child to have particular sleeping arrangements caused some mothers to feel guilty. For a small number of participants both separate sleeping and co-sleeping prompted guilt. Lila (mother of 3-

year-old; Very small CSP) felt guilty about prioritising her own need for sleep by co-sleeping with her daughter instead of insisting she sleep separately: “it [sleep training] would mean, as I say, disrupted nights for me. So selfishly, that’s why I haven’t done it.”

G. Worry

This theme represents participants’ feelings of worry during and about their sleep-related routines.

Worries about managing bedtime could start before the process began. Some participants talked about their worries leading up to bedtime, with feelings ranging from ‘nervous’ and ‘anxious’ to ‘apprehension’ and ‘dread’ about whether their child would co-operate and/or fall asleep quickly or not. Nikki (mother of 19-month-old; Moderate CSP) worried from after dinner about how long bedtime would take: “apprehension’s definitely set in by this point of how is bedtime going to go? Is it going to take hours?”

Some participants also worried about safety during particular routine activities: safe sleep arrangements, falling asleep while breastfeeding, and bathing and changing children caused concern. For example, Lucy (mother of 3-year-old; Very small CSP) said: “I’m a little bit worried about him falling over if he tries to get out of the bath”. As toddlers gained independence, tested limits and asserted themselves, parents found they wanted to do things for themselves and tried out more risky behaviours.

There were two associated subthemes: Worry about consequences of not following sleep schedules and Parenting uncertainty.

G.1 Worries About Consequences Of Not Following Sleep Schedules. This sub-theme represents participants' concerns about what might happen if their toddler did not sleep on schedule. In particular, unscheduled naps caused worries about consequences for bedtime and night-time sleep. Beca (mother of 2-year-old; Very small CSP) described her worries when her daughter napped unexpectedly:

If I feel like actually she's had a nap and I don't know when she's going to go to bed, I tend to feel a bit anxious or a bit uncomfortable. A bit – dread, really, is the best way to describe it.

The worst version is if she's had a nap late in the day ... and when it's like that, I just know that she's going to be up until midnight... And that's it, my evening's gone.

Some also worried that perceived insufficient sleep at different points of night/day would result in poor child mood, and having to manage tired and emotional toddlers. Anna (mother of a 2-and-a-half-year-old; small CSP) said: "It feels very frustrating because you know that he's going to be very cranky the next day, we know that we're going to be very cranky the next day and less able to deal with him". Participants particularly worried that lack of sleep due to toddler night wakings would affect their work or parenting. For example, Julia (mother of 3-year-old; No CSP) talked about her worries at her son's night wakes:

It's [child waking at night] always when I'm working the next day though, just to throw a spanner into the works. ... And I'm still really, really tired, but I just think that's the anxiety about work, then I'm like 'Aah! Now I can't go back to sleep'

For some mothers, worries about next-day consequences for their own functioning could intensify frustration at being woken, or a lengthy sleep onset. Worries about

maintaining sleep schedules and their child's mood could also intensify feelings of restriction, as they caused some participants to feel unable to go out.

G.2 Parenting Uncertainty. This subtheme represents mothers' worries about whether their sleep-related routines were the 'right' for their child's sleep or emotional development. Expectations of child sleep could contribute to mothers' self-doubt. Some participants reported having strong feelings in the past that their management of their child's sleep must be wrong. Siobhan's (mother of 1-year-old; Very small CSP) description of 'panic' showed how powerful these worries could be:

I read all the baby books to tell you what your baby's supposed to be doing, what they should be doing. ... I had myself in a right panic because my baby was doing none of these things. And so, I was like what's wrong, what am I doing wrong?

Participants had mostly grown more confident about sleep management as their children grew, however, uncertainties about sleep location and settling methods remained. Worries about how different ways of managing sleep might affect their children's emotions were reported by many participants. Nikki (mother of 19-month-old; Moderate CSP) expressed the mental struggle of being unsure about how to settle her daughter:

we know possibly we're not helping things because are we confusing her because we're in there? Does she think 'Ok it's time to play because I'm asking for this and I'm getting it'? But at the same time, we're not prepared just to leave her in her room crying even though she can understand and does know it's bedtime.

Some worried that their children might feel abandoned and afraid if left to cry, but some also wondered if their presence was creating problems. They could feel torn between their children's perceived emotional and sleep needs. Julia (mother of 3-year-old; No CSP)

felt this was a wider parenting dilemma: “I’m probably being too permissive. But I’m trying not to be permissive, I’m just trying to be authoritative, rather than authoritarian and I think that’s a difficult balance to gain.”

Some participants worried about finding the balance between limit-setting and being sensitive to their child when managing their sleep. This could reflect deeper fears about their capabilities as a parent.

H. Frustration and Anger

This theme represents participants’ frustration (annoyance or upset at being unable to change or achieve something) and anger linked to aspects of their sleep-related routines. Bedtime routines could be frustrating due to the conflicting needs of multiple children and/or getting multiple tasks done in a short time, as well as toddlers’ lack of co-operation with routine activities, such as bathing, brushing teeth or getting changed. Louisa (mother of 1 year-old; Small CSP) said: “I used to try and sort of coax her and take ages telling her to put it [toothbrush] in her mouth. And then she normally wouldn’t do it anyway and I’d feel really frustrated”.

The overall length of time it took to settle toddlers was frustrating for many participants, particularly because this could mean losing much-needed time to relax and unwind in the evening. Siobhan (mother of 1-year-old; Very small CSP) described her feelings when settling was lengthy: “it’s a bit stressful and frustrating. You’re like ‘Oh! This is the only time I have of an evening just to not have anybody talking to us, or needing something!’”.

Night wakings were experienced as particularly frustrating and some felt anger at being woken. Portia (mother of 3-year-old; Moderate CSP) expressed the lack of comprehension a number of mothers felt about toddler's night time behaviour: "it's just that 'Why won't you sleep' especially when he will wake up and be quite demanding of wanting to watch the tablet".

Mothers' tiredness was a factor in how frustrated or angry they felt, as well as the demands on them and the length of the waking. Worries about their own ability to work or parent increased the strength of emotions for some participants, as Farah (mother of 2-year-old; Small CSP) described:

when I lacked sleep, I was really – I wasn't – I didn't like myself. I felt like I got angry easily. ... And I'd get really cross and frustrated when he wouldn't sleep and I'd find myself getting really angry with him. And that terrified me because I didn't think – you know, I thought I should love him.

Overall, bedtime routines, particularly personal care activities, could often be frustrating due to child behaviour. However, the deepest frustrations were expressed when toddlers did not sleep at expected times and when they woke at night. This frustration could be intensified to anger by parental tiredness and by worries about negative consequences for child mood, parents' own functioning and disruption to their child's future sleep patterns described in subtheme G.1.

1. Acceptance

This theme represents participants' descriptions of accepting aspects of their child's sleep-related routines, which they recognised might be considered challenging. Jen (mother

of 14-month-old; No CSP) summed up this feeling: “So, I have no good or bad feelings about it [night waking], it’s just part of the process”.

Children’s lack of co-operation during the bedtime routine could be accepted when participants looked through their child’s eyes. Once the child’s perspective was considered, the challenging behaviour made sense and was not seen as personal. Amy (mother of 2-year-old; Small CSP) explained how she accepted her children wanting to continue playing: “They’re just excited. Like I feel bad for them because they don’t see each other during the day very often and they’re at nursery and school and stuff, and they want to hang out together”.

Some mothers rejected negative emotions and accepted unplanned naps and ensuing later bedtimes by being flexible. Julia (mother of 3-year-old; No CSP) found accepting the adapted schedule could allow her to enjoy the opportunity for closeness with her son:

And actually, sometimes I actively make the decision when he’s gone to bed at 9 that I’m so tired that I will go to sleep at that point as well and actually I really like doing that because I like falling asleep next to him. It’s really lovely, it’s not something that’s going to happen forever and I’m totally on board with that.

Acknowledging that her child would grow out of his current sleep behaviours allowed her to feel joy rather than negative emotions at the loss of her evening time. Many parents reported managing their feelings by taking a similar longer-term view.

Remembering that their choices were in line with their own parenting values helped some mothers accept their child’s need for their presence at sleep onset. Sonya

(mother of 2-year-old; No CSP) explained that knowing she had rejected 'sleep training' helped her be at peace with long sleep onsets: "[sleep training]'s not an alternative for us... So, it's, it's quite an easy decision, there's not the mental challenge that comes with it because the alternative is something that we're not happy with".

Several participants reported noticing what was working well and actively rejecting negative feelings, such as guilt and worry to accept their toddler's sleep behaviours. Using developmental outcomes as guides, not hours of sleep, reassured Nikki (mother of 19-month-old; Moderate CSP) and helped her to accept her daughter's sleep:

I just accepted that ok, she doesn't sleep great... If she wants to sleep longer, when she's ready she will. And that's definitely helped. ... I feel better because I don't feel like I'm constantly trying to figure out how to get her to sleep better and worrying is she getting enough sleep, is she going to develop ok because sleep's obviously great for development. Just accepting that actually no, she's absolutely smashed all her things, she's a really clever little girl.

For many participants, choosing to accept their toddler's sleep behaviours and the ways they had chosen to manage them had strong emotional benefits of reducing guilt, worry and frustration.

8.4.1 Overview of Feelings Experienced In Relation To Toddlers' Sleep-related Routines

Feelings about particular activities varied between and within individuals: experience of an activity was often dependent on contextual factors (e.g. partner support, child response, or how long the activity took). Watching television, talking about the day, singing songs, saying goodnight and giving a drink of milk elicited only positive feelings.

Positive, negative and neutral emotions were reported during play, personal care and settling activities. Negative feelings and acceptance were particularly experienced during lengthy sleep onset, night wakings, and when toddlers' usual daytime sleep patterns were disrupted. A number of participants reported that they held both positive and negative feelings, as well as acceptance about their overall sleep-related routines (see Appendix U.)

8.5 Discussion

Mothers reported positive and negative feelings during and about their sleep-related routines: enjoyment, relaxation, restriction and freedom, sadness, guilt, worry and uncertainty, frustration and anger, and acceptance. Enjoyment, frustration and anger were largely transient and linked to a particular point in the sleep-related routine. Happiness, relaxation, freedom, restriction, worry and uncertainty, guilt, sadness, and acceptance could be felt in-the-moment during particular activities, but could also be more persistent feelings about participants' overall sleep-related routines.

The present research found wide individual variation in participants' feelings during particular activities that formed part of their toddlers' sleep-related routines. Different activities were enjoyable for different participants, although mothers consistently reported feeling happy when children co-operated and enjoyed activities, when they felt a parent-child connection and when timings were perceived as 'right' (i.e. there was sufficient time for the activity and it did not take too long and was perceived as appropriately timed). Prior research indicates the importance of parent-child enjoyment during bedtime routines for child sleep outcomes (Dubois-Comtois et al., 2019; Hoyniak, Bates et al., 2021). Including enjoyable activities might also enhance adherence to sleep-related routines, by providing positive reinforcement for parents, as well as for children (Kitsaras, 2021b; Mindell &

Williamson, 2018). Enjoyable routines may benefit maternal wellbeing and family functioning, with previous qualitative studies reporting that parents find quality time connecting with children important for family harmony (Muller et al., 2019a; Sviggum et al., 2018). A novel finding of the present research was identifying bedtime activities which were experienced as particularly enjoyable and relaxing: talking about the day, singing, watching television, giving a drink of milk and quiet play. Only singing is included in NHS suggested bedtime routine activities (NHS, 2023). However, a recent research definition of an 'optimal' bedtime routine does include parent-child interaction such as singing, cuddling or playing (Kitsaras et al., 2021b). Guidance about sleep-related routines could be broadened to suggest a range of activities, emphasising that sleep-related routines should be enjoyable and practical for the individual family. The focus of advice should perhaps be on the feelings fostered in parents and children, rather than individual activities per se.

The current work also illustrates that the same routine activity could be experienced differently by the same participant depending on the child's response. Where children did not co-operate and/or activities went on for longer than mothers wanted, they often felt frustration, even during activities they usually enjoyed. For example, when children fell asleep fairly quickly, settling activities such as cuddling to sleep could be enjoyable. However, when prolonged, these could be experienced as claustrophobic, aversive and could provoke frustration, or even anger. Anger was reported during lengthy settling at bedtime or in the night, consistent with a previous qualitative study (Muller et al., 2019a). Parental cognitions of anger have been associated with increased night wakings in young children (Johnson & McMahon, 2008; Morrell & Steele, 2003; Morrell, 1999; Zreik et al., 2021). This suggests the importance of aligning child sleep pressure with timing of the bedtime routine, which can be challenging in 1-3 year olds (see Chapter 7, section 7.4, Theme A). The present research extends understanding of parental anger in relation to

child sleep by illustrating how caregivers' worries about their own daytime functioning and that of their child could intensify frustration into anger. Existing measures of parental sleep-related cognitions do not capture parents' worries about daytime functioning of themselves and/or their child, which could be important to address when supporting families (Morrell, 1999; Sadeh et al., 2007). Exploration of parental cognitions about daytime functioning and child sleep outcomes would be useful to establish whether this is a possible therapeutic target using, for example cognitive behavioural therapy (CBT) to support caregivers managing toddler sleep.

The present work also adds that unplanned toddler daytime sleep can cause mothers frustration, worry and anger, as has been found in relation to difficulties with night-time sleep. Participants' worries about consequences, including their child's functioning, likely bedtime struggles and their own ability to function without child-free time, intensified such feelings. It is not currently known whether the emotional climate resulting from missed or unexpected naps affects same-day bedtime routines and/or night-time sleep and this is an area for future investigation. In Chapter Seven, it was reported that participants perceived how creating an optimal sleep window by balancing toddlers' levels of tiredness and managing daytime sleep directly benefited their toddlers' sleep. The current research suggests that managing daytime activity levels and sleep in toddlers may also benefit child sleep indirectly by promoting more positive caregiver feelings throughout the day and at bedtime. Thus, some families experiencing lengthy and aversive bedtime routines with their toddlers could benefit from age-specific guidance on managing nap-dropping in toddlers through daytime sleep-related routines. Assessing caregivers' worries and feelings related to sleep-related routines around the clock could be important for tailoring positive sleep-related routines for individual families.

Wide variation in individuals' feelings about their overall sleep-related routines was found in the present research, as well as in relation to particular routine activities. For some, the predictability of a consistent schedule was relaxing and gave freedom as it allowed them to know when they would get time for themselves. Some, however, found such a schedule stressful, restrictive, socially isolating and joyless. Interestingly, these perceptions of routines could co-exist. This extends the finding that some parents do not implement routines, perceiving them as restrictive and illustrates that mothers can choose to implement routines despite perceiving them as restrictive, if they feel they are in the best interests of their child and family (Jones & Ball, 2014). While negative emotions about routines may prevent some from implementing consistent sleep-related routines (Kitsaras, 2021b), the present research demonstrates that some mothers will continue with routines they find aversive if they feel it benefits their children. This is consistent with previous qualitative studies, which found that some mothers sacrifice their own needs and wellbeing to support the family sleep situation (Muller et al., 2019a; Smith, Galland, et al., 2019). The present work illustrates the emotional toll this can take. Therefore, as previous studies have recommended, HCPs and health messaging should encourage mothers to consider their own needs as well as those of their children. Sensitivity to feelings of guilt surrounding family sleep and sleep-related routines and to desired parental approaches to managing sleep is important when supporting families (Muller et al., 2019a and Smith, Galland, et al., 2019).

The current research further adds that HCPs should be alert to parental over-adherence to sleep-related routines, where following a routine impacts negatively on a family member(s) by restricting everyday activities. While using the same bedtime routine nightly may be most beneficial for individual child sleep outcomes (Fiese et al., 2021; Mindell et al., 2015), it is also important to consider caregiver experience and the family's

social network when supporting families to find sleep-related routines which work for their family. The present work illustrates the stress some mothers feel when attempting to follow sleep-related routines to a degree which does not fit their personal values, identity or social context. Advice should therefore be aligned with a family's values, priorities and preferences wherever possible, both to increase adherence and benefit caregiver wellbeing.

Some mothers in the present study did not consider consistent sleep-related routines as unequivocally in their child's best interests, particularly if their child protested about routine activities and/or timings. This partially overlaps with previous research. In one qualitative study, some parents recommended fixed schedules to manage child sleep and others preferred to follow child cues, representing different approaches to parenting, as were reported in the present study (Gustafsson et al., 2021). Some mothers in the current research felt uncertain about the consequences for child sleep and/or emotional wellbeing of settling activities and sleep locations that were part of their toddlers' sleep-related routines, as has been reported in previous qualitative research (Sviggum et al., 2018). Also consistent with previous research on parental cognitions, some mothers in the present work felt that failing to respond to a child's cries might make one a bad parent (Morrell 1999). Parental worries about child distress and difficulty limit-setting have been associated with differences in how children are settled at bedtime and increased night waking (Tikotzky et al., 2010a). The present study extends these findings by illustrating that such cognitions can also influence mothers' ability to implement consistent sleep-related routines. Some participants felt acquiescing to their toddler's protests about particular activities by changing routine activities and timings was important for their child's emotional wellbeing. Some did not feel comfortable imposing a routine on their child. One expressed reservations that implementing routines might require 'sleep training', which

previous research in the UK has found is negatively regarded by some parents (Cook et al., 2022b). This has created a barrier to seeking sleep management support for some parents because of perceptions that support would not align with their personal values and preferred parenting style (Cook et al., 2022b).

Mothers' worries about balancing limit-setting and emotional responsiveness reported in the present study are important to address, as difficulty setting limits has been associated with adverse toddler sleep outcomes (Morrell, 1999; Tikotzky & Shaashua, 2012; Zreik et al., 2021). Teti et al. (2010) found that maternal emotional availability at bedtime was positively associated with beneficial child sleep outcomes. However, as well as responding sensitively to children, emotional availability also included structuring (scaffolding children's activities and limit-setting). Taken together with previous research, the present study suggests that sleep guidance should acknowledge the importance for some parents of responding to their child's perceived emotional needs. Sleep education, particularly about emotional benefits and sleep outcomes associated with different settling activities, sleep locations and consistent sleep-related routines might benefit some parents by allaying concerns. Guidance on strategies for balancing structuring and nurturing responses to toddlers during sleep-related routines may also benefit some caregivers.

Above all participants in this study demonstrated huge emotional resilience. Even in a group dealing with relatively mild parent-perceived CSPs (see Chapter Five, Figure 4), parents described the challenges and complexities of managing their own emotions about and during their toddlers' sleep-related routines. Choosing acceptance was a key strategy, as also recommended by parents living with CSPs in a previous qualitative study (Gustafsson et al., 2021). The present study adds information about a range of cognitive strategies mothers used to help them choose acceptance in place of more negative feelings

of guilt, worry, stress and frustration. For example, mothers reported taking their child's perspective on a situation, taking a long-term view to put the current situation in perspective, remembering that they had made choices and the reasons for those decisions, focusing on the positives of the situation and actively rejecting negative feelings. Results from the current work suggest acceptance may be a helpful strategy for some parents struggling to manage their young children's sleep and associated emotions. Acceptance and commitment therapy (ACT) which emphasises mindfulness and cognitive flexibility could therefore support the wellbeing of some caregivers as they manage their toddlers' sleep.

8.6 Strengths and Limitations

General sample limitations have previously been discussed (see Chapter 5, sections 5.5.1 and 5.5.2 and Chapter 6, section 6.6 for discussion of general limitations of the sample in terms of their homogeneity and potential transferability of results). However, in particular, the high levels of confidence in managing child sleep and lower frequency of night wakings reported by participants in the present research compared to other published samples could have affected the range of feelings reported. One third of interviewed mothers perceived their child's sleep as a small or moderate problem, similar to previously reported samples (e.g. Cook et al., 2018; Mindell, Lee, et al., 2017; 2022; Sadeh et al., 2009). However, no parents perceived a serious sleep problem, thus conclusions from this study may not be applicable to families experiencing severe difficulties with child sleep. Parents of children with severe CSPs may have heightened experiences of emotional challenges expressed by the current sample and this requires investigation.

As previously acknowledged, a primary limitation of this research is that only mothers were interviewed (see Chapter 7, section 7.6). This is a particular limitation for this

research question, as research has shown differences in cognitions between mothers and fathers (e.g. Cook et al., 2022a; Sadeh et al., 2007). Thus, these findings may not apply equally to both parents and research with fathers is required. However, exploration of mothers' feelings is important as it has been suggested they experience child sleep challenges differently from fathers and may experience a higher emotional burden (Lollies et al., 2022; Smith, Galland, et al., 2019).

Interviews were carried out during the Covid-19 pandemic when restrictions on socialising and working were in place. This impacted some participants' feelings about their sleep-related routines: some said they felt less restricted than they would otherwise, as recreational activities and opportunities for socialising were curtailed by law. There was, in effect, much less to feel they were missing out on. Some also found their partners working from home benefited them emotionally, as there was another pair of hands during the bedtime routine. Participants mentioned reduced frustration and safety-related worries, and increased relaxation, enjoyment and happiness resulting from these aspects of the pandemic. This limitation highlights the importance of social and cultural factors in mothers' feelings about their young children's sleep. Results from this study are not, however, solely reflective of the pandemic experience as participants reflected on their pre-pandemic as well as current experiences. For some, this extended over years as they also spoke about experiences with a previous child.

As discussed in Chapter 6, section 6.6, the main strength of this study was in using a qualitative approach, which asked open-ended questions and took an inductive approach to analysis. This was of particular benefit for this research question, as it allowed exploration of parental cognitions not assessed by research to date. This methodology permitted the interrelation of different participant feelings, such as how worries intensified

other negative feelings, to be drawn out, and also how apparently conflicting feelings could co-exist. Furthermore, limiting the use of the word 'routine', which is considered socially desirable and a hallmark of good parenting until later in the interview may have permitted participants to describe negative feelings and experiences (Hall et al., 2018; Koulouglioti et al., 2011). At the same time, there was an element of power imbalance between researcher and participants, who may not have been willing to reveal the full extent of negative feelings in a face-to-face interview (see Chapter 4, section 4.4 for further reflection). Asking about different points in the 24-hour cycle allowed participants to describe feelings particular to toddler sleep, such as frustration and worries about consequences of irregular daytime sleep. This had the benefit of extending understanding of how toddler sleep and its impact is firmly embedded in the full 24-hour period, which was previously drawn out in chapters 6 and 7. It further allowed the importance of the social context and wider social network of the family unit in managing toddler sleep to be explored.

8.7 Implications

The present research has a range of methodological, theoretical and practical implications.

8.7.1 Methodological

1) This research shows the importance of using qualitative methods to explore parental cognitions about managing child sleep, as these permit exploration of how different thoughts and feelings are interrelated. For example, the present research has

shown the central role particular worries can play for some mothers experiencing relatively mild CSPs in intensifying feelings of restriction, frustration and anger.

2) The need for research capturing parental feelings about child sleep over different time frames, rather than in one-off questionnaires alone, has also been raised. For example, mothers' feelings about their routines overall can be persistent over time, which could have implications for children's sleep and parental wellbeing. However, there may also be day to day variations in mothers' experiences of their children's sleep-related routines, which may have implications for their children's sleep. Real-time capture of parents' feelings at different points within the 24-hour cycle and across a number of days is needed to understand how caregivers' feeling about managing their children's sleep are related to child sleep and their own wellbeing.

8.7.2 Theoretical

1) Exploration of the range of caregiver cognitions which may be associated with child sleep requires expansion to include caregivers' concerns about their own daytime functioning, the extent to which other family members' needs are being met, their relationships with family members, concerns about toddlers' emotional development and wellbeing, as well as health of themselves and their child. The present research indicates that these cognitions may be related to child sleep directly by affecting the emotional climate of sleep-related routines and indirectly by affecting routine composition and consistency. This research found that parental cognitions about child sleep also related to their employment and social contexts. This is reminiscent of the transactional model of child sleep in which the interrelation of child, caregiver and contextual factors affecting

child sleep is emphasised (Sadeh & Anders, 1993; Sadeh et al., 2010; see Chapter One, section 1.10 for further detail).

2) A further consideration for work in this area is in the conceptualisation of routine consistency. Many mothers' reported feelings of restriction and/or guilt related to their children's sleep-related routines in the present study. Therefore, it must be questioned whether it is appropriate for measures of routine consistency to include assessment of whether the same caregiver is always involved in delivering the routine, as if this is an optimal component of routine consistency (Henderson & Jordan, 2010). Encouraging routines which can be carried out by multiple caregivers might be important for maternal wellbeing and mental health, which in turn is likely to benefit children's development. This raises the broader need for research in the area of child sleep management to consider caregivers' wellbeing and wider family functioning as well as sleep outcomes for an individual child.

8.7.3 Practical

1) Use of sleep-related routines is not universally regarded as a positive intervention for child sleep. Guidance should acknowledge the importance for some mothers of responding to their child's perceived emotional needs and should make clear that sleep-related routines can be made to be appropriate for families with a range of parenting approaches and values.

2) HCPs and health messaging should encourage mothers to consider their own needs as well as those of their children when creating and implementing sleep-related routines with their young children. Including both parents in sleep guidance may help

families to take shared responsibility for sleep-related routines. HCPs should be alert for possible over-adherence to routines, which could be detrimental to caregiver wellbeing. Rather than a one-size-fits-all approach, individual routines should be encouraged, which fit family preferences, circumstances and needs.

3) Implementing sleep-related routines with toddlers can be emotionally challenging for mothers, even where CSPs are perceived as relatively mild. Guidance should recognise this and suggest practical strategies for balancing structuring and nurturing responses to toddlers to encourage them to participate in sleep-related routines. Mutual parent-child enjoyment of routines should be emphasised.

4) CBT for caregivers may benefit child sleep by changing cognitions which are related to particular sleep management behaviours with children. Furthermore, for caregivers who do not wish to change their child sleep management approaches, therapies such as mindfulness and ACT could help caregivers manage their emotions related to their toddlers' sleep.

8.8 Future Research

Further qualitative research is needed with different groups, including fathers and parents experiencing severe CSPs, to develop more comprehensive understanding of parental cognitions related to child sleep. Such research could also contribute to the development of more comprehensive measures of parental cognitions and child sleep management.

Investigation of the relationship between caregivers' feelings at different points of the 24-hour cycle, the ways they manage their young children's sleep and children's sleep outcomes are now needed. Furthermore, there is a need to research relationships between caregivers' feelings about child sleep and its management over time and caregiver wellbeing and mental health outcomes. Such future work should particularly consider possible detrimental impacts of over-adherence to sleep-related routines.

Investigation of the types of guidance parents would like to support implementation of sleep-related routines with their 1-3 year olds would be helpful. Co-production of sleep guidance is likely to lead to better engagement and better meet parental needs. Intervention studies are also needed to establish whether providing practical strategies for encouraging toddlers to participate in and contribute to the composition of their routines can have benefits for child sleep and/or caregiver wellbeing.

Intervention studies using psychological therapies including CBT, mindfulness and ACT are needed to establish what works to benefit child sleep, caregiver sleep and caregiver wellbeing, and for whom different therapies are acceptable and appropriate.

8.9 Chapter Summary and Conclusions

This chapter presented results from semi-structured interviews with mothers, in which they described how they felt during and about their toddlers' sleep-related routines. Individual parents and families can have very different emotional experiences of sleep-related routines depending on a range of child, caregiver and contextual factors. Participants reported positive feelings of enjoyment, relaxation, and freedom, as well as negative emotions of restriction, worry, guilt, sadness, frustration and anger. A neutral

feeling of acceptance was also widely experienced. Participants described relationships between different feelings they experienced, notably how worries could intensify frustration and how they could reject negative feelings of worry and anger and choose acceptance.

The feelings caregivers experience during and about their routines may impact child sleep and/or caregiver wellbeing. Along with individual child sleep outcomes, caregivers should be encouraged to consider their own needs and those of other family members to shape routines which are positive for the whole family. Addressing parental concerns about the emotional consequences of sleep-related routines for toddlers and advice on balancing limit-setting and emotional sensitivity may be important for engaging some families with adhering to sleep-related routines. Guidance should be tailored to individual families' values, priorities and preferences so that more families can benefit from improved child sleep and family wellbeing.

This chapter has shown that caregivers' feelings about their toddlers' sleep-related routines are an important factor to consider in supporting families. Exploration of other barriers and facilitators to implementing sleep-related routines with toddlers is now needed.

Chapter 9 will present the results from Phase Two interviews in relation to the fourth research question: What are the parent-perceived barriers and facilitators to consistent use of their sleep-related routines?

Chapter 9 RQ4: What Are the Parent-perceived Barriers and Facilitators to Consistent Use of Their Preferred Sleep-related Routines?

The preceding chapters have shown that implementing successful sleep-related routines with young children is a complex parenting behaviour, which can bring emotional benefits to children and caregivers, as well as benefiting child sleep outcomes. Chapter 8 also illustrated that sleep-related routines with young children can be emotionally challenging for caregivers for a range of reasons including child, caregiver and other factors. It was therefore argued that both child sleep and family wellbeing should be considered when creating and implementing sleep-related routines with toddlers. Regular implementation of appropriate sleep-related routines has the potential to benefit families' sleep and functioning. Understanding of the factors which support and inhibit families in consistently following their chosen sleep-related routines is necessary for providing appropriate support for this important health behaviour. This chapter therefore presents participant-perceived barriers and facilitators to consistent use of their sleep-related routines.

9.1 Introduction

Given the range of potential benefits for sleep health, promotion of consistent sleep routines for young children is an important public health priority (see Chapter 2, sections 2.3 and 2.4). However, despite the benefits for child sleep, many parents do not follow consistent sleep-related practices. While between 80-90% of parents report having a bedtime routine, only between 44-70% report following their routine nightly, with studies reporting around a third followed their routine four nights/week or fewer (Covington et al., 2019; Mindell & Williamson, 2018; Mindell et al., 2015; see Chapter 3, section 3.1). Parents

also report including activities that are not recommended (e.g. television and running around) in toddlers' bedtime routines (Mindell & Williamson, 2018). Understanding barriers and facilitators of parents' use of sleep-related routines with their children may therefore be important for developing relevant guidance about routines and increasing adherence.

Three UK-based studies have explored barriers and facilitators to use of routines to manage sleep in 3 year olds and in 3-7 year olds (Jones & Ball 2013; 2014; Kitsaras et al., 2021a). Jones & Ball (2013; 2014) found cognitive, affective and practical barriers and facilitators, including child enjoyment and parental attitudes to routines. Kitsaras et al. (2021a) found a broad range of factors impacted consistent use of bedtime routines in 3-7 year olds, including parental tiredness and routine behaviours becoming automatic due to habitual use. While attitudes to nap management were explored in one study, the inter-relationship between daytime and night-time routines was not explored (Jones & Ball, 2013). Furthermore, although the efficacy of particular routine activities has yet to be determined, these studies considered barriers and facilitators to pre-determined 'optimal' activities during the bedtime routine, rather than parentally-defined sleep-related routines (Mindell & Williamson, 2018; Staples et al., 2015). Chapters 6, 7 and 8 of this thesis have argued, however, that sleep-related routines may look different across families. Exploration of what helps and hinders parents in maintaining their own routines is therefore needed (see Appendix R for details of activities, behaviours and practices comprising individual participants' sleep-related routines with their toddlers).

The strongest evidence for the benefit of sleep-related routines emphasises the importance of consistency (the number of nights/week a routine is followed) of bedtime routines, although the relative contributions of sleep timing or use of the same activities

are unclear (Mindell & Williamson, 2018). The results presented in Chapter 8 indicated that some mothers may implement routines they find emotionally challenging, however, recent research has indicated the importance of mutual parent-child enjoyment for child sleep (Dubois-Comtois et al., 2019; Hoyniak, Bates et al., 2021). Caregiver wellbeing may also be affected by regular exposure to negative feelings. For this reason, this chapter focuses on barriers and facilitators to participants' ability to implement their preferred sleep-related routines, meaning routines which consisted of components parents wanted to implement. Thus, this chapter reports factors participants perceived as influencing their ability to regularly use their preferred routine components in the same order, and the timing of those activities.

9.2 Study Aims

It is currently unknown what barriers and facilitators UK-based parents of typically-developing 1-3 year olds experience in implementing their preferred sleep-related routines with their toddlers. This research aimed to explore the question: What are the parent-perceived barriers and facilitators to consistent use of their preferred sleep-related routines with their toddlers?

9.3 Method

Methodological information is provided in chapter 4, section 4.3, but in addition the following are specific to this chapter.

This qualitative study used online semi-structured interviews to explore 21 mothers' experiences of using sleep-related routines with their toddlers. The areas explored included:

- 1) what affects whether particular elements of sleep-related routines are used consistently night to night
- 2) parents' perceptions of the advantages and disadvantages of sleep-related routines
- 3) any changes they would like to make to their current sleep-related routines
- 4) the facilitators and barriers parents perceive to using their sleep-related routines consistently

Interview data were analysed using reflexive thematic analysis with a semantic approach to identify facilitators and barriers to parents' consistent use of their preferred sleep-related routines with their toddlers (Braun & Clarke, 2006; 2012; 2019; see Chapter 4, section 4.3.5 for further detail). An inductive approach to coding was used, whereby data were coded without reference to any specific theoretical framework. However, coding was informed by awareness of cognitive, affective and practical barriers and facilitators known to affect parents' sleep-related practices (e.g. Jones & Ball, 2013; 2014; Kitsaras, 2021b).

9.4 Results

Themes are presented, which represent factors which parents perceived as influencing their ability to consistently implement their preferred sleep-related routines with their young children. This is followed by a table summarising how these influencing factors acted as barriers and facilitators to consistent implementation of participants'

chosen sleep-related routines. Further participant quotations supporting each theme and subtheme can be found in Appendix W.

Seven themes were identified, two with one associated subtheme, which represented factors parents perceived as influencing their ability to consistently implement their preferred sleep-related routines with their toddlers. Parents reported that these factors influenced toddlers' sleep-related routines in different ways, with some acting as both as facilitators and barriers to consistent implementation of their preferred routines. For example, within the theme 'Formation of Habits' some participants described how automaticity facilitated maintenance of their routines, while others described habits forming which resulted in sleep-related routines they found undesirable.

A Child Factors

This theme represents a number of child factors determined by individual children's preferences and needs, which parents perceived as affecting whether or not they regularly implemented the sleep-related routines they considered optimal for their child and family.

Firstly, children's individual preferences for particular people and activities strongly influenced whether routine activities were carried out on a given night. Some participants reported that their toddlers' preferences for particular activities, such as bathing or reading stories changed over time and became a barrier to consistently including such activities. Lucy (mother of 3-year-old; Very small CSP) described how her son's changing feelings about stories affected whether or not reading was part of his bedtime routine: "Quite often

he's refusing a story at the moment, but last night he was really into it, so he had a couple of stories last night".

Child preferences also often powerfully influenced the location where they were put to sleep, settling activities and which parent carried out routine activities. Mothers reported changing these elements of their routines in response to their children's expressions of distress, often resulting in routines they were not satisfied with. Gemma (mother of 3-year-old; No CSP) described how her child's distress at being left to self-settle had resulted in a routine which caused her family a lot of stress.

And so, with Child 2, I lie next to him on the floor of his bedroom for sometimes an hour and a half of an evening because he gets really upset if I leave him. Which is a really difficult one... we didn't used to do it and then they started asking for it

A number of parents reported regularly carrying out activities their child preferred to help them sleep, even if they were uncomfortable, unenjoyable or inconvenient for caregivers. Both child preferences and the level of protest acted as barriers to consistently using the same activities from night to night and to implementing caregivers' preferred activities and settling methods.

A second individual child factor was children's fluctuating sleep needs. Many parents described how different amounts of daytime sleep impacted on the timing and content of bedtime routines, particularly when children were in the process of consolidating sleep and dropping naps. Fatima (mother of 3-year-old; No CSP) explained how her son's varying sleep need affected their bedtime routine:

he can't make it through the whole week really without a midday nap, he gets a bit too tired... And if he does nap then he'll be asleep for 2 or 3 hours and then it'll be

kind of out the window – he might wake up and have a snack and then have dinner with us at 8 or something. And I might then bath him before dinner and he'll have a late dinner with us and then go to bed late

Children often stayed up later or went to bed earlier depending on whether they had napped in the day. Routine activities were removed or added according to how quickly toddlers needed to be put to bed.

Overall, toddlers' development could make maintaining consistent sleep-related routines challenging for parents, as they presented with new preferences and aversions, exercised their growing desire to control surroundings, experienced fluctuating levels of separation anxiety and continued to consolidate their sleep.

A.1 Multiple Children. The associated subtheme, *Multiple children*, represents the barrier to consistency posed by meeting the needs of more than child. Having more than one child posed logistical barriers to toddler bedtime routines due to the sometimes competing needs of siblings. Nicola (mother of 2-year-old; No CSP) said:

if I'm trying to get him [child] to sleep – She [sibling] would come into my room and be upset and want into my bed. And then if she gets into my bed it disturbs him and they want to play and it just means the whole thing just goes to pot.

The emotional needs of older and younger children could make it difficult to maintain a consistent routine. Sibling interaction could also make it difficult to calm children down, particularly if one caregiver had to manage bedtime for both children.

B. Formation of Habits

This theme represents how sleep-related activities, either pre-planned or adopted reactively, could quickly become habits for both parents and children. This could be both a barrier and/or facilitator to consistent use of participants' preferred sleep-related routines.

Routines could easily form in reaction to the tasks parents perceived as daily necessities, allowing completion of necessary childcare with minimal thought. Louisa (mother of 1 year-old; Small CSP) explained how her daughter's bedtime routine had come about:

And I just feel like it's essential that I brush her teeth and essential that I give her that basic level of hygiene and it's essential that I get her in a sleeping bag, so those things are done for what I deem to be very basic essential parenting purposes, rather than because I have any philosophy about a routine.

However, a small number of parents found that they fell into routines that they had not chosen and wanted to change. Beca (mother of 2 year-old; Very small CSP) described how reactive use of a mobile phone to calm her daughter before sleep had become habit:

you get into these bad – I don't know how to describe them – like bad parenting spirals down, where things are getting worse. Like something you're not happy with is now – is coming out of control, and you don't know how you got there, but you're here now.

It could take time for parents to realise that a particular activity or practice had become part of an undesirable routine. Changing activities could then be difficult as children protested.

C. Parental Beliefs About Sleep

This theme represents three particular caregiver-held beliefs about sleep which affected the consistent implementation of their preferred sleep-related routines.

Firstly, the belief that toddler sleep cannot be changed and is most strongly influenced by intrinsic child factors, such as developmental stage was a powerful barrier. Around half of mothers reported that they felt the changes they would like to make to their child's sleep-related routines, such as having their child fall asleep independently or in their own bed, would come with time, rather than with active management. Sonya (mother of 2-year-old; No CSP) expressed this hope: "I would love it when she gets to the stage that she can put herself to sleep and she doesn't need an active input, but she's two and it'll happen when it happens". This belief could mean that participants doubted their capacity to make desired changes to their routines. With the exception of daytime sleep affecting bedtime, many mothers were sceptical that they could influence toddler sleep. As Siobhan (mother of 1-year-old; Very small CSP) said: "I don't know if there's anything I really can change that I would like to".

Secondly, participants expressed the belief that routines benefited toddler sleep and this facilitated consistent implementation of their routines. This belief was often held, despite believing that toddler sleep was primarily influenced by intrinsic child factors. However, some were equivocal about the benefits of routines at bedtime, like Beca (mother of 2-year-old; Very small CSP):

I sometimes wonder if we think they [bedtime routines] help more than they help?

In that with Child 1, I think if I didn't do any routine with her, I think she'd still

probably go to bed not that long after the time she goes to bed anyway. But that might just be her.

Most participants conversely believed strongly that daytime sleep timings affected toddler bedtime, based on their direct experience of difficult bedtimes following unscheduled naps. This motivated managing daytime sleep and thereby facilitated consistent bedtimes, as Jen (mother of 14 month old; No CSP) described:

I don't let her sleep past 4 o'clock. So, if she doesn't nap all day and then she's tired at 4, tough, she's had the opportunity to sleep all day... Because if she sleeps past 4 then bedtime can be quite tricky.

Overall, the strength with which participants held the belief that a particular aspect of sleep-related routines benefited toddler sleep influenced whether or not it was consistently implemented. Mothers' direct observation of developmental changes in their toddlers' sleep and effects of daytime sleep on same-night sleep caused them to believe that these factors strongly influenced child sleep. While most had a bedtime routine and to some extent thought this was beneficial for child sleep, the effects of a bedtime routine were less tangible than those of daytime sleep routines.

A third belief that influenced participants' use of sleep-related routines was the belief that sleep is important for parent and/or child. Mothers kept routines consistent because sleep was an important priority for them, as Nikki (mother of 19-month-old; Moderate CSP) explained:

we stick to them [sleep-related routines] because we want Child 1 to have a better night's sleep. We know that if she misses a nap, she's not going to sleep as well at night and ultimately that means we won't sleep as well at night. And we just want,

yeah, everyone to have the best night's sleep they can. And if that means we have to miss a few things or we have to be a bit more rigid then that's what we'll be.

Participants believed sleep was important for a range of reasons, including their own and their child's daytime functioning and health and for their child's development. Most directly observed day-to-day changes in their child's emotional regulation and behaviour depending on their sleep, like Sonya (mother of 2 year old; No CSP), who found that if "she's [child] had a bad night... you can tell that she's started to get a bit grumpy. She gets a bit tearful". This was a particularly widespread motivator for maintaining consistent sleep-related routines.

While believing sleep is important did motivate maintenance of consistent sleep timing and activities, for a very small number it was also a barrier to implementation of preferred routines. This belief paralysed some from attempting to change sleep situations they found very difficult. Lila (mother of 3-year-old; Very small CSP) explained why she continued to bedshare:

sleep has always been important for me... I used to do night shifts as part of my job and it made me – made me really poorly, really... I just need routine and I need regular sleep and 8 hours. Which is – that's put me off doing any sort of sleep training because I know that for a few nights I won't get 8 hours

Although participants frequently believed that child sleep was primarily influenced by intrinsic child factors, some simultaneously believed that attempting to change their sleep-related routines could worsen the sleep situation. Thus, if they believed sleep was very important, this was not a risk they wished to take.

D. Parental Attitudes to Routines

This theme represents the attitudes to routines - either liking or disliking them - that could be barriers or facilitators to consistent use of sleep-related routines.

For some participants, disliking routines was a strong barrier to consistent implementation. Some disliked the rigidity and restrictiveness they perceived routines to entail, feeling they could make life difficult and stressful. Julia (mother of 3-year-old; No CSP) said:

But I've never been particularly driven by routine and I'm always happy to follow him [child] and try and keep things fluid so that I'm not stressing him out by trying to make him fit into this little box that I've created or whatever.

The perception that sleep-related routines led to inflexible schedules meant some mothers deliberately wanted to avoid consistency to develop flexibility in their child. Fatima (mother of 3 year old; No CSP) perceived that with a strict routine "your life becomes rigid then as well". Lack of consistency was seen as permitting more freedom and ability to socialise for the family, while reducing potential child distress if routines were deviated from.

Conversely, the majority of participants liked routines, finding them a source of comfort, security or control for themselves and/or their children. Liz (mother of 3-year-old; Very small CSP) described the emotional benefits of her children's sleep-related routine: "I find them [bedtime songs] very comforting and I think the boys probably have that as well now ... it's something very reassuring that you know what song's coming next and you know what's happening". A positive attitude towards routines was a facilitator for some, such as Faye (mother of 2-year-old; Very small CSP): "I think I'm very good with routines. ... for me it's like the normal thing to do, to establish a routine ... It gives a little bit more control over his day and my day."

Many also liked the predictability of their child's sleep-related routines, as they knew when their child-free time would be and could make plans, as Jess (mother of 1 year old; No CSP) explained: "we know, we know that this set routine works, we know what her trigger points are. If we do it – and it's normally you have your life back by yourself by 7 o'clock." The ability to have child-free time in the evening was a powerful motivator and mothers enjoyed the sense of control from knowing when they would get some free time.

Overall, many participants perceived children's sleep-related routines as reducing spontaneity, however for some this was perceived as beneficial as it allowed them to plan. The benefits then motivated consistent implementation of sleep-related routines. Others found the lack of flexibility did not fit their lifestyle or their or their child's personality and purposefully followed their routines less consistently.

E. Parental Limit-setting

This theme represents how mother' attitudes to and strategies for limit-setting could be barriers or facilitators to consistently implementing their preferred sleep-related routines.

Participants described having different parenting styles. Some preferred to be child-led wherever possible, prioritising child choice and lack of parent-child conflict. Others preferred a parent-led approach, with clear structures and boundaries for children. Despite these broad differences, parents with both child-led and parent-led approaches clearly described setting limits they felt confident were in their child's interests. For example, Amy (mother of 2-year-old; Small CSP), who described herself as 'very child-led' set consistent limits around some routine activities, even though this could feel unpleasant:

We used to have to be quite strict with Child 1 and one of us hold him and one of us do his teeth. And you've got to do it, haven't you? But I didn't feel like it was very nice. He used to always get upset.

Mothers were prepared to insist on activities they fully believed were in their child's best interest, for example, hygiene-related activities, timely bedtimes or rules restricting screen time. However, where they were less sure of the importance of particular behaviours for their child's wellbeing, some preferred to be guided by their child's preference.

Many mothers found it particularly difficult to set limits in relation to settling practices when children's protests were interpreted as expressing distress. The immediate child distress outweighed any possible longer-term benefits of their child learning to self-settle, as Lila (mother of 3-year-old; Very small CSP) expressed:

I don't want her upset and I don't know if that affects them emotionally long term. And I'm sure it does absolutely nothing because so many people do sleep training and let children cry... I think just letting her scream in her room, that's not a very nice way of doing it.

This was a barrier to some participants implementing routines which met their own needs as they were willing to tolerate considerable personal inconvenience and emotional distress to meet their child's perceived needs. Notably, some mothers described their response to child distress as taking them by surprise, indicating that pre-planning parenting and sleep-management approaches did not always work. Some, like Sonya (mother of 2-year-old; No CSP), became strong advocates of an approach they had not planned to take:

I'm totally not what I thought I would be as a parent. I thought I would be very wanting routine and structure and I like evidence, I like science... I'm bed-sharing with a 4-week old baby, we don't leave her to cry

The reaction to child distress was visceral and emotional for some, and was more powerful than intentions formed before they had children.

Overall, having a child- or parent-led parenting style did not in itself appear to be a barrier to consistent use of participants' preferred sleep-related routines. Maternal beliefs about the importance of particular activities for child wellbeing and their tolerance, or not, of child protests were more salient factors which made some reluctant to insist on particular routine activities or overall consistency of sleep-related routines.

F. Support

This theme represents the ways support from other significant people in their lives, or lack thereof, either facilitated, or was a barrier to consistent implementation of participants' preferred sleep-related routines.

For many participants, sharing similar priorities and approaches to sleep with a partner helped to shape routines both were happy to follow. Faye (mother of 23-month-old; Very small CSP) explained: "it was a very conscious decision that we made very early on that we were going to do everything that we could to make sure that Child 1 was as best – as good a sleeper as possible".

However, partners' differing approaches to their children's sleep-related routines were a barrier to consistency in some families, as Beca (mother of 2-year-old; Very small CSP) described:

once or twice a week, my partner just lets her play downstairs, he doesn't do any of the stories or anything like that... He's just like 'I want her to get really tucked out,

and then whenever she's almost ready to pass out, then I'll take her up and put her in her bed' ... he doesn't really do what I do with her which is try to take her to a space that is allocated for sleep

Practical support from partners facilitated routines by managing other children, helping with more challenging activities such as bathing, or carrying out parts of a routine, as Tania (mother of 1 year-old; No CSP) described:

I would be saying it's quite hard work because I would be getting them both in and out the bath, getting everyone safe, blah blah blah, but because he [partner] can stop working for an hour and be part of bedtime and bath time, it's – at the moment – it's very enjoyable.

Many participants spoke about the emotional benefits of their partner's support during the bedtime routine, including increased enjoyment and reduced worry, uncertainty and frustration as they carried out their sleep-related routines together.

There was an associated subtheme, judgement.

F.1 Judgement. This subtheme represents the barrier posed to some parents' consistent use of their preferred sleep-related routines by perceived judgement from a range of sources. This was a specific form of judgement, in which participants felt that family, friends and/or HCPs judged their management of their child's sleep, rather than being supportive of their chosen approach.

Some mothers felt judged by family and/or other parents who took or endorsed different sleep management and parenting approaches. This could be a barrier to

consistency as it undermined confidence in their sleep-related routines, as Portia (mother of 3-year-old; Moderate CSP) described:

And then they would also make you question yourself as well, I think, especially when you're not thinking particularly coherently anyway and spiralling quite a bit with sleep deprivation. It's just 'Am I not doing this right? Should I just throw the routine out the window and just go with it?'

Perceived judgement was a barrier for some mothers' implementation of their preferred sleep-related routines, as they perceived there were approaches to sleep management they 'should' take, even if these did not fit their lifestyle or values. Anna (mother of a 2-and-a-half-year-old; small CSP) described her experience:

it felt like there was a lot of pressure from everybody outside that we should be getting him into a routine, we should be getting him to sleep. And if he wasn't sleeping, it was to do with what we were doing and that we needed to treat him like a puppy to be trained, rather than actually respond to the fact that he was in distress. So that, we felt a lot of pressure to try it [sleep training] but then when we did try it, it really wasn't for us at all.

Perceived judgement from HCPs, family and/or other parents caused some participants to change their sleep-related routines and caused uncertainty, worry and distress for them and those who continued with their preferred routines.

G. External Schedules

This theme represents the ways external schedules (work, school, nursery and social) were either a barrier or facilitator of consistent sleep-related routines with toddlers.

Regular external schedules could facilitate maintenance of consistent routines, through imposing consistent weekday wake times, nap times and therefore bedtimes. Nicola (mother of 2-year-old; No CSP) explained how school schedules had helped her family agree on more consistent sleep-related routines: “the older children starting school has maybe helped ... probably related to the time they get up in the morning and having a schedule to the day and then that pattern for recognition of what happens after dinner”.

However, more variable employment, social and nursery schedules could be a barrier to consistent implementation of toddlers’ sleep-related routines, such as where children attended nursery part-time or families socialised spontaneously in the evenings. This was due to the variation in timings caused by different daytime sleep patterns and bedtimes. Fatima (mother of 3-year-old; No CSP) said: “I don’t want too much routine because I want – because it’s nice sometimes if you go to your friend’s house for dinner, or if I go to my parents... we can leave at say 9, or even 10”.

Parents’ work schedule could affect sleep-related routines because of not only practical, but also emotional reasons. Strong emotions around separation could be triggered in toddlers and their parents. Work schedules dictated sleep timing in some families as both children and parents needed to reconnect at the end of a day apart. Tania (mother of 1 year-old; No CSP) explained:

The reason they fall asleep at half past 7 or 8 o’clock is because that’s when my partner could be home by. So otherwise we might have had everyone go to sleep a bit earlier but we needed to do it so in a way that meant everyone could see their Daddy before they went to sleep because if you don’t see Daddy, that’s just too terrible!

This could cause particular difficulty in maintaining consistent routines where parents worked shifts.

Children's emotions at parents' presence or absence at bedtime could also dictate engagement with activities a small number of mothers would not otherwise have chosen, such as physical play close to bedtime for parent-child reconnection, screen use to distract and bedsharing to comfort when toddlers felt separation anxiety. Beca (mother of 2 year-old; Very small CSP) said:

She became really, really, really quite clingy. Really, really anxious when I was leaving for my night shift ... my partner would give her a phone to calm her down. And what was happening was she was staying up till midnight watching and falling asleep, collapsed on the phone.

Thus, for a few participants, the challenge of managing toddlers' intense feelings about separation from parents due to work caused them to continue to include activities as part of their toddler's sleep-related routines which they were not satisfied with.

Overall, external work, nursery, school and social schedules could affect the consistent implementation of toddlers' sleep-related routines in practical and emotional ways. Firstly, external schedules could either maintain or disrupt regular timings. Secondly, they could trigger strong feelings about separation in both parents and children, which could affect both timing of sleep and the routine components used.

9.4.1. Barriers and Facilitators to Consistent Implementation of Mothers' Chosen Sleep-related Routines With Their Toddlers

Table 8 summarises the barriers and facilitators mothers reported to consistent implementation of their chosen sleep-related routines drawn from the themes presented in this chapter.

Table 8

Summary of Maternally-reported Barriers and Facilitators to Consistent Implementation of Their Chosen Sleep-related Routines With Their 1-3 Year Olds.

Barriers	How factor influenced toddlers' sleep-related routines	Facilitators	How factor influenced toddlers' sleep-related routines
<i>Individual child factors</i>		<i>Individual child factors</i>	
Child preference/ protest	Activities were omitted or included in response to child preference/distress.	Child preference	Children's enjoyment of an activity motivated consistent inclusion in the sleep-related routine.
Child day-to-day tiredness levels vary	Bedtimes and naptimes could be moved earlier or later in response to perceived child tiredness. Routines were accordingly truncated or elongated with activities removed or added.	Child day-to-day tiredness levels consistent	Where children exhibited similar levels of tiredness each day, consistent nap and bed times were easier to maintain.

Barriers	How factor influenced toddlers' sleep-related routines	Facilitators	How factor influenced toddlers' sleep-related routines
<i>Multiple children</i>	Timings and activities were sometimes changed to meet the needs of different siblings.		
<i>Habit formation</i>	Habits, such as parents staying on a child's bedroom floor, could quickly form in response to child factors. Caregivers might not want such activities to be routine, however children protested change.	<i>Habit formation</i>	Habitual use of essential tasks such as giving milk or changing the child for bed enabled consistency as the routine became automatic for caregivers.
<i>Parental sleep beliefs</i>		<i>Parental sleep beliefs</i>	

Barriers	How factor influenced toddlers' sleep-related routines	Facilitators	How factor influenced toddlers' sleep-related routines
Belief that intrinsic child development factors primarily influence child sleep	Doubt that mothers could influence aspects of their child's sleep, including settling method was a barrier to changing aspects of their sleep-related routines.	Belief that sleep-related routines benefit child sleep	Strong belief that consistent routines benefited their child's sleep and this motivated consistent implementation of child's sleep-related routine.
Belief that sleep is important	Prioritising sleep in the short-term made mothers reluctant to change aspects of their sleep-related routines, fearing changes would worsen sleep.	Belief that sleep is important	Mothers who prioritised sleep were motivated to maintain their child's sleep-related routine.
Parental attitudes to routines		Parental attitudes to routines	

Barriers	How factor influenced toddlers' sleep-related routines	Facilitators	How factor influenced toddlers' sleep-related routines
Disliking routines	Disliking stress and/or restriction of routines could be a barrier to consistent implementation.	Liking routines	Liking the predictability and feeling of control from routines motivated consistent implementation.
Parental limit-setting		Parental limit-setting	
Belief that avoiding child distress is important for children's long-term emotional health	Believing that avoiding child distress is important for children's long-term emotional health was a barrier to consistent inclusion of activities in children's sleep-related routines. It could also be a barrier to use of parent-preferred activities/practices.	Certainty that activities are important for child health/development.	Certainty that the long-term benefits of an activity/practice outweighed short-term child distress/protest facilitated consistent inclusion in the child's sleep-related routine.

Barriers	How factor influenced toddlers' sleep-related routines	Facilitators	How factor influenced toddlers' sleep-related routines
Support	Perceived judgement from a range of sources, including family, friends, HCPs and health and parenting literature could be a barrier to inconsistent implementation of sleep-related routines due to maternal doubt about practices.	Support	Partner support was a powerful facilitator of consistent routine content and timings.
<i>Judgement</i>	Judgement could be a barrier to mothers' use of preferred sleep management practices.		Support from family/friends also facilitated consistent use of mothers' preferred sleep-related routines.
External schedules		External schedules	
Variable timing	Varied employment hours, napping schedules at nursery and social schedules could be barriers to	Consistent timing	Regular work hours and school/nursery start times facilitated consistent timing of routines. Social schedules

Barriers	How factor influenced toddlers' sleep-related routines	Facilitators	How factor influenced toddlers' sleep-related routines
	maintaining consistent timing of sleep-related routines.		which accommodated nap and bed times helped participants maintain sleep-related routines.
Strong parent/child emotions around separation/reconnection	Caregivers and/or their children could feel intense emotions about separation and this could mean that children's sleep timings varied with their caregiver's work schedule. Caregivers could also find themselves using activities they felt were inappropriate for promoting child sleep (e.g. mobile phone use).	Strong parent/child emotions around separation/reconnection	For some caregivers, sleep-related routines were a means to reconnect and feel continuity. This facilitated consistent inclusion of activities caregivers felt were optimal for sleep and family wellbeing, such as reading together.

9.5 Discussion

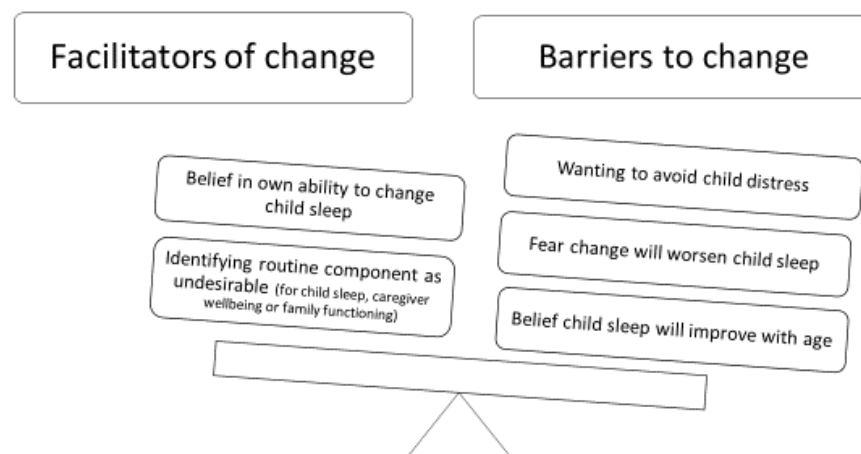
The present research highlights the key role of individual children in shaping their own sleep-related routines, in negotiation with their caregivers. Children's agency in developmental and sleep contexts has been recognised in theory, both in Bronfenbrenner's Ecological Systems Theory (EST: 1979, 1986a, 1986b) and in the transactional model of child sleep (Sadeh & Anders, 1993; Sadeh et al., 2010). Both models emphasise the roles of individual child characteristics and individual caregiver factors in shaping the relationship and caregiving practices which are the primary context in which the child develops. In previous work, bedtime routine activities have been reported to change with age (Mindell & Williamson, 2018; see Chapter 3, section 3.2.1 for further detail). This supports the reports of parents in the present work that toddlers' changing abilities and interests shape sleep-related routines at this age. A previous qualitative study of reading with 3-5 year olds found that children influenced shared family reading (Hall et al., 2018). The present study illustrates that 1-3 year olds can have similar agency over their sleep-related routines, influencing which activities take place and how they are carried out. It also shows that pre-planning approaches to parenting and sleep management, along with uncertainty about benefits and drawbacks of particular sleep management approaches can leave parents unprepared for managing child responses.

Negotiating change to children's sleep-related routines was common in 1-3 year olds. This could be due to unintended elements having become part of their toddlers' sleep-related routines, such as a child falling asleep with a mobile phone, or mothers wanting to change elements which had once been felt appropriate, such as lengthy and onerous settling methods. However, for many, changing sleep-related routines could be difficult due to a combination of the presented barriers, which is illustrated in Figure 11. A key difficulty for

mothers in implementing their preferred routines with children was wanting to avoid child distress, which was weighed against their perception that a particular activity was in the best interests of their child and/or family. Beliefs about child sleep also influenced their perceived ability to make changes, with fear of worsening child sleep and lack of belief in their ability to make meaningful positive change leading them to maintain the status quo. A belief that the sleep situation would inevitably change with development encouraged a number of parents to continue with routines they were not satisfied with. Understanding these barriers is important for HCPs supporting parents to make changes to their children's sleep-related routines to improve their child's sleep and/or family wellbeing, as they suggest some parents may require cognitive, emotional and/or practical support to implement their preferred sleep-related routines.

Figure 11

Key Parent-reported Barriers and Facilitators to Changing Children's Sleep-related Routines



UK-based parents of young children have previously reported desiring ongoing access to comprehensive, non-judgemental sleep advice at different stages of child

development (Cook et al., 2022b; Hatton & Gardani, 2018). The present research suggests that greater acknowledgement of the role of the individual child in shaping their sleep-related routines, as well as the challenges that can be inherent in changing routines in the toddler period could help to reduce the perceived stigma around sleep management. Parents have reported such stigma in this and other studies, as well as a lack of trust in HCPs to provide non-judgemental support (Cook et al., 2022b; Hatton & Gardani, 2018). The present results also suggest families may need ongoing access to HCPs and/or health literature in the toddler years to obtain guidance in relation to their sleep-related routines, which are likely to change as their child develops.

Health visitors (registered nurses or midwives with additional training in community public health nursing; HVs) could be one such support to families and sleep is one of the fifteen high-impact areas identified where HVs can make the most positive impact on families (Morton & Adams, 2022). However, in the current UK context, health visiting services are over-stretched, with mandated visits to families reduced to a single antenatal and a single new baby visit since the Covid-19 pandemic (Morton & Adams, 2022). Parents have reported turning to family and friends for advice due to lack of HV service, however, the present research illustrates that this may open caregivers up to judgement and/or pressure to pursue approaches that they do not consider appropriate for their family (Morton & Adams, 2022). Additionally, low levels of sleep knowledge in the wider population can be a drawback of this type of informal support (Hatton & Gardani, 2018). Ultimately, the current research points to the need for a trusted service which can provide ongoing personalised sleep support to individual families throughout early childhood.

The need to acknowledge and support different parental approaches is strongly suggested by the present work. This study adds to the routine literature that, for some

parents, using routines to manage children's sleep is associated with 'sleep training'. Thus, clinical guidance should make it clear that routines can be appropriate for families with a range of views on parenting and sleep management. Some parents have reported strong aversion to 'sleep training' in previous studies and expressed a lack of trust that HCPs would offer sleep advice which fitted their individual families' values and parenting styles (Cook et al., 2020; Hatton & Gardani, 2018). These studies and the present work point to the need for comprehensive training for HCPs on the full range of approaches to sleep management, so that advice can be fully informed and tailored to individual children and families.

The present research also illustrates a wide range of overlapping factors that might need to be taken in to account when supporting families to shape sleep-related routines that are appropriate for their individual circumstances. To my knowledge, shift work is the only previously considered factor, where shorter, simplified bedtime routines have been suggested (Lee et al., 2019; Mindell & Williamson, 2018; Muller et al., 2019b). The present work illustrates, however, that many child, parental and contextual factors require consideration, and that these may offer emotional as well as practical challenges to maintaining children's sleep-related routines. The current study adds that routines in themselves may not be appropriate for all families, or that extensive personalised tailoring may be required to balance benefits to child sleep with caregiver wellbeing. Some parents reported finding sleep-related routines stressful and restrictive, as well as socially isolating. Thus, the present study supports the recommendation of Smith, Galland, et al. (2019) that caregivers should be encouraged to prioritise their own wellbeing when considering how to manage family sleep. This thesis argues that it is of great importance that HCPs and sleep guidance literature show openness to sleep-related routines looking different in different families so that more families can benefit from their potential benefits for both child sleep and whole family functioning.

9.6 Limitations and Strengths

General limitations of the sample have been discussed previously (see Chapter 5, sections 5.5.1 and 5.5.2 and Chapter 6, section 6.6 for discussion of general limitations of the sample in terms of their homogeneity and potential transferability of results). In addition, there are limitations of the sample related particularly to this research question. This study interviewed a largely high SES group, thus their perspectives may be different from those of parents/caregivers experiencing different circumstances, (e.g. low income, housing and food insecurity are known to affect routine adherence; Covington et al., 2019; Muller et al., 2019b). However, the fact that challenges were faced by an economically-privileged group illustrate that this is an area where many caregivers could potentially benefit from support.

A strength, however, was the inclusion of mothers in a range of employment situations. The sample did contain a high number of working mothers including five who discussed the challenges of shift work for managing toddler sleep. This allowed exploration of impacts of work schedule, which has been associated with bedtime variability (Lee et al., 2019; Muller et al., 2019b).

Covid-19 restrictions at the time of data collection may have influenced participants' responses, as discussed in Chapter 8, section 8.6. Some had partners working at home, who would not normally be present during the bedtime routine and this increased the level of support they experienced. Overall, the pandemic restrictions could have led to more positive participant-reported experiences of their sleep-related routines and further research is needed now that restrictions have lifted.

A key strength of this study is the specific focus on 1-3 year olds, which allowed exploration of challenges particular to this age group. The qualitative approach permitted understanding of the inter-relatedness of a range of factors in shaping toddlers' sleep-related routines. Additionally, the inductive approach to questioning and analysis allowed parents to identify the barriers and facilitators they perceive to be important, which may therefore be most beneficial for informing guidance.

9.7 Implications

9.7.1 Methodological

1) Mixed-methods research is needed to explore particular barriers and facilitators to implementing consistent sleep-related routines with children in particular demographic groups, and those experiencing different sleep-related challenges, such as more severe CSPs. Purposive sampling of families experiencing factors known to be associated with differences in composition and consistency of children's sleep-related routines is needed to identify specific barriers and facilitators to routine use in these groups. Quantitative methods can be useful for establishing salient details of the sample to establish potential transferability of results, while qualitative methods allow the inter-relatedness of child, caregiver and contextual factors to be explored.

2) The present work also points to a need to consider sleep-related routines in narrow age bands in early childhood as different challenges may be faced at different ages.

9.7.2 Theoretical

1) Toddler's sleep-related routines are shaped by a range of interacting child, caregiver and contextual factors. As argued in Chapter 8, section 8.7, this suggests that the transactional model of child sleep is a useful lens through which to consider the formation of children's sleep-related routines (Sadeh & Anders, 1993; Sadeh et al., 2010; see Chapter One, section 1.10 for further detail). This has implications for the conceptualisation of an 'optimal' or 'adaptive' routine for child sleep (see Chapter 2, section 2.1 for previous definitions). Findings of the present study strongly suggest that different sleep-related routines will be appropriate in different families, given the wide range of influencing factors.

2) A further implication for the conceptualisation of sleep-related routines in early childhood is the likelihood of change as children develop. A changing routine may appear paradoxical, however, the present work and prior research show that activities that caregivers and children find acceptable or beneficial may change as children mature. Thus, sleep-related routines should not be conceptualised as static entities which remain stable across childhood, but rather thought of as dynamic, adapting to changing child and family needs.

9.7.3 Practical

1) Families may need ongoing access to guidance from HCPs and/or health literature in the toddler years to implement sleep-related routines beneficial to their child's sleep and their family's wellbeing, and navigate changes in response to their child's development.

2) As mothers can feel judgement related to their children's routines, or lack thereof, HCPs must be sensitive and non-judgemental when providing guidance. Acknowledgement of the breadth of possible approaches to sleep management is important for fostering mothers' trust. HCPs should have access to comprehensive training covering the full range of approaches to sleep management, so that individual children and families can receive tailored guidance, appropriate for their needs.

3) Many child, parental and contextual factors require consideration when creating, implementing and adapting sleep-related routines. HCPs should be open to sleep-related routines looking different in different families, focusing on fit of routine to the individual family. There is a need to develop a brief assessment tool to identify salient family details which could inform guidance about sleep-related routines and identify potential targets for intervention and/or support.

4) Some mothers may require cognitive, emotional and/or practical support to implement their preferred sleep-related routines. Wanting to implement a particular approach and having knowledge of sleep management strategies may not be enough to enable some mothers to enact some sleep-related practices.

9.8 Future Research

1) Further exploration of mothers' and fathers' experiences of using sleep-related routines with 1-3 year olds is now needed with groups experiencing different circumstances known to influence children's sleep-related routines, including low income families and shift workers. Research involving stay at home mothers and parents with

different approaches to childrearing is also needed to develop relevant guidance for all families.

2) Intervention studies are needed to identify ways of helping parents implement their desired changes to their children's routines. These could target parental self-efficacy; education on the benefits/drawbacks to children and families of particular routine elements such as settling methods; practical strategies for managing child responses to change, and/or CBT targeting beliefs about the importance of sleep and damaging effects of temporary child protest. Outcomes of such studies should include effects on child sleep, caregiver wellbeing and family functioning.

3) Research is needed to develop a brief assessment tool to support HCPs in identifying salient family details which could inform guidance about sleep-related routines and identify potential targets for intervention and/or support.

9.9 Chapter Summary and Conclusions

This chapter presented the results from Phase Two interviews in relation to the fourth research question: What are the parent-perceived barriers and facilitators to consistent use of their sleep-related routines. Child, caregiver, family unit and contextual factors influencing composition and consistency of toddlers' sleep-related routines were identified, along with the ways they could act as barriers and facilitators of consistent implementation. Key barriers and facilitators for caregivers wanting to change their children's routines were also identified.

Rapid developmental changes in toddlers make managing consistent sleep-related routines particularly complex and challenging at this stage. Therefore, sensitive, non-judgemental acknowledgement of the practical and emotional challenges of maintaining consistent routines with toddlers is needed to help families increase adherence and support them to shape routines which are optimal for the whole family. Promotion of the evidence-based benefits of different aspects of sleep-related routines is needed, as these are not always evident to caregivers. Caregivers' preferred sleep-related routines for their toddlers may look different in different families, as a range of overlapping child, parent and contextual factors require consideration to ensure routines benefit both individual child sleep and the functioning of the whole family and its members.

Chapter 10 will present a general discussion of the findings of this thesis.

Chapter 10 General Discussion

10.1 Introduction

This thesis aimed to explore current gaps in knowledge about families' experiences of implementing sleep-related routines with their 1-3 year olds. Understanding of the gap between recommendations about and practice of sleep-related routines may help inform support and guidance for families seeking to improve their child's sleep (Covington et al., 2019; Hale et al., 2009; Kitsaras et al., 2021c; Mindell et al., 2015; Mindell & Williamson, 2018; Ordway et al., 2020; see Chapter 3, section 3.1). Phase One sought to answer four questions: What are the child and parental sleep characteristics of the interviewed participants? How do the interviewed participants perceive their own and their child's sleep? What are the sleep ecology characteristics of the interviewed families? And are there differences in the sleep, perceptions of sleep and characteristics of routines of the Interviewed and Non-interviewed samples? These questions provided a context for the Phase Two study which explored four research questions: What practices do parents' report using regularly to benefit their young children's sleep? How do parents think those practices benefit their child's sleep? What feelings do UK-based parents experience in relation to their sleep-related practices with their toddlers? And what barriers and facilitators affect how consistently UK parents use sleep-related activities with their 1-3 year olds? Key findings from this thesis about what constitutes an 'optimal' sleep-related routine, what challenges are specific to this age group, positive and negative aspects of caregivers' emotional experiences of routines and parent perceptions of routines are discussed in this chapter. Study limitations are also considered, along with implications for practice, theory and future research in this area.

The research presented in this thesis used mixed-methods to explore mothers' experiences of using sleep-related routines with their one-to-three-year olds. In Phase One, an online questionnaire was used to provide rich description of the participants' sleep characteristics and those of their toddlers, along with their perceptions of sleep and sleep ecology (Lincoln & Guba, 1986; Nowell et al., 2017). In Phase Two, semi-structured interviews used an open-ended narrative episodic interview schedule and data were analysed using thematic analysis with an inductive approach (Braun & Clarke, 2006; 2019; 2022; Sundnes & Andenaes, 2016). This differs from previous research in the literature on routines and young children's sleep, which has primarily been quantitative in nature, or has used theory-based approaches to questioning and/or data analysis (see Chapter 2, section 2.2).

A highly-educated, high-SES sample of 21 mostly working mothers were interviewed in Phase Two. Participants reported short maternal sleep consistent with previously published samples and shorter child sleep than previously published UK-based and international samples (see Chapter 5, section 5.5). Similar levels of perceived CSPs to previous samples were reported; notably, no serious CSPs were perceived and mothers largely felt confident in managing child sleep. More families room- and bed-shared, and more parents were present when their children fell asleep than in previously published UK and predominantly Caucasian samples (see Chapter 5, section 5.5). Variation in consistency of routines was wide, as in previously published samples, allowing exploration of the barriers and facilitators to routine use they experienced (see Chapter 5, section 5.5). This does not imply generalisability of these results to similar populations, but rather aims to describe the sample to better understand the context of their experiences (Braun & Clarke, 2022).

Key strengths of the study were the use of a narrow child age range and focus on routines over the 24-hour cycle, which permitted exploration of challenges of sleep management particular to children aged 1-3 year olds. Mothers could thus explain the ways they balanced rest and activity through the day to bring about an optimal level of tiredness at bedtime, illustrating the interconnectedness of daytime and night-time activities and sleep at this age. The qualitative methodology drew out the interrelated child, caregiver, family and contextual factors which shape toddler's sleep-related routines. Further strengths were the open questioning and inductive approach to analysis, which allowed parents to describe the practices and experiences they perceived to be important, which may therefore be most beneficial for informing guidance.

As discussed in the full reflexivity statement in Chapter 4, section 4.4, I strove to avoid constructing routines as something to aspire to in this research, and to explore what mothers themselves considered to be important in managing their young children's sleep. As a feminist, I saw some aspects of participants' sleep-related routines with their toddlers, particularly the efforts they undertook to support their children's emotional regulation, as forms of invisible labour. It was important to me to detail the choices and reasons, the thought processes and intentionality they described in contrast to what appears in some health guidance as a relatively straightforward behaviour. I began to see this oversimplification as an underrating of caregiving challenges. The range of attitudes and experiences within this one group opened my eyes to the many ways individuals experience their own sleep, their child(ren)'s sleep and parenting itself.

10.2 What Is an 'Optimal' Sleep-related Routine for 1-3 Year Olds?

This thesis raises the question of for whom and what purposes sleep-related routines are ‘optimal’ or ‘adaptive’. From a research or clinical perspective, the core definition of a sleep-related routine is regular use of a set of fixed activities in the pre-bed time period. Research to date has primarily focused on whether sleep-related routines (almost exclusively at bedtimes) are related to beneficial child sleep outcomes, such as reduced night wakings or longer NSD. Precise recommendations for sleep-related routines vary, with inclusion, or not, of a particular bedtime, length of pre-bed time-frame considered, recommendation to avoid long/late naps, particular activities recommended or discouraged, and inclusion of consistency of location and caregiver differing across research definitions and clinical guidance (GOSH, 2020; NHS, 2023; Henderson & Jordan, 2010; Kitsaras et al., 2021b; Mindell et al., 2015: see Chapter 2, section 2.1).

Underlying such research and clinical guidance is a definition of CSPs which focuses on child sleep outcomes. While child sleep domains may be problematic for many parents, as shown in international questionnaire studies (see Chapter One, section 1.8.2), there may be other issues that cause parents to consider their child’s sleep problematic. Clinical definitions of CSPs also include the subjective dimension, that the child’s sleep is problematic for the caregiver (Wiggs, 2007; see Chapter One, section 1.8 for more discussion of CSP definitions). Consistent with qualitative work by Smith, Galland, et al., (2019) and many other studies, this thesis suggests that young children’s sleep and its management can also adversely impact mothers’ feelings and daytime functioning in various ways. Understanding the nature and impact of a parent-perceived CSP is therefore important before a particular sleep-related routine can be recommended. For example, a parent feeling restricted and socially isolated by their child’s sleep patterns might need different advice from a parent who perceives that their child’s sleep prevents them from getting enough sleep to function at work.

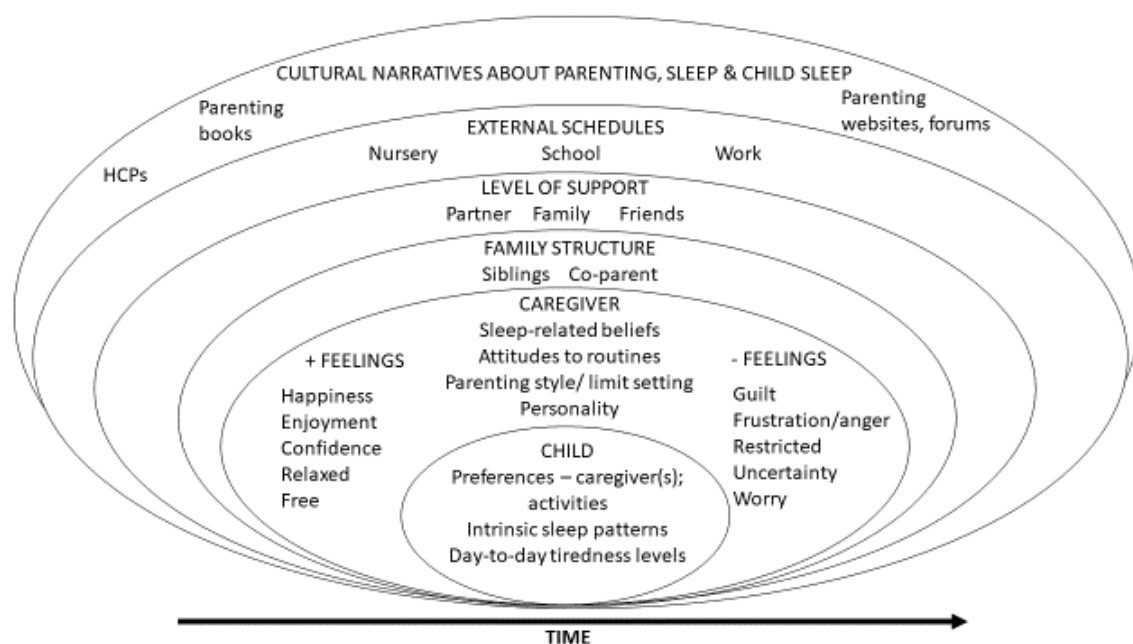
This thesis additionally argues that fostering a positive emotional climate is an important part of a sleep-related routine, and that this should be added to research definitions and clinical guidance. Recent research suggests that the emotional climate of bedtime routines is important for beneficial child sleep outcomes, however, it may be also be important for caregiver wellbeing and overall family functioning (Hoyniak, Bates et al., 2021; Larsen & Jordan, 2022; Teti et al., 2010; see Chapter 2, section 2.3). The present work shows how caregivers' feelings about and during their routines can be very different, even when carrying out the same activities. Recently, expert opinion has suggested that there may be variation in individual children's responses to some frequently recommended pre-bed activities, such as bathing (Kitsaras et al., 2021b; Mindell & Williamson, 2018). This thesis adds that parents perceive that individual children respond differently to routine activities, and that their child's enjoyment and co-operation, or otherwise can strongly affect caregivers' emotional experiences of their routines. Advice for parents on activities to be included in bedtime routines could therefore focus on the processes occurring in the child as a result of the chosen activities, rather than prescribed (and proscribed) lists of activities. For example, activities that are enjoyable for parent and child, but not overly arousing could be recommended, emphasising that these may look different for different children and may change over time.

From an individual family perspective, this thesis has shown that sleep-related routines exist not only in a family context, but also in a wider social and cultural context, meaning that there are many factors to be considered in ensuring that children's sleep-related routines benefit a particular family situation. By beginning without a predetermined definition of optimal sleep-related routines, this thesis argues that a complex interplay of child, caregiver and family factors, externally-set schedules and wider cultural discourses

around parenting, sleep and child sleep influence routines differently in individual families. These are illustrated in Figure 12. Parents in this study reported overlapping ways that their routines were shaped by their children's preferences, individual sleep patterns and day-to-day tiredness levels; and their and their partner's cognitions about sleep, parenting and routines. They also reported that support, or lack of, from wider family and friends; external schedules set by employers, schools and nurseries; and narratives about child sleep and parenting found in diverse sources such as parenting manuals, HCPs and parenting groups, both in real-life and online, influenced their sleep-related routines. Thus, an optimal routine from a family perspective should take account of some or all of these different factors depending on the family. Guidance and support for families on creating and implementing sleep-related routines should therefore consider the individual family and wider context so that advice can be practical and appropriate.

Figure 12

Parent-reported Influences on Composition, Consistency and Emotional Climate of Sleep-related Routines



The above model of factors contributing to families' sleep-related routines is reminiscent of EST, which describes a range of settings which directly and indirectly influence the development of an individual child (Bronfenbrenner, 1979) and which change across time (Bronfenbrenner 1986a, 1986b). EST has also been conceptualised as overlapping networks of social interactions across these settings which influence and are influenced by the focal individual over time, and more recently it has been recognised that technology plays an important role (Neal & Neal, 2013; Navarro & Tudge, 2022). There is also strong overlap with the transactional model of child sleep, in which caregiver and individual child factors shape the caregiving relationship and behaviours which most directly influence child sleep (Sadeh et al., 2010; see Chapter 1, section 1.10 for further description). Factors, which are considered as more distal from the child in both EST and the transactional model of child sleep, such as culture (including social norms and media), environment (economic and physical) and family (siblings, family stress and spousal relationships) indirectly contribute to sleep-related behaviours and parent-child relationship by affecting both caregiver and child.

There is some empirical evidence supporting the findings of this thesis that the overlap between child, caregiver and external factors may influence the consistency and emotional climate of bedtime routines. For example, one study found an overlap between caregiver cognitions and employment schedules affected child sleep via bedtime consistency. Parents who perceived their work schedule as more flexible showed more bedtime adherence than those who perceived less flexibility after adjusting for work schedules (Lee et al., 2019). The authors considered that such maternally perceived flexibility around their employment may have facilitated mothers' involvement in their child's bedtime routines. *Employee-perceived* flexibility was considered a potentially

important construct, separate from employer-defined flexible schedules, for example with varying work timings. The authors suggested that the latter type of 'flexible' work might in fact make it difficult for mothers to manage family needs. A further study has shown the interaction of child temperament and caregiver mood on maternal emotional availability during bedtime routines (Kim & Teti, 2014). EST may be a particularly useful lens through which to view children's sleep-related routines because recognising the variety of influencing factors and identifying contributions of influences distal from the family may be important for supporting families seeking to improve their child's sleep (Neal & Neal, 2013).

This thesis has shown there are many possible constellations of influences shaping families' routines, suggesting that a routine that is beneficial for one family may not fit another (see Figure 12). The importance of tailoring sleep-related routines to individual families has previously been asserted (Mindell & Williamson, 2018). For example, one previous suggestion for tailoring advice is that shortened routines may be more appropriate for shift workers (Mindell & Williamson, 2018). However, the present work suggests there may be emotional as well as practical considerations for tailoring routines. For example, participants in this study reported that sleep-related routines for children may also need to provide the opportunity for parent-child connection and to reduce the anxiety associated with separation from a parent. It is therefore possible that some families, including those with shift workers, may prefer a longer routine for such reasons, or that routines and rituals for connection at different times of day/night might be beneficial (Koulouglioti et al., 2009). These might include a returning parent placing a special token under a sleeping child's pillow at night, or dedicated time for one-to-one talking and playing in the daytime. The influence of employment schedules on sleep-related routines overlaps with an individual child's preferences, emotional needs and

expression of those needs, and the caregiver's cognitions, emotions and parenting responses. Once again, this speaks to the need for HCPs to fully understand the individual family ecology so that advice on routines can be appropriately personalised.

In addition, this thesis emphasises that the content of routines may need to take account of families' social networks. A regular bedtime seven days a week may not suit a family where wider family members expect to see children in the evening at family events and caregivers prioritise family connection. Tension caused between family and caregivers seeking to implement such a routine may introduce stress and conflict into the family system, which in itself could be unhelpful for child sleep. The caregiver may also experience uncertainty and worry about their sleep-related practices with their child due to perceived competing priorities of family connection and sleep health. In this study, parents reported that such worries not only undermined the consistency of their sleep-related practices, but also intensified their frustrations when children resisted routine activities. Considering what is realistic, practical and desirable for families may therefore be important in supporting implementation of optimal sleep-related routines, which could be defined as routines which benefit child and family sleep and fit the individual family's circumstances, values and sleep-related goals.

10.3 What Are the Specific Challenges to Consistently Implementing Sleep-related Routines in Toddlerhood?

In this thesis parents reported that the individual child's sleep patterns and change over time were particularly powerful influences on their routines in their 1-3 year olds. As children's sleep consolidated, daytime sleep patterns were reportedly of significant influence to the consistency of same-day bedtimes. Parents have reported elsewhere that

nap-dropping caused confusion about whether they could expect their child to follow regular sleep schedules when their day-to-day tiredness levels were so varied (Gustafsson et al., 2021). The mothers in the present work reported significant impacts on the consistency of their sleep-related routines which they perceived as due to daytime sleep fluctuations. While confusion was not reported, some reported negative feelings, including dread around variations in daytime sleep. The interrelation between daytime activity and sleep in toddlers is emphasised in the WHO (2019) guidelines on physical and sedentary activity and sleep. However, guidance for parents on sleep-related routines at age 1-3-years gives little advice or even acknowledgement of this challenge, beyond the recommendation to avoid napping too late in the afternoon (NHS, 2023). Guidance about nap dropping and different approaches to its management are needed at this age and could include advice for caregivers about managing their own emotions around nap dropping, such as frustration or anxiety.

Mothers in the present research also reported that children changed their preferences for particular activities as their independence, motor and verbal skills developed over time, which could be difficult for parents. This is important as, consistent with a previous UK-based study with older 3-7 year olds, mothers in the present study reported that sleep-related routines can form reactively and are then perceived as difficult to change (Kitsaras et al., 2021a). Parents have previously reported changes in bedtime routine activities from infancy to toddlerhood, including increased reading, television viewing, running around and snacking, further supporting the influence of child age on sleep-related routines (Mindell & Williamson, 2018). This suggests that parents may need specific advice and guidance about how to maintain and develop sleep-related routines to allow space for the growing individuality and capabilities of their child.

Some mothers in this study reported co-construction of aspects of their routines with their children, such as inclusion of a particular piece of music. Shared ownership of routines began young and did not require the child to be verbal. For example, one child walked themselves to their sleep location to indicate the start of the routine, another pointed to an iPad to indicate that music should be turned on and some mothers placed books at child height to allow newly-mobile children the choice of bedtime story. One previous study has indicated positive results of including 2-5 year olds in creation and implementation of their bedtime routines (Wilson et al., 2014; see Chapter 1, section 1.9.2). Fostering independence and valuing child input may have the benefit of turning a sleep-related routine from an instrumental act in which health behaviours are required of a child into a ritual, in which there is a positive emotional value to those behaviours for child and caregiver (Fiese, 2007). This may create an emotional investment in such healthy sleep practices in the long-term. Advice for parents could therefore include suggestions for ways to include their children in creating and maintaining sleep-related routines to foster life-long positive emotional associations with sleep.

10.4 Sleep-related Routines and Positive Parental Feelings

This thesis explored some of the ways that sleep-related routines with young children can bring about positive emotions in mothers. Parents in the current study reported that their routines gave regular opportunities for joy, closeness and family connection. Parents have previously reported enjoying sleep-related routines with their young children in qualitative studies (Gustafsson et al., 2021; Jones & Ball, 2014; Kitsaras et al., 2021a; Sviggum et al., 2018). However, very few studies have reported on the aspects of routines parents find enjoyable. One study found that some parents enjoyed reading because of their child's enjoyment, while another found that there was a feeling of

satisfaction arising from successful completion of bedtime routines (Jones & Ball, 2014; Kitsaras et al., 2021a). Given the empirical support for the importance of mutual parent-child enjoyment of bedtime routines for child sleep and parental wellbeing, as well as parent report that it is a reinforcer of sleep-related routines, this aspect of bedtime routines perhaps deserves greater recognition and promotion (Dubois-Comtois et al., 2019; Hoyniak, Bates et al., 2021; Kitsaras et al., 2021a; Lindsey, 2022). Mothers in the current research enjoyed playing with their children, seeing their preferences, hearing their thoughts, and experiencing physical closeness during their bedtime routines. This suggests that including opportunities for such closeness (emotional and physical) might help caregivers implement routines consistently. Perhaps considering how such elements can be incorporated into essential tasks could help even parents who are exhausted and/or pressed for time to experience positive emotions during their children's sleep-related routines. For example, one participant described enjoying the game of being 'surprised' to find her daughter's leg popping out of the sleeping bag before she zipped it up.

Some mothers also experienced feeling free as a consequence of having sleep-related routines, particularly where these routines could be shared with a partner or other family members. Mothers reported the benefits of getting regular, predictable time to themselves to be an adult, spend time with their partner or friends and pursue their own interests. Some also described it as a time to regroup and relax, which is consistent with reports by parents of 0-6-year olds that taking time for oneself is an important strategy for managing fatigue (Giallo et al., 2013). Parents have also reported finding time to themselves in the evenings as a strong motivator to implement bedtime routines with 3-7 year olds (Kitsaras et al., 2021a). Therefore, this benefit of using routines with children could also be included in health messaging, perhaps with dual benefits of encouraging use of consistent sleep-related routines and encouraging parents to prioritise themselves as

well as their children. Future research should explore whether there are protective benefits for parents' wellbeing of taking regular time for themselves and indeed, whether this could be an additional mechanism by which routines indirectly benefit young children's sleep.

10.5 Sleep-related Routines and Negative Parental Feelings

Mothers in the present work also reported negative feelings associated with their child's sleep-related routines. There was individual variation in how mothers experienced particular aspects of their sleep-related routines. The same activity or degree of routine consistency could give rise to positive feelings in some mothers and negative feelings in others. The same individual could also experience both positive and negative feelings in relation to the same aspects of their routines.

Some mothers worried and felt uncertain about whether or not their routines were in their child's best interests. Indeed, one participant felt this momentarily in the interview and referred to herself as a 'bad parent' for not having many routines around sleep, despite having articulated carefully considered reasons for this choice. This is consistent with previous research showing that some parents feel that successful implementation of bedtime and broader parenting routines with their children is a hallmark of good parenting (Hall et al., 2018; Kitsaras et al., 2021c; Koulouglioti et al., 2011). This has implications for parental wellbeing as it is clear that parents' sleep-related routines may be used as a yardstick of parenting 'success'. The present research found that perceiving oneself as failing to meet a perceived standard can then lead to feelings of failure as a parent. Therefore, it is important that HCPs and clinical guidance avoid judgement wherever possible and acknowledge both the individual nature of sleep-related routines and the challenges there can be in implementing them. This could benefit parental wellbeing in two

ways. Firstly, it may encourage more families to seek support as fear of judgement and negative experiences when accessing help are parent-reported barriers to seeking help with child sleep (Cook et al., 2022b). Secondly, reducing judgement exposes parents to fewer negative emotions such as worry, guilt, or uncertainty regarding their own parenting competence.

Parents in the present thesis also reported feeling restricted by their sleep-related routines with toddlers. This is consistent with one previous study, which reported that some parents do not follow routines due to feelings of restriction (Jones & Ball, 2014). However, in line with previous qualitative research which has highlighted some mothers' propensity to sacrifice their own wellbeing to support the family sleep situation, this study found that some mothers carry out routines *despite* feelings of restriction and attendant social isolation (Muller et al., 2019a; Smith, Galland, et al., 2019; Sviggum et al., 2018). Given the regular, ongoing nature of routines, such attendant negative emotions could have serious impacts on maternal mental health. It is therefore important for clinicians to recognise that over-adherence to routines may have potentially negative consequences for caregivers by depriving them of social opportunities and creating intense negative feelings of being trapped. Such feelings were reported in this sample of mothers, even though they perceived no serious CSPs. It is possible that experiences of restriction and feeling trapped may be more widespread in a clinical population, where caregivers' efforts to get children to sleep may be more intense. This thesis therefore supports the recommendation of Smith, Galland, et al. (2019) that caregivers be encouraged by HCPs and in clinical guidance to see their own needs as a priority. Asking caregivers how they feel about their sleep-related routines with their child is important in tailoring a routine to fit the family. Mothers in this study also highlighted the role of their partners in alleviating feelings of restriction.

Thus, directing guidance to all partners or significant others could help primary caregivers to share the responsibility for family sleep.

Mothers in the present study also frequently reported frustration and worry associated with their child's sleep-related routine. This is consistent with a previous study, which found that single mothers could feel stress and frustration when trying to carry out routines (Koulouglioti et al., 2011). Previous research on parental cognitions and child sleep has found that both caregiver anger and parenting uncertainty negatively impact child sleep (e.g. Morrell, 1999; Tikotzky & Shaashua, 2012; Zreik et al., 2021). However, this thesis adds the role of doubts and worries about child sleep in intensifying frustration, leading to feelings of anger. Worries parents reported in this study included a wider range of cognitions than previously explored in relation to child sleep, including concerns about daytime functioning and lack of control of child sleep, similar to those found in adults with insomnia (Morin et al., 2007). Cognitive Behavioural Therapy for Insomnia (CBT-I) is a well-established treatment for adult insomnia and targets underlying maladaptive beliefs and thoughts which can contribute to and perpetuate the condition (Parsons et al., 2021). It has been suggested that targeting caregiver cognitions using CBT could help some caregivers manage their young children's sleep (Cook et al., 2022a). Findings from this study appear to support this recommendation and suggest CBT has the potential to benefit caregiver wellbeing as well as child sleep. Firstly, by improving child sleep and thereby reducing any associated disturbance of caregiver sleep; secondly by helping caregivers manage associated negative emotions; and thirdly by helping caregivers reduce restrictions they may have placed on themselves due to efforts to manage child sleep, which were reported by some parents in the current research.

10.6 Caregivers' Management of Negative Emotions

In addition to worries which mothers reported as contributing to or intensifying negative emotions, this thesis has reported a number of cognitions which mothers found helpful in managing their emotions during and about their overall sleep-related routines. This suggests that Acceptance and Commitment Therapy (ACT), which aims to enhance the flexibility of thoughts and increase mindfulness could benefit the wellbeing of some caregivers managing child sleep by enhancing their ability to cope with negative emotions around perceived CSPs (Salari et al., 2020). ACT has been shown to benefit primary and secondary insomnia in adults and may also benefit child sleep by allowing caregivers to reduce negative emotions, such as anger, which are negatively associated with child sleep (Morrell, 1999; Salari et al., 2020).

10.7 Parental Perceptions of Routines

The present research findings suggest that routines are not universally popular with mothers due to concerns over both the limitations they place on family life and concerns about the possible emotional impacts of imposing them on children. Very few studies have explored parents' perceptions of sleep-related routines with their young children. One reported that some parents did not like routines as they could be restricting and effortful (Jones & Ball, 2014). Another reported that some parents preferred to follow their children's cues and allow children to determine their sleep location, regarding this approach as an alternative to routines (Gustafsson et al., 2021). This thesis extends current knowledge of parental reservations, showing that the word 'routine' was tainted by association with rigid forms of parenting some mothers did not believe in. Some mothers believed that getting children to follow consistent sleep schedules would inevitably involve

‘sleep training’, which they were deeply uncomfortable with. Understanding this parent-reported reservation about routines is important because parents have previously reported actively avoiding seeking help with child sleep from HCPs and other sources perceived not to offer guidance in line with their preferred parenting style (Cook et al., 2022b).

An additional perception of sleep-related routines that may be important to address is that some mothers, although using sleep-related routines with their children, did not really believe that bedtime routines did benefit their child’s sleep. This was a highly-educated group of mothers with much knowledge about sleep, however, although they knew that bedtime routines were supposed to benefit child sleep, they did not see tangible benefits. This was in contrast to managing daytime sleep, which most participants felt had tangible same-night benefits. Some also expressed a lack of trust in other sleep recommendations, such as avoiding screen use, again because they did not see any difference in their own child’s sleep behaviours when they did or did not follow this advice. This has implications for health messaging: while it is difficult to present nuanced guidance in a digestible form, presenting blanket guidance which may not apply to individuals can risk undermining trust and confidence in sources of sleep information.

10.8 Limitations and Strengths

Limitations related to sample characteristics have been discussed previously (see Chapter 5, sections 5.5.1 and 5.5.2 and Chapter 6, section 6.6 for discussion of general limitations of the sample in terms of their homogeneity and potential transferability of results). Further discussion of limitations of the sample specific to each research question are discussed in Chapters 6, 7, 8 and 9, sections 6.6, 7.6, 8.6 and 9.6). An additional limitation that should be noted is that participants were largely aware of the

recommendations for bedtime routines and much of the general health guidance for this age group. Thus, lack of knowledge of the benefits of routines, which was a barrier in some studies, was not a barrier in this group (Jones & Ball, 2014; Kitsaras et al., 2021a). The current results therefore suggest that consistent use of sleep-related routines with toddlers can require more support than sleep education which tells caregivers what to do. Given the emotional and practical challenges of maintaining routines with 1-3 year olds, some families may require more tailored and ongoing guidance.

Only mothers were interviewed, a limitation that has been previously discussed in Chapter 8, section, 8.6. However, mothers' views are important as they may be more likely to attend HCP appointments and be the primary night-time caregiver in the majority of families. An additional consideration is that, in the present study, most interviewed parents had a partner and reported being supported, thus findings may not be applicable to all families and there may be more negative feelings and experienced challenges in mothers who do not experience partner support.

Routine practices, perceived benefits, emotional challenges and barriers and facilitators to consistent use described in this thesis cannot be considered exhaustive. Methodological limitations have been previously discussed in relation to each research question (see Chapters 6, 7, 8 and 9, sections 6.6, 7.6, 8.6 and 9.6). It is also important to highlight the reliance on words as representations of participants' experiences. Accordingly, any benefits of sleep-related routines and their impacts on mothers and their children presented here must be considered as participants' perceptions alone, as must the reported challenges to their implementation.

As previously discussed, interviews were carried out during the Covid-19 pandemic when restrictions on socialising and working were in place (see Chapters 8 and 9, sections 8.6 and 9.6). Some participants described beneficial consequences for them of partners working from home and feeling that there was less to miss out on as a consequence of following their routines, as many opportunities for leisure and socialising were curtailed by law at this time. Thus, had data been collected at a time other than during the pandemic, it is possible that increased feelings of worry and frustration during bedtime practices and of restriction due to overall sleep-related routines might have been reported. This limitation serves, however, to highlight the importance of social and cultural factors in mothers' feelings about their young children's sleep.

10.9 Implications

A summary of the key implications for methodology, theory and practice in the area are presented.

10.9.1 Methodological

1) Measuring sleep-related routines is complex as understanding of what constitutes a sleep-related routine varied widely, even in this fairly homogeneous sample. How particular components are carried out and how they affect individual children also matters, indicating the benefit of qualitative and observational methods, which permit exploration of such nuance. Having a sleep-related routine for young children is seen by some as socially desirable and a hallmark of good parenting. This has implications for questionnaire and interview schedule design, as lists of predetermined activities may

prejudice participants' answers and may not capture important nuances of this complex behaviour.

2) There are also ethical implications for research due to the potential sensitivity of the topic, meaning that participants are at risk of negative feelings such as guilt and may feel judged. Such feelings can lead them to feel less sure of their practices and may affect their caregiving. Awareness of these possible consequences and mitigation of such risks through sensitive briefing, debriefing and avoidance of implicit or explicit judgement as far as possible is therefore an ethical responsibility for researchers in this area.

3) When assessing child night-time sleep patterns and caregiver practices, including routines, in 1-3 year olds, duration and timing of daytime sleep and activity should be considered, as parents report that the timing, content and emotional climate of their bedtime routines are intricately related to daytime sleep and activities.

4) Existing measures of parental child-sleep related cognitions do not capture parents' worries about daytime functioning of themselves and their child and use one-off measures (Morrell, 1999; Sadeh et al., 2007; see section 8.5). However, the present research illustrates that a wider range of cognitions may be relevant to child sleep and its management than have previously been considered. It further suggests that caregivers' sleep-related cognitions can change throughout the day and night.

10.9.2 Theoretical

1) The conceptualisation of sleep-related routines for toddlers should acknowledge that they are family specific and no one set of activities can be regarded as optimal or

adaptive. Rather, the effects of particular routine components on children and caregivers and the emotional climate between them can be regarded as beneficial for child sleep and family wellbeing. Additionally, they should be regarded as existing in a 24-hour context and as adaptable, flexible patterns which may change to fit a family's needs.

2) Factors influencing sleep-related routines with young children include child, caregiver, family and external factors, reminiscent of the transactional model of child sleep (Sadeh & Anders, 1993; Sadeh et al., 2010) and EST (Bronfenbrenner, 1979; 1986a; 1986b). Viewing development of sleep-related routines through these lenses may help identify further modifiable targets for improving child sleep and family wellbeing. These might include, but are not limited to, communication training for HCPs aimed at reducing parent-perceived judgement, guidance for nurseries on working with families around daytime sleep and family-friendly employment policies.

3) The relationship between caregiver emotions and their sleep-related routines with children is complex. Positive emotions are reported to reinforce caregiver behaviour and may help explain the popularity of such activities as television watching and play in bedtime routines (Kitsaras et al., 2021a; Mindell & Williamson, 2018). Negative emotions have been reported as deterring some caregivers from carrying out routines, or particular activities they find aversive. This has implied a behaviourist model whereby caregiver emotions reward or deter from particular caregiving behaviours. However, as well as finding that parents reported enjoyment motivated them to use their routines, some mothers in the present research reported persisting with routines and particular activities they find strongly aversive in the belief that they benefit their child. Further exploration of the relationships between caregiver beliefs, emotions, goals and behaviours are now needed.

10.9.3 Practical

1) Promotion of sleep-related routines should make clear that they can be appropriate for caregivers with a range of parenting styles and can bring many emotional benefits for children and caregivers, including regular opportunities for strengthening parent-child relationships through repeated opportunities for closeness and connection. Emphasising the possibility of co-construction of routines with even very young children may appeal to some groups of parents who are concerned about possible adverse emotional consequences for their children. Promoting benefits for caregivers may appeal to others.

2) Access to ongoing, non-judgemental advice and support tailored to individual families' needs and values could help support child sleep, caregiver wellbeing and family functioning. Children's development influences sleep-related routines, which can form reactively, sometimes resulting in routines that are suboptimal for families. Change can then be difficult. HVs may be well placed to offer such support, however resources and training need to be increased if such services are to be a realistic option (see Chapter 9, section 9.5).

3) Guidance on creating, implementing and adapting optimal sleep-related routines for individual families (defined at the end of section 10.2) should take account of what individual caregivers find problematic about their child's sleep, and be informed by understanding of family ecology factors, as shown in Figure 12. Conversely, blanket guidance, which may not apply to individuals, can risk undermining trust and confidence in sources of sleep information.

4) Routines have the potential to adversely affect caregiver wellbeing. Caregivers should be encouraged to recognise their own needs and the ways their routines can give regular opportunities to experience positive emotions. HCPs should be vigilant for over-adherence to sleep-related routines and attendant social isolation and negative emotions caregivers may experience. Where possible, guidance should be directed to all co-parents/other caregivers to encourage shared responsibility for child sleep in the family.

5) Caregiver cognitions about sleep, routines and parenting can affect their emotional experience of their child's sleep-related routines, with possible implications for child sleep and caregiver wellbeing. CBT may benefit some caregivers seeking to improve their child's sleep, while ACT and mindfulness may help some caregivers manage negative feelings associated with managing their child's sleep.

10.10 Future directions for research

In addition to the future directions for research identified in earlier chapters, the following areas also require exploration.

1) Participants' reported uncertainty about which aspects of routines are most important for child sleep indicating that, as stated by Kitsaras (2019), there is an urgent need to explore the relative effects of different elements of sleep-related routines on child sleep. Specifically, current results suggest that future research should aim to tease apart the relative importance of daytime sleep/activity and consistent timing, consistent activities and emotional climate of bedtime routines. Research should also consider

caregiver emotional experience of sleep-related routines and whether it is related to child sleep outcomes.

2) The emotional experiences mothers reported during and about routines in this research point to the need for further research on the effects of sleep-related routines with toddlers on caregivers' wellbeing. Both positive and negative effects require investigation, with specific targets for research including the inclusion of regular opportunities for parent-child connection, regular time to themselves for caregivers, and overadherence and effects on caregivers' socialising and relationships. Such research is particularly needed in families experiencing serious CSPs.

3) The current results suggest that using routines is not simply about providing sleep education to tell caregivers what to do, but requires more tailored and ongoing guidance. There is now a need for further research with different samples, such as racial/ethnic minority groups and those living in poverty to build a more comprehensive picture of factors shaping children's sleep-related routines, and the support required by families living in different circumstances. Research to develop a tool for exploring the multiple factors influencing children's sleep-related routines with individual families could also be useful for HCPs.

4) Fathers' perspectives about their role in sleep-related routines and how they support mothers are important avenues of future research. Future studies could consider interviewing primary and secondary caregivers to understand how sleep-related routines are negotiated between co-parents. This might be particularly important to research where parents share custody of a child, but do not co-habit, to understand how children can best

be supported. The experiences of single and lone parents in using sleep-related routines also require investigation.

5) Further research into how parents' goals, feelings, beliefs and attitudes influence their sleep management practices with their toddlers is now needed. This should be based on qualitative exploration of cognitions in parents using a range of practices as current measures do not capture the overlap between contradictory motivators and how parents prioritise different thoughts and feelings when managing their toddlers' sleep.

6) Research into effects of factors distal from the family on child sleep and its management are also required (see Figure 12 for illustration). For example, mothers in the current research reported feeling explicit and implicit judgment from a range of sources, which some perceived affected their caregiving and some perceived affected their mental health. Further investigation of cultural narratives about child sleep and its management and how these can impact families are now needed. There is an additional need to investigate the attitudes held by HCPs in relation to management of child sleep and the language used when advising parents. Research into the effects of both these factors on mothers and their management of child sleep are now warranted.

10.11 Conclusion

To conclude, sleep-related routines look different in different families as they are influenced by unique constellations of child, caregiver, family and external influences. These influences may affect whether or not families consider their child's sleep problematic. Guidance offered to families therefore needs to incorporate understanding of the nature of parent-perceived CSPs to optimise engagement and the potential benefits for

families. Children's sleep-related routines are likely to be performed with the aim of achieving varying goals, to change and develop over time. They have the potential to be a source of family connection and promote long-term adherence to health behaviours. However, over-adherence or routines which do not meet the needs of all family members can have potential adverse consequences for caregivers, children and families. Somewhat ironically, sleep-related routines should be flexible in terms of activities, timings and goals, both across and within families. Acknowledging, accepting and supporting the individual and flexible nature of sleep-related routines has the potential to benefit children and their families and increase trust in healthcare guidance and provision.

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Appendices

Appendix A Online Advert Recruiting Participants to Study

Parents needed for research on how UK parents try to help their toddlers sleep and how they feel about the strategies they use.



What does the study involve:

- A 20-minute online questionnaire about your family and your toddler's sleep, followed by
- A 60-90 minute interview about how you help your toddler sleep and how you feel about the strategies you use.

You are eligible if:

- You are the resident parent of a toddler aged 1-3 years
- Your toddler does not suffer from any significant health or developmental condition known to affect sleep
- You live in the UK, speak English and are over 18

Approved by Oxford Brookes University Research Ethics Committee Ref:???????

This study forms part of my PhD on young children's sleep. I'm keen to hear from parents whose children sleep well or less well and from parents who do use sleep-related strategies and those who don't.

Participants will receive a £10 Amazon voucher on completion of the study.

To take part, or for more information, please visit:

Qualtrics weblink

Or email Fiona Tierney at 19036031@brookes.ac.uk

QR code linking
to Qualtrics
questionnaire

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Appendix B Participant Information Sheet

Participant Information

How do parents help their toddlers sleep and how do they feel about the strategies they use?

You are being invited to take part in a PhD research study about how parents experience using everyday strategies to help their toddlers sleep. Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully.

What is the purpose of the study?

Little is known about the everyday activities and strategies UK parents use to help their children sleep and how parents feel about them. This study aims to explore the type of activities and strategies parents use, how often they use these particular things and how they feel about them. The study will also explore what makes particular activities/strategies easy or difficult to use for parents.

This information may help healthcare professionals to better understand parents' perspectives on activities/strategies related to toddlers' sleep. It will also inform future research on types of activities/strategies that are most beneficial for toddlers' sleep.

The study will take place between July and December 2020.

Why have I been invited to participate?

You are invited to take part if you are an English-speaking parent living in the UK with a toddler aged between 1 and 3 years and if your toddler has no significant health or developmental conditions that can impact sleep. Twenty parents in total are needed to take part in an online questionnaire followed by an interview.

Do I have to take part?

It is up to you to decide whether or not to take part in this research study. You will be given this information sheet along with a privacy notice that will explain how your data will be collected and used, and be asked to give your consent. If you do decide to take part you are still free to withdraw unprocessed data at any time by closing the browser before pressing the 'submit' button. You can also withdraw at any time before your data is analysed and without giving a reason by telling the researcher that you wish to withdraw.

What will happen to me if I take part?

This study involves completing a 20-minute online questionnaire about your household, your sleep and your toddler's sleep hosted on a secure server and taking part in a 60 minute interview about the everyday activities you use to help your toddler sleep. This study requires participants to take part in both an online questionnaire and an interview.

Your 60 minute interview will be arranged by email to take place by phone or video call (using Skype or Google Hangouts) at a time that is convenient to you. With your permission an audio recording of the interview will take place.

On completing the questionnaire and interview, participants will receive a £10 Amazon voucher.

What are the possible disadvantages and risks of taking part?

Taking part will involve spending around 20 minutes answering a questionnaire, followed by 60 minutes taking part in an interview.

Video call platforms have been chosen to minimise data use if WiFi is not available, however, there may be costs involved in making video calls if you are not using WiFi. If you prefer, the interview can take place by telephone.

It is possible that you may experience some mild emotional distress if there are aspects of your child's sleep you find upsetting.

If you would like any information or support with your child's sleep, the following websites and telephone support lines give useful guidance and information on improving adult and child sleep, as well as support with parenting:

The National Health Service website gives comprehensive information on adult and child sleep.

Website: www.nhs.uk

The Children's Sleep Charity has a range of information leaflets on different aspects of children's sleep.

Website: <https://www.thechildrenssleepcharity.org.uk>

The Sleep Council is a national body helping people to look after their sleep health. They offer written advice and resources for improving adult and child sleep, as well as information about child sleep problems.

Website: www.sleepcouncil.org.uk

Family Lives is a charity working for families to access active support and understanding.

Helpline: 0808 800222

Website: <https://www.familylives.org.uk>

If, after consulting these resources, you would like further support you should speak to your child's GP or health visitor.

What are the possible benefits of taking part?

There are no direct benefits to you in taking part. However, this research will increase knowledge about how UK parents try to help their toddlers sleep and how they feel about the strategies they use. It is hoped that this will help healthcare professionals to better

support UK parents in helping their toddlers sleep and inform future research exploring how everyday strategies are related to toddlers' sleep.

Will what I say in this study be kept confidential?

All information about you and your child as individuals will be kept strictly confidential (subject to legal limitations). You will not be asked for any personally identifying information in the questionnaire. The online questionnaire is hosted on an external website where your data will be stored securely. Data are collected online and no IP addresses will be stored. Data from the questionnaire will be stored securely in a password-protected University Google drive. With your permission, your email address will be collected and stored securely to contact you to arrange an interview.

With your permission, the interview will be audio recorded and notes will be taken. Google Meet is a secure, encrypted platform for video calls. Following calls, your contact details will be deleted, apart from your email address which, if you give permission, will be kept so that we can share a summary of the results of the study with you and send your gift voucher. Your email address will be stored separately from the rest of your data on a password-protected computer and deleted following completion of the study.

Audio recordings will be securely stored until they have been transcribed into a written document, then destroyed immediately following transcription. Any identifying details such as names and placenames will be removed from the transcript. Anonymised written transcripts will be stored in a password-protected Google drive. Although every effort will be made to anonymise data, where the sample size is very small, it may be impossible to guarantee anonymity/confidentiality of the participant's identity.

Questionnaire and interview data from the study will be kept securely by the researchers for ten years following the completion of the project.

With your permission, your questionnaire and anonymised interview data will be stored securely for future research and training purposes in the UK Data Archive. No personally identifying information will be stored.

What should I do if I want to take part?

If you would like to take part in both the questionnaire and interview, please read and agree to the consent statements at the bottom of this page before answering this questionnaire.

What will happen to the results of the research study?

This study is part of the researcher's doctoral thesis. Results of this study may be published in a peer-reviewed journal and/or presentation at academic conferences. A summary of the study findings will be available to all participants and you will be asked if you wish to receive a summary of results on completing the interview.

Who is organising and funding the research?

I am conducting the research as a PHD student at Oxford Brookes University, Faculty of Health and Life Sciences, Department of Psychology, Health and Professional Development.

Who has reviewed the study?

This research has been approved by the University Research Ethics Committee, Oxford Brookes University.

Contact

For more information about this study, please contact the researcher, Fiona Tierney at 19036031@brookes.ac.uk or the research supervisor, Dr Luci Wiggs, at lwiggs@brookes.ac.uk. If you have any concerns about the way in which the study has been conducted, you should contact the Chair of the University Research Ethics Committee on ethics@brookes.ac.uk.

Thank you

Thank you for your interest in this project and for taking time to read the information sheet.

Appendix C Online Questionnaire Text

Online questionnaire:

For the purposes of carrying out this Survey, the University uses the survey tools provided by Qualtrics with whom the University's Faculty of Health and Life Sciences holds an agreement. There is always a certain element of risk of data loss when data is collected and processed in an internet environment. This risk cannot be eliminated entirely and participants consenting to take part in the survey need to be aware of this risk. However, personal data will be minimised to the extent possible for the survey and the University believes that Qualtrics offers sufficient guarantees to keep the data secure while it is being processed. These security obligations are set out in the agreement between Qualtrics and the University.

Further information about Qualtrics can be found on the following web site: <http://qualtrics.com/>

A privacy notice explaining how your data will be stored and used is available here [\[Link to Gdpr privacy notice\]](#)

GDPR Privacy Notice for Participants

Privacy notice for research participants

This privacy notice provides information on how Oxford Brookes University collects and uses your personal information when you take part in one of our research projects. Please refer to the research participant information sheet for further details about the study and what information will be collected about you and how it will be used.

Oxford Brookes University (OBU) will usually be the Data Controller of any data that you supply for this research. This means that we are responsible for looking after your information and using it properly. The exception to this is joint research projects where you would be informed on the participant information sheet as to the other partner institution or institutions. This means that they will make the decisions on how your data is used and for what reasons. You can contact the University's Information Management Team on 01865 485420 or email info.sec@brookes.ac.uk.

Why do we need your data?

Your data is needed to improve knowledge about everyday activities UK parents use to help their toddlers sleep. Your data will also help us understand whether different groups of people use different activities to help their toddlers sleep and their reasons for doing so. This information may help healthcare professionals to understand parents' perspectives on activities related to toddlers' sleep. It will also inform future research on types of activities that are most beneficial for toddlers' sleep.

OBU's legal basis for collecting this data is:

1. You are consenting to providing it to us; and,
2. Processing is necessary for the performance of a task in the public interest such as research

If the university asks you for sensitive data such as; racial or ethnic origin, political opinions, religious or philosophical beliefs, trade-union membership, data concerning health or sexual life, genetic/biometric data or criminal records OBU will use these data because:

2. You have given OBU explicit consent to do so; and / or
3. Processing is necessary for scientific or research in the public interest.

What type of data will Oxford Brookes University use?

The research will use data about your age, education, ethnicity, family structure, employment, household income, your sleep and your child's sleep and your child's sleep environment gathered by questionnaire. Your views and experiences of sleep-related activities you do with your toddler gathered by interview will also be used.

Who will OBU share your data with?

No one.

Will OBU transfer my data outside of the UK?

No.

What rights do I have regarding my data that OBU holds?

6. You have the right to be informed about what data will be collected and how this will be used
7. You have the right of access to your data
8. You have the right to correct data if it is wrong
9. You have the right to ask for your data to be deleted
10. You have the right to restrict use of the data we hold about you
11. You have the right to data portability
12. You have the right to object to the university using your data
13. You have rights in relation to using your data in automated decision making and profiling.

Where did OBU source my data from?

Your data will be sourced from your answers to an online questionnaire, information you give in an audio-recorded interview and your emails to the researcher.

Are there any consequences of not providing the requested data?

There are no consequences of not providing data for this research. It is purely voluntary.

Will there be any automated decision making using my data?

There will be no use of automated decision making in scope of UK Data Protection and Privacy legislation.

How long will OBU keep your data?

In line with Oxford Brookes policies data generated in the course of research must be kept securely in paper or electronic form for a period of time in accordance with the research funder or University policy.

Data from the study will be archived in a secure repository for the purposes of future research and training. Questionnaire data will be stored with no identifying information. Interview data will be kept as written transcripts with all names and placenames removed and replaced with pseudonyms to preserve your anonymity.

Who can I contact if I have concerns?

In the event of any questions about the research study, please contact the researchers in the first instance (contact details in the study participant information sheet). If you have any concerns about the way in which the study has been conducted, contact the Chair of the University Research Ethics Committee at ethics@brookes.ac.uk. For further details about information security contact the Data Protection Officer at: brookesdpo@brookes.ac.uk or the Information Management team on info.sec@brookes.ac.uk

For the purposes of carrying out this Survey, the University uses the survey tools provided by Qualtrics with whom the University's Faculty of Health and Life Sciences holds an agreement. There is always a certain element of risk of data loss when data is collected and processed in an internet environment. This risk cannot be eliminated entirely and participants consenting to take part in the survey need to be aware of this risk. However, personal data will be minimised to the extent possible for the survey and the University believes that Qualtrics offers sufficient guarantees to keep the data secure while it is being processed. These security obligations are set out in the agreement between Qualtrics and the University.

1) Further information about Qualtrics can be found on the following web site: <http://qualtrics.com/>

☐

I have read the Participant Information and believe I understand it. I believe I understand the purpose of the research and what I will be asked to do. I have been given the opportunity to ask any questions and they have been satisfactorily answered.

☐

I understand that I can stop participating in this research at any time before my data is analysed and that I can refuse to answer any questions.

☐

I give my informed and free consent to take part in this study

☐

I agree to take part in this study.

☐

I do not agree to take part.

Thank you for agreeing to participate in this study about the everyday activities and strategies parents use to help their toddlers sleep.

Please only take part in this questionnaire if you would also like to take part in a 60-minute interview about the everyday activities you do with your toddler, how these affect your toddler's sleep and how you feel about the activities you do.

Please take your time and read each question carefully.

If you have more than one **child aged between 1 and 3 years**, please fill this out according to your youngest child.

Choose the answer that best describes you and your child by clicking in the circle provided or typing in the space provided. There are no right or wrong answers.

If there is a question that you do not want to answer, you do not have to. You can stop participating in the questionnaire at any time.

Please answer the following questions before the study begins to confirm you are eligible.

Are you aged over 18?	Yes	No
Do you live in the UK?	Yes	No
Are you a resident parent of a child aged between 1 and 3 years?		

Does your child have any significant health or development conditions?

No

Yes (please state condition)

About you

This section will ask some questions about you and your household. Data you provide will help us understand whether different groups of people use different activities to help their toddlers sleep and their reasons for doing so. This information may help healthcare professionals to understand parents' perspectives on activities related to toddlers' sleep.

Please tell us about your family:

1) Are you

A single parent?

Living with a partner?

Other (please state) _____

Prefer not to answer

2) How many children in total live in your household?

3) How many years old is each child?

Child 1 _____

Child 2 _____

Child 3 _____

Child 4 _____

Child 5 _____

4) What is your age in years?

5) Which county do you live in?

County: _____

6) What is the highest level of education you have completed?

Completed primary school

Completed secondary/ high school or equivalent

Completed college or university

Completed postgraduate study/qualification

Prefer not to answer

7) How do you describe your ethnicity?

White British

White Other

Black African

Caribbean

Black British

Mixed or Multiple ethnic group

Asian

Arab

Other ethnic group (please state) _____

Prefer not to answer

8) What is your employment status?

I currently work part-time

I currently work full-time

I am not currently employed outside the home

I am currently furloughed

Prefer not to answer

9) What is your current annual household income bracket?

Below £18,499

£18,500- £29,499

£29,500- £39,499

£39,500- £49,499

£49,500 - £59,499

£59,500 - £69,499

£69,499 and above

Prefer not to answer

10) Please enter your email address so that we can contact you to arrange a 60-90 minute interview.

Note: Your email address will be kept confidential and will only be used to: 1) contact you to arrange an interview about your experiences of using everyday strategies to help your toddler sleep, and 2) to send you a summary of results, along with your gift voucher. Following study completion it will be deleted.

11) Please enter your preferred name for use during the interview (*note: this need not be your real name*).

Now please tell us a little about your own sleep. In answering these questions, think about how your sleep has been over the last two weeks (or the latest typical 2 weeks, if the most recent 2 weeks were atypical for any reason, e.g., your child was ill or the family was on holiday).

1) How do you feel about the amount of sleep you get on average?

I get plenty of sleep
I get enough sleep
I do not get enough sleep
I get not nearly enough sleep

2) How many hours' sleep do you get a night, on average?

3) How many times do you wake on an average night? and for how long?

4) How many minutes are you awake in total on an average night?

5) Does your child's sleep affect your own sleep?

Yes, very much
Yes, somewhat
Not really
Not at all

If you answered yes, please tell us how your sleep is affected by your child's sleep.

Now, please answer some questions about your toddler (aged between 1 and 3 years) and their sleep. If you have more than one child aged between 1 and 3

years, please fill this out according to your youngest child. When answering these questions, please think about their sleep over the **last two weeks** (or the **latest typical 2 weeks**, if the most recent 2 weeks were atypical for any reason, e.g., your child was ill or the family was on holiday).

Choose the answer that best describes you and your child by clicking in the circle provided or typing in the space provided. There are no right or wrong answers.

1. What is your relationship to your child?

- ☐ Mother
- ☐ Father
- ☐ Grandparent
- ☐ Other (please state) _____

2. How old is your child (in months)?

_____ months

3. Was your child premature (born before 37 weeks' gestation)?

- ☐ Yes
- ☐ No
- ☐ I don't know

4. My child's biological sex is

- ☐ Male
- ☐ Female
- ☐ Intersex

5. How many nights per week are you involved with your child at bedtime and/or overnight?

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

As you answer the following questions, please think about your child's sleep during the past two weeks (or the latest typical 2 weeks, if the most recent 2 weeks were atypical for any reason, e.g., your child was ill or the family was on holiday).

1. What time does your child's bedtime routine usually start (e.g. child starts getting ready for bed)?

Example: 7.45 PM

My child starts getting ready for bed at _____

2. In a typical week, how often does your child have the exact same bedtime routine?

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

3. As part of your child's bedtime routine, does your child usually breastfeed or drink breastmilk?

☐ Yes ☐ No

4. In which room does your child usually fall asleep at bedtime?

☐ In his/her own room ☐ In parents' room ☐ In sibling's or other bedroom ☐ In another room of the house

5. Where does your child usually fall asleep at bedtime?

- ☐ Cot ☐ Own bed (any size) ☐ Parents' bed ☐ Co-sleeper (attached to parents' bed)
☐ Swing/pushchair ☐ Parent's/adult's arms ☐ Other

6. How does your child usually fall asleep at bedtime?

- ☐ While being held or rocked ☐ With an adult in the room, but not being held or rocked ☐ Alone (without an adult in the room)

7. At bedtime, does your child usually fall asleep while breastfeeding, bottle feeding, or drinking from a sippy cup?

- ☐ Yes ☐ No

8. Does your child usually fall asleep at bedtime with a dummy?

- ☐ Yes ☐ No

9. Are there usually electronics (e.g., television, smartphone, or tablet) on in the room while your child falls asleep at bedtime?

- ☐ Yes ☐ No

10. Who puts your child to bed at bedtime?

- ☐ Only myself ☐ Usually myself ☐ Two parents equally ☐ Usually co-parent ☐ Only co-parent ☐ Usually someone else (please state) _____

11. What time is your child usually put to bed at night (lights out)?

Example: 8:30 PM would be written as _8_: _30_ PM

My child is usually put to bed at _____

12. In a typical week, how often does your child have the same bedtime (within 15 minutes)?

- ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 nights

13. Typically, how difficult is bedtime?

- ☐ Very easy ☐ Somewhat easy ☐ Neither easy nor difficult ☐ Somewhat difficult ☐ Very difficult

14. How long does it usually take your child to fall asleep?

Example: If you put your child to bed at 6:30 pm and your child falls asleep at 8:00 pm, it takes 1 hour and 30 minutes for your child to fall asleep.

_____ hours _____ minutes

15. Which room does your child sleep in for most of the night?

- ☐ In his/her own room ☐ In parents' room ☐ In sibling's or other bedroom ☐ In another room of the house

16. Where does your child sleep for most of the night? ☐ Cot ☐ Own bed (any size)

- ☐ Parents' bed ☐ Co-sleeper (attached to parents' bed) ☐ Swing/pushchair ☐ Other (please state) _____

17. How many nights a week does your child usually wake during the night?

- ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

18. If your child has woken at night in the past two weeks, how many times did they wake during the night?

19. How much total time during the night was your child awake (between when your child goes to bed and wakes for the day)?

Example: If your child wakes up 2 times and is awake for about 15 minutes each time, your child's total time spent awake is 30 minutes. In that case, write "0 hours, 30 minutes."

_____ hours _____ minutes

20. Who responds when your child wakes up during the night?

☐ Only myself ☐ Usually myself ☐ Two parents equally ☐ Usually co-parent ☐ Only co-parent ☐ Usually someone else (please state) _____

21. What is the longest stretch of time that your child is asleep during the NIGHT without waking up? *For example if your child sleeps without waking from 9.00PM to 5.30 am, they are asleep for 8 hours, 30 minutes without waking. Please write this as "8 hours, 30 minutes".*

_____ hours _____ minutes

22. Does your child snore during sleep? ☐ Never (or only when unwell or has a cold) ☐ Only occasionally ☐ Less than 3 times a week ☐ 3 times a week or more

23. What time does your child wake up in the morning?

My child wakes up at ----- _____

24. How much total time does your child spend sleeping during the NIGHT (between when your child goes to bed and wakes for the day)?

Example: If your child sleeps for 3 hours, wakes up, then sleeps for 5 hours and 30 minutes more, your child sleeps for 8 hours and 30 minutes total.

_____ hours _____ minutes

25. Where does your child usually wake up in the morning? ☐ Cot ☐ Own bed (any size) ☐ Parents' bed ☐ Co-sleeper (attached to parents' bed) ☐ Swing/PUSHCHAIR ☐ Other (please state) _____

26. How well does your child usually sleep at night? ☐ Very well ☐ Well ☐ Fairly well ☐ Poorly ☐ Very poorly

27. How would you rate your child's mood when he/she wakes up in the morning?

☐ Very happy ☐ Somewhat happy ☐ Neutral ☐ Somewhat fussy ☐ Very fussy

28. On a typical DAY, how many naps does your child take (between when your child wakes for the day and goes to bed at night)? _____ naps

29. How much total time does your child spend sleeping during the DAY (between when your child wakes for the day and goes to bed at night)? *Example: If your child took 2 naps and slept 1 hour each time, your child's total time spent sleeping during the day is 2 hours.* _____ hours _____ minutes

30. Do you consider your child's sleep a problem?

☐ Not a problem at all ☐ A very small problem ☐ A small problem ☐ A moderate problem ☐ A serious problem

31. How confident do you feel about managing your child's sleep?

☐ Very confident ☐ Somewhat confident ☐ Neutral ☐ Somewhat unsure ☐ Very unsure

Thank you very much for answering this questionnaire about your family and your child's sleep.

Now please read the following information carefully and select how you would prefer to be interviewed. (You will be emailed to arrange an interview time that is convenient for you.)

Google Meet requirements

You can use Google Meet if:

- you are using a web browser on a laptop or desktop computer

OR

- you use a mobile device and have a Google account/gmail

Note: Google Meet **CANNOT** be used from a mobile device unless you have a Google account

Skype requirements

You can use Skype if:

-you have a Skype account and are using a web browser on a laptop or desktop computer

OR

-you have the Skype app installed on your mobile device

Alternatively, you can choose to be interviewed by telephone.

32) I would like to be interviewed using Google Meet

Yes, I confirm I have a Google account or am able to use a laptop or desktop computer for the interview

No

33) I would like to be interviewed using Skype

Yes, I confirm I have a Skype account

No

34) If yes to 33), My Skype address is

(Your contact details will only be used for the interview and will be deleted immediately afterwards.)

35) I would like to be interviewed by telephone

Yes

No

36) If yes to 35), My telephone number is

(Your contact details will only be used for the interview and will be deleted immediately afterwards.)

Appendix D Participant Debrief Sheet Following Phase One Questionnaire

Participant Debrief

Thank you for taking part in this study about strategies parents use to help their toddlers sleep.

Little is known about the everyday strategies parents use to help their children sleep and how parents feel about them. This study aims to explore the type of strategies parents use, how often they use particular strategies and how they feel about them. The study will also explore what makes particular strategies easy or difficult to use for parents.

This information may help healthcare professionals to understand parents' perspectives on strategies related to toddlers' sleep. It will also inform future research on strategies that are most beneficial for toddlers' sleep.

What happens next?

If you have completed the questionnaire and provided your email address, the researcher, Fiona Tierney, will contact you to arrange a 60 minute video call interview to talk about any strategies you use in relation to your toddler's sleep and how you feel about them. Following the interview, you will receive a £10 Amazon voucher to thank you for taking part.

Your participation in this study is very much appreciated. All study data will be stored securely by Oxford Brookes University for up to ten years and, if you have given your consent, will also be stored securely in a UK archive for future research and teaching/training purposes.

If you would like to withdraw your data at any point in the next 2 weeks, please contact the researcher by email at 19036031@brookes.ac.uk with your Unique Participant Identifier Code. You do not need to give a reason for withdrawal and your data will be deleted immediately.

What if I am concerned about my toddler's sleep?

Advice on toddler sleep cannot be given as part of this study. However, if you are concerned about any aspect of your toddler's sleep or wellbeing, or your own sleep or mood you may find it helpful to contact the following sources of advice, information and support.

Websites

If you would like any information or support with your child's sleep, the following websites give useful guidance and information on improving adult and child sleep:

www.sleepcouncil.org.uk
www.nhs.uk

Healthcare professionals

If, after looking at these sites, you would like further support you should speak to your child's GP or health visitor.

Contact

If you have any concerns about this study, please contact the researcher, Fiona Tierney at 19036031@brookes.ac.uk or the research supervisor, Dr Luci Wiggs, at lwiggs@brookes.ac.uk. If you have any concerns about the way in which the

study has been conducted, you should contact the Chair of the University Research Ethics Committee on ethics@brookes.ac.uk

Appendix E Email Text Confirming Participants' Interview Time

Dear

Thank you for agreeing to take part in an interview at **7pm on Thursday 3rd September**. Please join the interview using Google Meet by clicking on the link below or copying and pasting into your internet browser.

Before our meeting, please could you **type your initials in the boxes and sign the attached consent form by typing your name and the date, then email** it back to me. I've attached a Participant Information sheet and Data Handling statement and I'm very happy to answer any questions you may have about the study.

I will ask you about the things you have done with your child that you think are related to their sleeping and waking pattern **in the last week that contained no unusual circumstances (such as illness or holidays)**. I'll ask about things that you did at the following times of day and night:

- between your child's evening meal and going to sleep,
- when they wake at night,
- when they wake in the morning,
- in the daytime
- and around their nap (if they are still napping).

I will also ask you why you do these things and how you feel as you are doing them, and anything that makes it easy or difficult to do them. There are no right or wrong answers as this study aims to listen to parents' experiences of helping their toddler to sleep.

Thanks again for your help and best wishes,

Fiona

Fiona Tierney
PhD student
Psychology Department
Oxford Brookes University
19036031@brookes.ac.uk

Google Meet instructions

If using a laptop or desktop:

1. Click the meeting link sent to you in this email or copy and paste into your web browser

Google Meet will now open in a new browser tab page.

2. Accept the camera and microphone requests, and click 'dismiss'

Once you are participating in a Google Meet you can turn the camera and microphone on and off as you wish

3. Click the green 'join' button to enter the meeting

If using a mobile device and you have a Google account but do not yet have the Google Meet app

1. Click the link in this email

2. Check the box to 'save my place in the app' and click the 'Open' button

3. Click the 'Open' button to allow the app to open in the app store and instal it.

Then

If using a mobile device with the Google Meet app installed

4. Allow the app to access the camera and the microphone. You can turn these off at will when you are in the meeting.

5. Click the green 'join' button to enter the meeting. Tapping on the upper half of the screen will cause the microphone, camera and end call buttons to appear.

If you press the end call button my mistake, you can click 'rejoin' to re-enter the meeting.

Appendix F Consent Form for Phase Two Interview



CONSENT FORM

How do UK parents help their toddlers sleep and how do they feel about the strategies they use?

Researcher: Fiona Tierney, PhD Student, Psychology Department, Oxford Brookes University

Email: 19036031@brookes.ac.uk

Please initial box

1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason.
3. I agree to take part in the above study.

☐☐☐

Please initial box

4. I agree to the interview being audio recorded
5. I agree to the use of anonymised quotes in publications
6. I agree that an anonymised data set, gathered for this study may be stored in a specialist data centre/repository relevant to this subject area for future research

Yes

No

☐☐☐☐☐☐

7. I agree that my email address may be stored until the study is complete for the purpose of sending me a summary of the study results

☐☐

Please date and sign

Name of Participant

Date

Signature

Name of Researcher

Date

Signature

Appendix G Interview Schedule

Questions	Follow up prompts
<i>Perception of ‘good’ toddler sleep</i> I’d like to start by asking you to tell me a little bit about the people in your household, for example who’s in your household, the ages and names of your children. Thank you very much and I’m going to ask you to tell me a bit about ____ sleep. Could you tell me what a good night’s sleep would be for _____ at the moment? That’s great. So could tell about the effect that a good night’s sleep has on _____ and how you notice that?	
<i>Activities parents perceive to help toddlers sleep over day/night; affective experience; barriers and facilitators</i> Thank you. Now I’m going to ask about things you do that you think help your toddler with their sleeping and waking patterns throughout the night and day. I’m interested in all the things you think are related to <u>(toddler’s name)</u> sleeping and waking patterns, why you do them and how you feel about them. I’d like you to think about the last week. Was last week particularly unusual, for example, were you on holiday or was anyone in the family unwell? If so, can you think of a week prior to that where things were more usual for your family?	
Please could you tell me about the things you do with <u>(toddler’s name)</u> between the evening mealtime and him/her going to sleep? How do you feel as you [insert activity]?	Follow up prompts: You mentioned.[insert participants’ activities] - why did/do you [insert participants’ activities]? In your experience, does [insert participants’ activities] affect <u>(toddler’s name)</u>’s sleep?

Do you tend to do the same activities between the evening meal and him/her sleeping everyday, or does it vary? What affects the activities you do with <u>(toddler's name)</u> between dinner and sleep on a particular day?	How do they affect his/her sleep? Could you tell me more about... Could you give an example of...
<i>Night waking</i> Please could you tell me about the things you did with <u>(toddler's name)</u> the last time s/he woke in the night/the times s/he woke at night this week? You said you [insert participants' answer] - how did you feel as you were [insert participants' answer]? What affects what happens when <u>(toddler's name)</u> wakes in the night?	Follow up prompts: Why do you.[insert participants' activities]? How do you feel as you [insert participants' activities].? In your experience, do any of these things affect <u>(toddler's name)</u>'s sleep and, if so, how?
<i>Morning waking</i> The next questions are about _____'s waking and daytime activities. I: Please could you tell me about the things that happen around when <u>(toddler's name)</u> wakes in the morning? I: How do you feel as you [insert activity]?	Follow up: (Prompts: e.g. wake them, try not to wake them, take them into bed, set a time when they are allowed to get up) You mentioned.[insert participants' activities] - why did/do you [insert participants' activities]?

I: Do you tend to do the same things when <u>(toddler's name)</u>'s wakes each morning, or does it vary? I: What affects what happens when <u>(toddler's name)</u> wakes on a particular day?	Could you tell me more about... Could you give an example of...
Does <u>(toddler's name)</u> usually nap at a particular times(s) or not? What affects when s/he naps? Please could you tell me about the things you do in relation to <u>(toddler's name)</u>'s nap/s? How do you feel as you [insert activity]? Do you tend to do the same things in relation to <u>(toddler's name)</u>'s nap/s each day, or does it vary? What affects what you do in relation do his/her naps?	Follow up prompts: Do you think <u>(toddler's name)</u>'s napping affects his/her sleeping and waking patterns? You mentioned.[insert participants' activities] - why did/do you [insert participants' activities]? In your experience, does [insert participants' activities] affect <u>(toddler's name)</u>'s nap? How do they affect his/her nap? Could you tell me more about... Could you give an example of...
<i>Daytime activities</i> Do you have any daytime routines or things that happen regularly or at particular times throughout the day? I: Please tell me about any daytime activities you do with <u>(toddler's name)</u> that you think affect his/her/their sleep. I: How do you feel as you [insert activity]?	Follow up: Do you think any of your daytime activities affect <u>(toddler's name)</u>'s sleeping and waking patterns and, if so, how? You mentioned.[insert participants' activities] - why did/do you [insert participants' activities]? Could you tell me more about...

I: What affects whether or not you do [insert activity] on a particular day?	Could you give an example of...
<i>Avoiding activities</i> I: Is there anything you try to avoid with your toddler to help him/her to sleep?	Follow up prompts: In your experience, how do these things affect your child's sleep?
<i>Changes/feelings about activities</i> Is there anything you would like to change about the things you do in relation to <u>(toddler's name)</u> <u>sleep</u> and/or how often you do them?	If answer to 17) is 'yes': can you describe the changes you'd like to make? Why would you like to make these changes? Do you think you will make these changes? Why/why not? If answer to 17) is 'no': can you tell me how you feel about your <u>(toddler's name)'s</u> sleep at the moment? Can you describe how you feel overall about the things you do in relation to <u>(toddler's name's)</u> sleep?
<i>Views and perceptions of 'routines'</i> Thank you for telling me about the activities you use to help your child sleep. Finally, I would like to ask some questions about your views of routines. I: A routine is defined as using the same activities or doing the same things at the same times and/or regularly. Would you say you have 'routines' relating to <u>(toddler's name)'s</u> sleep? Why/why not? I: Do you think routines help with toddlers' sleep? What makes you think that?	

Thank you very much for all your help in answering these questions. Is there anything you would like to ask?	

Appendix H Ethics Approval Letter



Dr Luci Wiggs
Director of Studies
Faculty of Health and Life Sciences
Oxford Brookes University

9th July 2020

Dear Dr Wiggs,

UREC Registration No: 201391

Study Title: How do parents help their toddlers sleep and how do they feel about the strategies they use?

Thank you for the email of 16th June 2020 outlining the response to the points raised in my previous conditional approval letter regarding the PhD study of your research student, Fiona Tierney and attaching the revised documents. I am pleased to inform you that, on this basis, UREC is happy to grant full approval for this study.

The UREC approval period for the data collection phase of the study is two years from the date of this letter, so until 9th July 2022. If you need the approval to be extended please do contact me nearer the time of expiry.

Should the recruitment, methodology or data storage change from your original plans, or should any study participants experience adverse physical, psychological, social, legal or economic effects from the research, please inform me with full details as soon as possible.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "S Quinton", with a stylized flourish at the end.

Dr Sarah Quinton
Chair of the University Research Ethics Committee

cc: Dr Morag MacLean, Supervisory Team
Fiona Tierney, Research Student
Dr Emma Davies, Research Ethics Officer
Jill Organ, Research Degrees Team

Appendix I Participant Debrief Following Phase Two Interview

Participant Debrief

Thank you for taking part in this study about strategies parents use to help their toddlers sleep.

Little is known about the everyday strategies parents use to help their children sleep and how parents feel about them. This study aims to explore the type of strategies parents use, how often they use particular strategies and how they feel about them. The study will also explore what makes particular strategies easy or difficult to use for parents.

This information may help healthcare professionals to understand parents' perspectives on strategies related to toddlers' sleep. It will also inform future research on strategies that are most beneficial for toddlers' sleep.

What happens next?

Your participation in this study is very much appreciated. All study data will be stored securely by Oxford Brookes University for up to ten years and, if you have given your consent, will also be stored securely in a UK archive for future research and teaching/training purposes.

If you would like to withdraw your data at any point prior to data analysis (September 2020) please contact the researcher by email at 19036031@brookes.ac.uk. You do not need to give a reason for withdrawal and your data will be deleted immediately.

What if I am concerned about my toddler's sleep?

Advice on toddler sleep cannot be given as part of this study. However, if you are concerned about any aspect of your toddler's sleep or wellbeing, or your own sleep or mood you may find it helpful to contact the following sources of advice, information and support.

The National Health Service website gives comprehensive information on adult and child sleep.

Website: www.nhs.uk

The Children's Sleep Charity has a range of information leaflets on different aspects of children's sleep.

Website: <https://www.thechildrenssleepcharity.org.uk>

The Sleep Council is a national body helping people to look after their sleep health. They offer written advice and resources for improving adult and child sleep, as well as information about child sleep problems.

Website: www.sleepcouncil.org.uk

Family Lives is a charity working for families to access active support and understanding.

Helpline: 0808 800222

Website: <https://www.familylives.org.uk>

Healthcare professionals

If, after looking at these sites, you would like further support you should speak to your child's GP or health visitor.

Contact

If you have any concerns about this study, please contact the researcher, Fiona Tierney at 19036031@brookes.ac.uk or the research supervisor, Dr Luci Wiggs, at lwiggs@brookes.ac.uk . If you have any concerns about the way in which the study has been conducted, you should contact the Chair of the University Research Ethics Committee on ethics@brookes.ac.uk

**Appendix J Participant Demographic Characteristics in the Interviewed and Non-
interviewed Groups**

Table J1

Interviewed (n = 21) and Non-interviewed (n = 13) Participant Demographic Characteristics

Variable	Interviewed Frequency (%)	Non-interviewed Frequency (%)
Education		
Completed secondary/high school	1 (5)	1 (8)
Completed University or equivalent	4 (19)	2 (15)
Completed Post-graduate study/qualification	16 (76)	10 (77)
Ethnicity		
White British	14 (67)	8 (62)
White other	3 (14)	1 (8)
Mixed or multiple ethnic group	1 (5)	2 (15)
Arab	1 (5)	1 (8)
Asian	0 (0)	1 (8)
Chinese	1 (5)	0 (0)
Hispanic	1 (5)	0 (0)
Employment status		
Works part-time	10 (48)	6 (46)
Works full-time	9 (43)	5 (38)

Not employed outside the home	2 (10)	2 (15)
Income		
Prefer not to answer	0 (0)	1 (8)
£18,500 - £29,499	0 (0)	1 (8)
£29,500 - £39,499	2 (10)	1 (8)
£39,500 - £49,499	1 (5)	1 (8)
£49,500 - £59,499	5 (24)	1 (8)
£59,500 - £69,499	4 (19)	1 (8)
£69,500 or above	9 (43)	7 (54)
Geographical location		
UK	1 (5)	3 (23)
England	6 (29)	3 (23)
South-East England	7 (33)	4 (31)
South-West England	1 (5)	0 (0)
North-East England	1 (5)	1 (8)
North-West England	1 (5)	1 (8)
Midlands	2 (10)	1 (8)
Northern Ireland	1 (5)	0 (0)
Scotland	1 (5)	0 (0)
Relationship status		

Single parent	1 (5)	0 (0)
Living with partner	20 (95)	13 (100)
Number of children		
1	9 (43)	4 (31)
2	11 (52)	7 (54)
3	1 (5)	2 (15)

A Mann-Whitney U-test was used to compare participants' ages in the Interviewed and Non-interviewed groups. No significant differences were found (see Table J2).

Table J2

Comparison of Participants' Ages in Interviewed and Non-interviewed Groups

Variable	Interviewed (<i>n</i> = 21)	Not interviewed (<i>n</i> = 13)	Mann—Whitney U Test statistic	<i>p</i>
	<i>Mdn</i> (<i>IQR</i> *)	<i>Mdn</i> (<i>IQR</i>)		
Parental age (years)	36.50 (4.00)	36.00 (2.00)	118.50	0.521

*Inter-quartile range

Appendix K Child Demographic Characteristics in the Interviewed and Non-interviewed Groups

A Mann-Whitney U-test found no significant differences between child age in the Interviewed and Non-interviewed groups (see Table K1).

Table K1

*Comparison of **Index Child** Ages in Interviewed and Non-interviewed Groups*

Variable	Not interviewed (n = 13)	Interviewed (n = 21)	Mann—Whitney U Test statistic	p
	<i>Mdn (IQR*)</i>	<i>Mdn (IQR)</i>		
Child age (months)	24.00 (16.00)	26.00 (18.00)	124.00	0.670

*Inter-quartile range

Fisher's Exact tests were used to compare child demographic variables between Interviewed and Non-interviewed groups. A Bonferroni correction was used for the two tests and alpha was set at 0.025. No significant differences were found between the two groups (see Table K2).

Table K2

Comparison of Proportions of Child Demographic Characteristics in Interviewed (n = 21) and Non-interviewed (n = 13) Groups

Variable	Non-interviewed (n=13)	Interviewed (n = 21)	Fisher's exact test of difference (n = 34) P
	Frequency (% of total)	Frequency (% of total)	

**Born <37 weeks'
gestation (y/n)**

Born premature	4 (31%)	1 (5%)	0.348
Born full term	9 (69%)	20 (95%)	
Biological sex			
Male	4 (31%)	12 (57%)	1.000
Female	9 (69%)	9 (43%)	

Appendix L Child Sleep Characteristics in the Interviewed and Non-interviewed Groups

Table L1

Parent-reported Child Sleep Characteristics for Non-interviewed Participants (n=13)

Variable	Median (IQR*)	Minimum	Maximum
Total 24 hour sleep duration (hours)	11.50 (0.58)	8.33	12.50
Total nighttime sleep duration (hours)	10.33 (1.00)	7.00	12.50
Total daytime sleep duration (hours)	1.25 (1.50)	0.00	1.50
Number of nights/week child wakes	2.00 (2.00)	0	7
Wakes per night	1.00 (1.00)	0	6
Total night wake duration (mins)	15.00 (25.00)	0.00	160.00
Sleep onset latency (mins)	15.00 (3.125)	7.50	50.00

*Inter-quartile range

Mann-Whitney U-tests were used to compare child sleep characteristics of those who were interviewed ($n = 21$) and were not interviewed ($n = 13$). There were six planned comparisons of child sleep variables (child total sleep hours/24 hours, nighttime and daytime sleep in hours, SOL in minutes, number of wakes/night, total minutes of wake time/night). Using a Bonferroni correction, alpha was set at .008. No significant differences were found between those who were interviewed ($n = 21$) and were not interviewed ($n = 13$). See Table L2.

Table L2

Comparison of Parent-reported Child Sleep in Interviewed (n=21) and Non-interviewed (n=13) Participants

Mann-Whitney U-tests were used to compare child sleep characteristics in the Interviewed and Non-interviewed groups. A Bonferroni correction was applied and alpha was set at $p < .008$ for the six planned comparisons. No significant differences were found.

Variable	Interviewed (n = 21)	Not interviewed (n = 13)	Mann—Whitney U Test statistic	p
	<i>Mdn (IQR)</i>	<i>Mdn (IQR)</i>		
Total 24 hour child sleep (hours)	11.00 (1.50)	11.50 (0.58)	118.50	0.53
Nighttime sleep duration (hours)	10.00 (1.50)	10.33 (1.00)	133.50	0.93
Daytime sleep duration (hours)	0.60 (1.50)	1.25 (1.50)	126.00	0.71
SOL (mins)	20.00 (15.00)	15.00 (3.13)	88.00	0.15
Number of wakes/night	1.00 (2.00)	1.00 (1.00)	132.00	0.89
Total night wake duration (mins)	15.00 (40.20)	15.00 (25.20)	123.00	0.61

Appendix M Parental Sleep Characteristics in the Interviewed and Non-interviewed

Groups

Table M1

Parental Sleep (Self-reported) in Non-interviewed Participants (n=13)

Variable	<i>Mdn (IQR*)</i>	Minimum	Maximum
Parental sleep duration (hours)	7.00 (1.00)	3.50	9.00
Parental total night wake duration (mins)	45.00 (30.00)	5.00	120.00
Parental number of wakes per night	3 (2.00)	2	6

*Interquartile range

Mann-Whitney U-tests were used to compare parental sleep characteristics of those who were ($n = 21$) and were not interviewed ($n = 13$). Parental sleep characteristics included parental total hours' sleep, number of wakes/night and total wake minutes/night. A Bonferroni correction was used for the three planned tests and alpha was set at 0.02. No significant differences were found between Interviewed ($n = 21$) and Non-interviewed ($n = 13$) participants. See Table M2.

Table M2

Comparison of Parental Sleep (Self-reported) in Interviewed (n=21) and Non-interviewed (n=13) Participants

Variable	Interviewed ($n = 21$)	Not interviewed ($n = 13$)	Mann—Whitney U Test statistic	<i>p</i>
	Median (IQR)	Median (IQR)		
Total parental sleep (hours)	7.00 (1.50)	7.00 (1.00)	114.50	0.436
Parental wakes/night	2.00 (3.00)	3.00 (2.00)	90.00	0.096
Parental total night wake (mins)	30.00 (35.0)	45.00 (30.0)	91.50	0.110

Appendix N Parental Perception of Their Own and Their Child's sleep in the Interviewed and Non-interviewed Groups

Figure N1

Frequencies of Parental Perception of Own Sleep Reported by Interviewed (n=21) and Non-interviewed (n=13) Groups

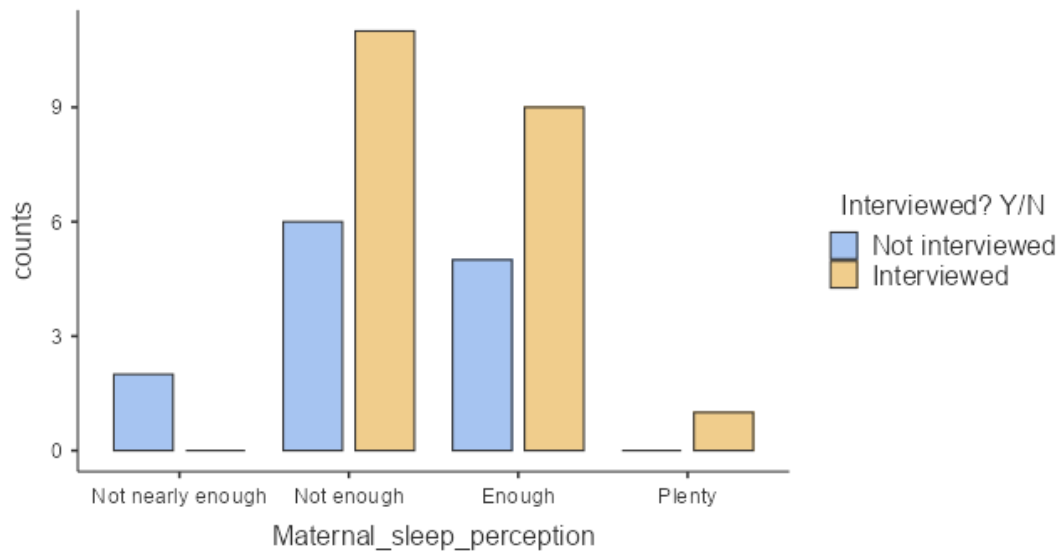


Figure N2

Frequencies of Parental Perceptions of CSP Reported by Interviewed (n=21) and Non-interviewed (n=13) Groups

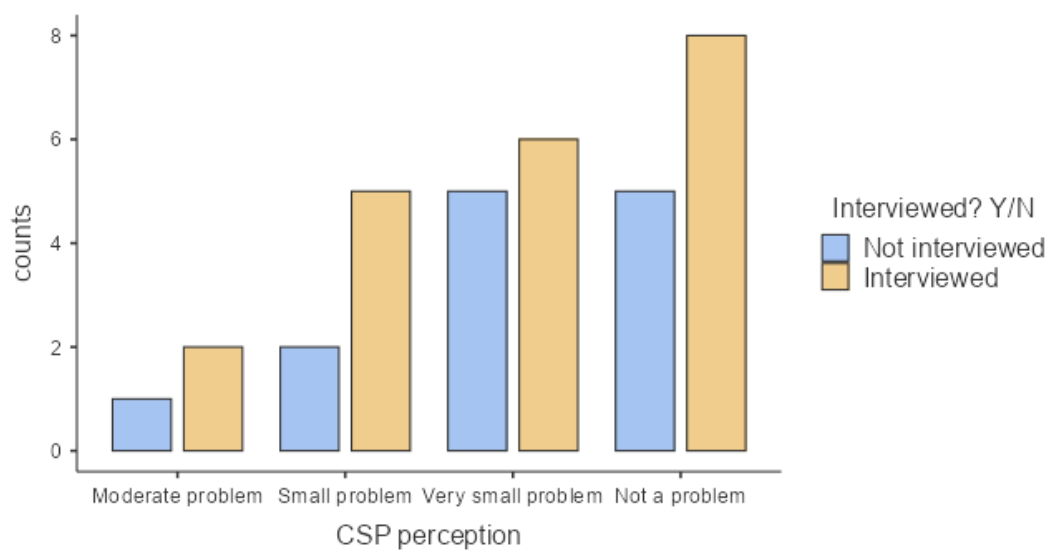


Figure N3

Frequencies of Parental Confidence in Managing Child Sleep in Interviewed (n=21) and Non-interviewed (n=13) Groups

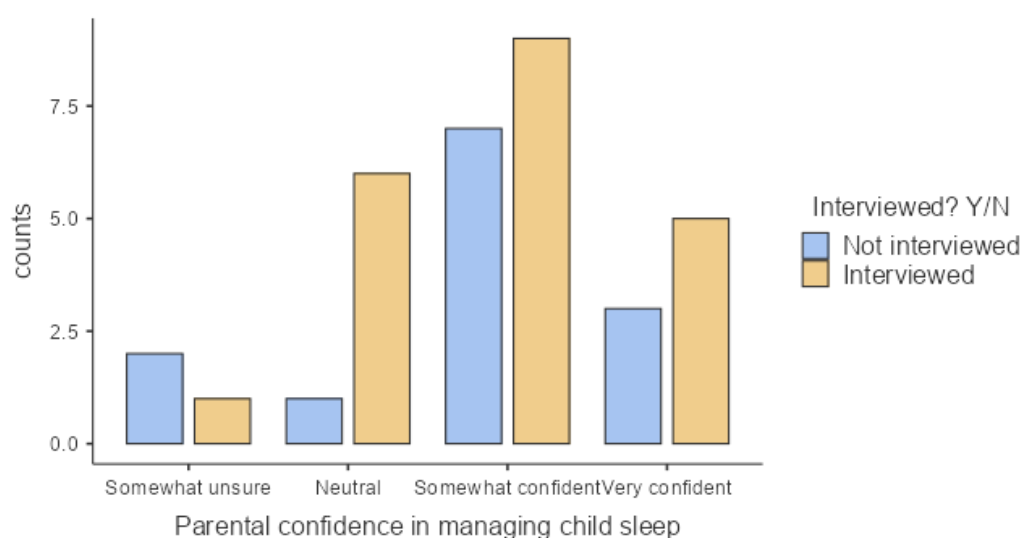
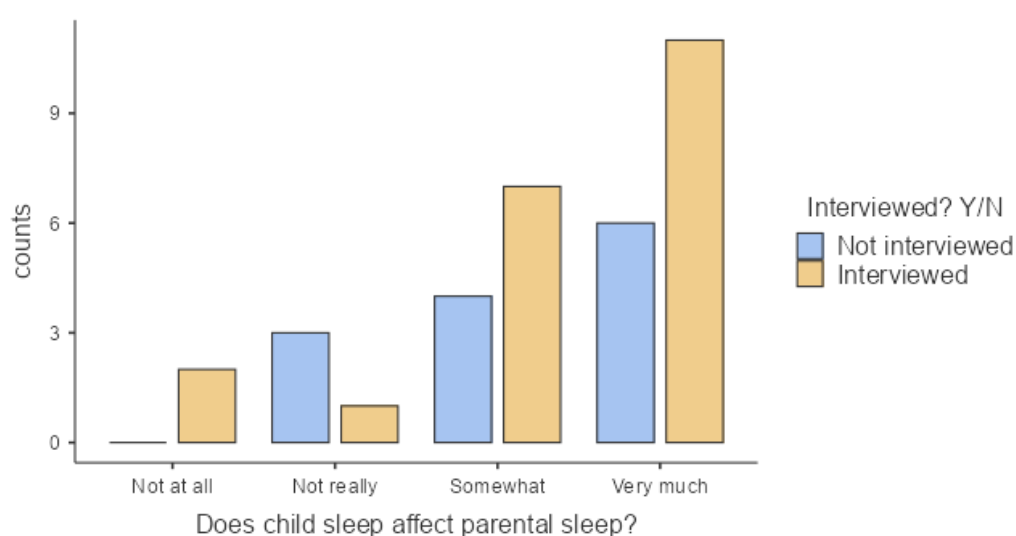


Figure N4

Frequencies of Parental Perception of Whether Child Sleep Affects Parent Sleep in Interviewed (n=21) and Non-interviewed (n=13) Groups



Fisher's Exact tests were used to compare parental sleep perception variables between Interviewed and Non-interviewed groups. A Bonferroni correction was used for the four tests and alpha was set at 0.013. See Table N1.

Table N1

Comparison of Participants' Perceptions of Their Own and Child Sleep in Interviewed (n=21) and Non-interviewed (n=13) Participants

Variable	Non-interviewed (n=13)	Interviewed (n = 21)	Fisher's exact test (n = 34)
	Frequency (% of total)	Frequency (% of total)	<i>p</i>
CSP perception (Research-defined)			
Yes	3 (23.1)	7 (33.3)	0.704
No	10 (76.9)	14 (66.6)	
CSP perception (Parent-defined CSP)			
Yes	8 (62.0)	13 (61.9)	1.000
No	5 (38.1)	8 (38.1)	
Parental sleep perception			
Enough sleep	5 (38.1)	10 (47.6)	0.728
Not enough sleep	8 (62.0)	11 (52.4)	
Perception that child sleep affects parent sleep			
Yes	10 (76.9)	18 (85.7)	0.653
No	3 (23.1)	3 (14.3)	
Parent confidence in managing child sleep			
Confident	10 (76.9)	14 (66.6)	N/A
Neutral	1 (7.7)	6 (28.6)	
Unsure	2 (15.4)	1 (4.8)	

Fisher's Exact tests found no statistically significant differences in proportions of Non-interviewed ($n = 13$) and Interviewed ($n = 21$) participants in mothers' perception of their child's sleep. 23.1% of Non-interviewed and 33.3% of Interviewed participants perceived a 'research-defined CSP', $p = 0.704$ (Mindell et al., 2022; Williamson et al., 2021). 62.0% of Non-interviewed participants and 61.9% of Interviewed participants reported a 'parent-defined CSP', when a 'very small problem' was included in the definition of CSP, $p = 1.000$. 38.1% of the Interviewed group and 47.6% of the Non-interviewed group felt they got enough sleep, $p = 0.728$. 76.9% of Non-interviewed participants and 85.7% of Interviewed

participants reported that their sleep was affected by their child, $p = 0.653$. 79% of Non-interviewed participants and 67% of Interviewed participants reported feeling confident in managing their child's sleep, $p = 0.70$. Maternal sleep perceptions between the two groups were thus broadly similar.

Appendix P Child Sleep Ecology in the Interviewed and Non-interviewed Groups

Figure P1

Frequencies of Rooms Children Slept in Reported by Interviewed ($n = 21$) and Non-interviewed ($n=13$) Groups

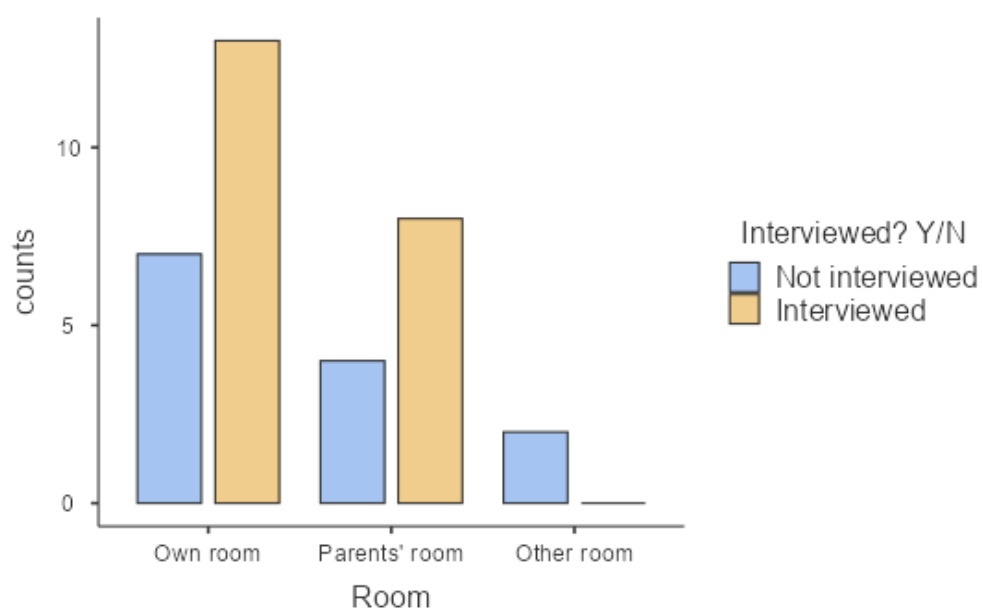


Figure P2

Frequencies of Child Sleep Location Reported by Interviewed ($n=21$) and Non-interviewed ($n=13$) Participants

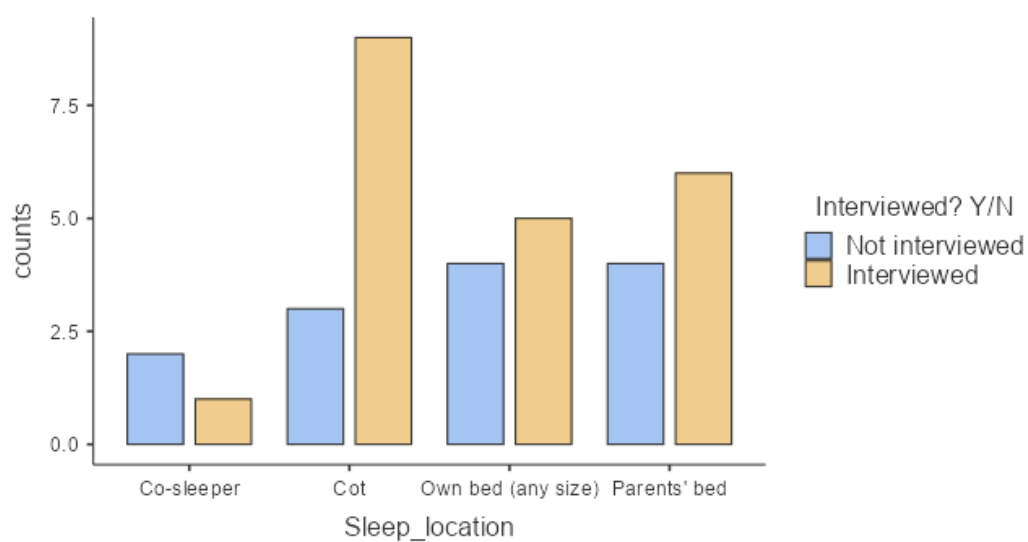


Figure P3

Frequencies of Parent Behaviours at Child Sleep Initiation in Interviewed (n=21) and Non-interviewed (n=13) Groups

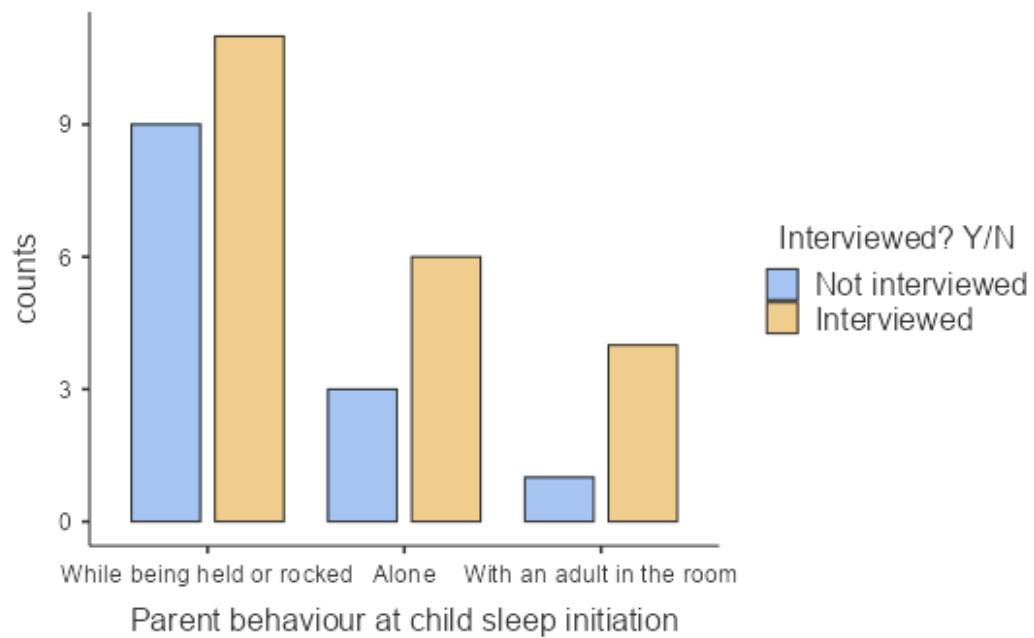


Table P1

Frequencies of Non-interviewed Participants' (n=13) Routine Characteristics

Routine characteristic	Frequency (% of Total)
Nights/week parent	
involved in toddler	
bedtime routine	
4	1 (8)
5	0 (0)
6	0 (0)
7	12 (92)

Routine characteristic	Frequency (% of Total)
Nights/week same	
bedtime routine	
0	0 (0)
3	1 (8)
4	1 (8)
5	2 (15)
6	1 (8)
7	8 (62)
Nights/week same	
bedtime	
2	0 (0)
3	0 (0)
4	2 (15)
5	1 (8)
6	3 (23)
7	7 (54)

Figure P4

Frequencies of Child Bedtimes in Interviewed (n=21) and Non-interviewed (n=13) Groups

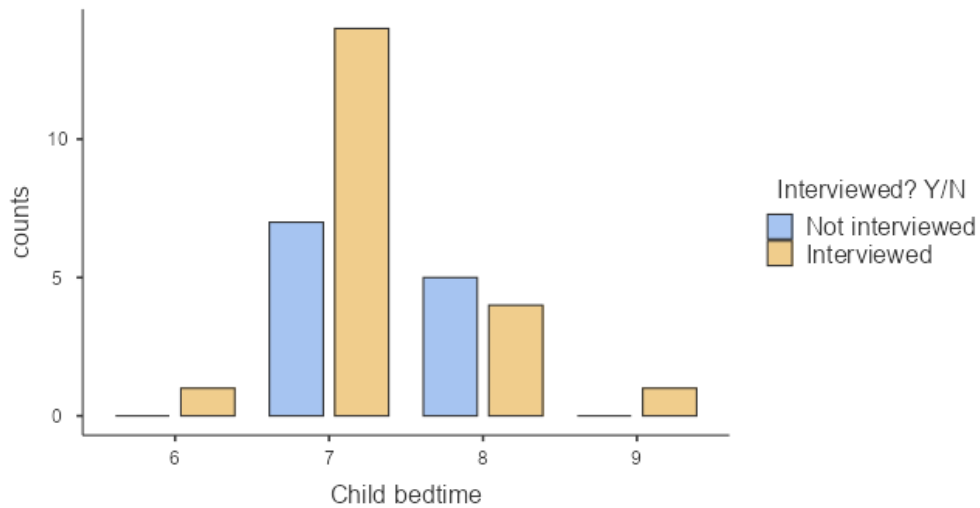
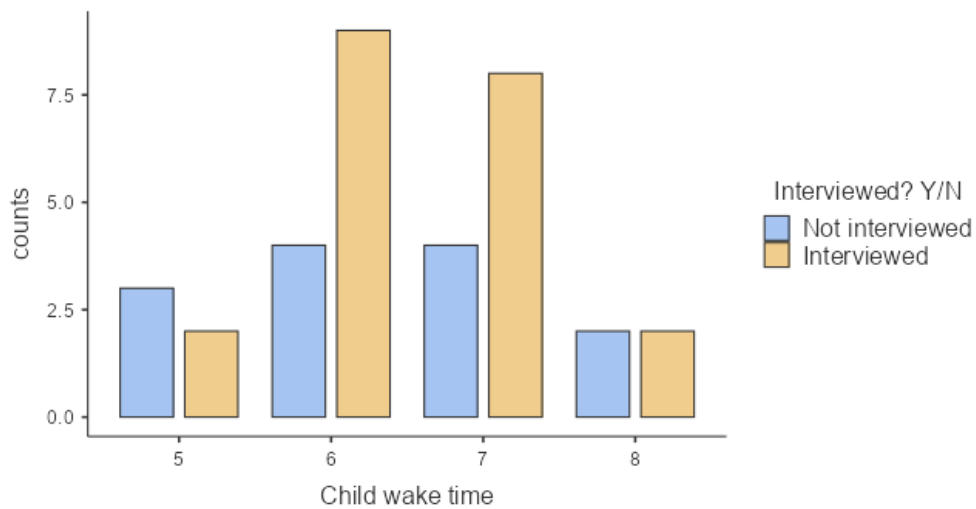


Figure P5

Frequencies of Child Wake Time in Interviewed ($n=21$) and Non-interviewed ($n=13$) Groups



Mann-Whitney U-tests were used to compare routine characteristics of the Interviewed ($n = 21$) and Non-interviewed ($n = 13$) groups. Participants' routine consistency and timings (number of nights/week the parent was involved in their child's per-bed routine, nights/week the same routine activities were followed and nights/week bedtime was the same, bedtimes and wake times) were compared. A Bonferroni correction was used for multiple tests comparing routine characteristics, bedtimes and wake times. Alpha was set

at 0.001 for the five tests. No significant differences were found between those who were interviewed ($n = 21$) and were not interviewed ($n = 13$). This indicated that interviewed and non-interviewed participants reported broadly similar child sleep, parental sleep, and routine characteristics (see Table P2).

Table P2

Comparison of Parent-reported Child Sleep-related Routine Characteristics in Interviewed ($n=21$) and Non-interviewed ($n=13$) Participants

Variable	Interviewed	Non-interviewed	Mann— Whitney U Test statistic	p
	($n = 21$)	($n = 13$)		
	Median (IQR)	Median (IQR)		
Nights/week participant involved in child 1's bedtime routine	7.00 (0.00)	7.00 (0.00)	129.00	0.66
Nights/week the same bedtime routine was followed	7.00 (2.00)	7.00 (2.00)	120.50	0.54
Nights/week same bedtime was observed duration (hours)	5.00 (1.60)	7.00 (1.14)	102.50	0.21

Variable	Interviewed (n = 21)	Non-interviewed (n = 13)	Mann— Whitney U Test statistic	<i>p</i>
Typical bedtime (hours, mins)	19:30 (37 mins)	19:38 (33 mins)	84.00	0.16
Typical wake time (hours, mins)	6:30 (45mins)	6:45 (53 mins)	127.00	0.75

Appendix Q Table of Participants' Questionnaire-reported Routine Consistency and Interview-reported Definitions of 'Routine Related to Sleep'

Participant (target child age; child napping status; CSP perception)	Same Routine nights/ week (Questionnaire-reported)	Same Bedtime nights/week (Questionnaire-reported)	Do you have routines related to sleep? (Y/N) (Interview-reported)	Participants' own definition of 'Routine' (Interview- reported)
1 (3y; non-napper; No CSP)	5	5	Y	"I think we inevitably do [have routines related to sleep], but I like to think of it as more of a pattern and I'm not that stressed or strict if it doesn't work out that way." Fatima (mother of 3 year old; No CSP)
2 (2y; non-napper; No CSP)	4	3	Y	"Yes [we have routines related to sleep], not strict ones, but yes we do. We tend to have a very similar order of doing things. ... the timings change, but the process of my husband grabs this – It's just something we've sort of fallen into ... But I quite like to have a vague outline, rather than a strict – I can see that if you have a strict routine and you can't follow it – I can see that if you've got a structure and you want to stick to it and

Participant (target child age; child napping status; CSP perception)	Same Routine nights/ week (Questionnaire-reported)	Same Bedtime nights/week (Questionnaire-reported)	Do you have routines related to sleep? (Y/N) (Interview-reported)	Participants' own definition of 'Routine' (Interview- reported)
				something stops you sticking to it, it can cause issues.” Sonya (mother of 2 year old; No CSP)
3 (3y; non-napper; No CSP)	5	3	Y	“Although tonight we’re back in routine really. When we’re at home, I have quite a strict routine, really. ... Getting him to bed at a reasonable hour because if he doesn’t have tea at 5, he can’t have his bath at 6 and then it all falls apart, so it’s quite a tightly routined event.” Gemma (mother of 3 year-old; No CSP)
4 (2y; non-napper; No CSP)	4	5	Y	“Just, I guess, pyjamas. All our kids put on their pyjamas at the same time and that is at about – we start doing that about 7 o’clock and then – putting Child 1 into my bed. There’s always a story, there’s always at least 2 stories and then the lights are off. And it’s quiet after that in order to go to sleep and it’s always the same.

Participant (target child age; child napping status; CSP perception)	Same Routine nights/ week (Questionnaire-reported)	Same Bedtime nights/week (Questionnaire-reported)	Do you have routines related to sleep? (Y/N) (Interview-reported)	Participants' own definition of 'Routine' (Interview- reported)
				And it's always in my bed." Nicola (mother of 2 year-old; No CSP)
5 (14m; napper; No CSP)	7	7	Y definitely bedtime, nap times partly.	"I try not to [do things differently on different days]. I mean, I don't know if it's a good or bad thing that we have exactly the same thing every day. ... If we're at home, then yes, we'll try and keep the same thing every day." Jen (mother of 14 month old; No CSP)
6 (2y; non-napper; Very small CSP)	3	3	Y Bedtime routines and meal times	"I've always had bedtime routines for both of them, but daytime I generally let them lead the way. ... The only things that I think is fixed is lunchtime is probably around 12ish, give or take, depending on what they've had. ... Breakfast is usually quite fixed within an hour of them getting up. ... I would say yes in terms of a bedtime routine. I would say, on the whole, we have a fixed set

Participant (target child age; child napping status; CSP perception)	Same Routine nights/ week (Questionnaire-reported)	Same Bedtime nights/week (Questionnaire-reported)	Do you have routines related to sleep? (Y/N) (Interview-reported)	Participants' own definition of 'Routine' (Interview- reported)
				of activities we do before she goes to bed in terms of there are cues." Beca (mother of 2 year-old; Very small CSP)
7 (1y; napper; No CSP)	5	5	Y Evening routines and nap times	"Other than the evenings, [we do] not really [have routines related to sleep]. In the naps, not really, other than the nappy change, but then that could happen at any point. I suppose, I suppose for me, it's more of a prompt for myself, is that after she's been fed, I usually put her down for a nap about half an hour afterwards. But other than that it's not, I wouldn't call it a routine as such ... I suppose her routine is kind of fitted around her naps, like her routine is the nap times." Jess (mother of 1 year old; No CSP)

Participant (target child age; child napping status; CSP perception)	Same Routine nights/ week (Questionnaire-reported)	Same Bedtime nights/week (Questionnaire-reported)	Do you have routines related to sleep? (Y/N) (Interview-reported)	Participants' own definition of 'Routine' (Interview- reported)
<u>8 (2y; napper: Small CSP)</u>	<u>4</u>	<u>6</u>	<u>Y</u> <u>Bedtime</u> <u>routine</u>	<u>"[We have routines related to sleep] Because we try to do a – the quiet time, you know, a TV or quiet play time before going up to bed, the routine, we have time together, either just with me or just with my partner with a story and he's pretty used to having a feed before bed. So absolutely, yeah." Farah (mother of 2 year old; Small CSP)</u>
<u>9 (1y; napper; Small CSP)</u>	<u>7</u>	<u>7</u>	<u>Y</u> <u>Bedtime</u> <u>routine</u>	<u>"Yeah, we do [have routines] with his sleep. Not so much in the things we do day to day things, but bedtime is always on our minds from 6.30ish. And we always do it in the same order. Yeah, as soon as we get home you're thinking about bedtime basically." Laura (mother of 1 year old; Small CSP)</u>

Participant (target child age; child napping status; CSP perception)	Same Routine nights/ week (Questionnaire-reported)	Same Bedtime nights/week (Questionnaire-reported)	Do you have routines related to sleep? (Y/N) (Interview-reported)	Participants' own definition of 'Routine' (Interview- reported)
10 (3y; non-napper; No CSP)	0	2	N	"I don't think we have routines [related to sleep]. I think more recently we, you know – the introduction of the bath and the reading." Julia (mother of 3 year old; No CSP) "We've settled into routines just by the nature that you do have to do the same stuff at night before you get them to sleep." Julia (mother of 3 year old; No CSP)
11 (3y; napper; Very small CSP)	7	5	Y Bedtime routine	"But usually [our routine related to sleep is] getting her pyjamas or nighty on, nappy on, story, teeth and then bed. ... A kind of routine, it's not strict, but there is a set routine that we do a few tasks in, yeah." Lila (mother of 3 year-old; Very small CSP)

Participant (target child age; child napping status; CSP perception)	Same Routine nights/ week (Questionnaire-reported)	Same Bedtime nights/week (Questionnaire-reported)	Do you have routines related to sleep? (Y/N) (Interview-reported)	Participants' own definition of 'Routine' (Interview- reported)
<u>12 (3y; non-napper; Moderate CSP)</u>	<u>7</u>	<u>7</u>	<u>Y</u> <u>Bedtime, nap</u> <u>time, meal</u> <u>times,</u> <u>daytime</u> <u>activity</u>	<u>"we've really, really routined it [bedtime], down to his towel that he has chosen, the whole thing he knows. ... Yeah, we – meal timings are always pretty fixed, so we'll be downstairs having, or having had breakfast for around 9, if he's hungry. Then, lunch is always at 11, or thereabouts, then supper's at 5 or thereabouts. There's always a banana or something to eat before you go upstairs for a bath. ... And then usually I see the day as two parts. If at all possible, get out in the morning and do something active, out, energetic."</u> <u>Portia (mother of 3 year-old; Moderate CSP)</u>
13 (3y; non-napper; Very small CSP)	6	6	Y Evening/ Bedtime	"Yeah [we] definitely [have routines related to sleep]. I think the days when we don't get the same routine in – Bedtime's always the same, but if you don't get the

Participant (target child age; child napping status; CSP perception)	Same Routine nights/ week (Questionnaire-reported)	Same Bedtime nights/week (Questionnaire-reported)	Do you have routines related to sleep? (Y/N) (Interview-reported)	Participants' own definition of 'Routine' (Interview- reported)
				little bit in before that, if you don't get a little bit of a gap between dinner and time for a bath and that little bit of winding down time, you do notice that it's a little bit more difficult to get them to settle. ... And also the bedtime, the actual bedtime bit, the books, the songs, that's always a good cue for him as well to link that in to sleep." Liz (mother of 3 year-old; Very small CSP)
14 (3y; dropping naps; Very small CSP)	5	5	Y Bedtime	"Yeah, we've definitely got things that we try to do [as part of a routine related to sleep]. So we've always had this idea of half past 7 should be the bedtime – don't always stick to it, but that is something that we've always tried to do. ... The story has always been a – just like having that routine as well. And then brushing the teeth, and then bed. And we always have the night-

Participant (target child age; child napping status; CSP perception)	Same Routine nights/ week (Questionnaire-reported)	Same Bedtime nights/week (Questionnaire-reported)	Do you have routines related to sleep? (Y/N) (Interview-reported)	Participants' own definition of 'Routine' (Interview- reported)
				night kiss, night-night kiss and then he's in bed." Lucy (mother of 3 year-old; Very small CSP)
<u>15 (1y; napper; Very small CSP)</u>	<u>7</u>	<u>7</u>	<u>Y</u>	<u>"And then, there's sort of like a rough pattern to the day. I guess we have a loose routine. Certainly not strict. ... We do aim to have bedtime around the same time and we do follow roughly the same pattern, not necessarily intentionally, it's just sort of what's happening and what works." Siobhan (mother of 1 year-old; Very small CSP)</u>
<u>16 (2.5y; non-napper; Small CSP)</u>	<u>7</u>	<u>7</u>	<u>Y</u> <u>Bedtime</u>	<u>"Yeah, I think we do [have routines related to sleep]. We try and go at the same time, we change him into his pyjamas, his nappy. We have the milk, we have the adult stay with him until he goes to sleep, so that's all very consistent. ... And after that [trying sleep</u>

Participant (target child age; child napping status; CSP perception)	Same Routine nights/ week (Questionnaire-reported)	Same Bedtime nights/week (Questionnaire-reported)	Do you have routines related to sleep? (Y/N) (Interview-reported)	Participants' own definition of 'Routine' (Interview- reported)
				<u>training] we started thinking well, let's try to have a time when we go to bed, let's do things consistently, just not do the screaming bit because that's not working for us."</u> Anna (mother of a 2 and a half year old; small CSP)
<u>17 (19m; napper; Moderate CSP)</u>	<u>7</u>	<u>7</u>	<u>Y</u> <u>Bedtime,</u> <u>mealtimes,</u> <u>naptime</u>	<u>"[Our routine is] Mornings we're always out, so we'll go out about 9 o'clock and we'll come home at about 11 and when she comes home she'll always have milk again, breastmilk again. ... And then she'll have her lunch about half past 11 and then we try and get ready for bed for 12, 12.30. Then she's up always by half 2 no matter how late it is, how late her nap gets. Then we'll just play really ... And then it's time for</u>

Participant (target child age; child napping status; CSP perception)	Same Routine nights/ week (Questionnaire-reported)	Same Bedtime nights/week (Questionnaire-reported)	Do you have routines related to sleep? (Y/N) (Interview-reported)	Participants' own definition of 'Routine' (Interview- reported)
				<u>dinner and the bedtime routine." Nikki (mother of 19 month old; Moderate CSP)</u>
<u>18 (2y;dropping naps; Small CSP)</u>	<u>7</u>	<u>5</u>	<u>N & Y:</u> <u>bedtime</u> <u>ritual</u>	<u>"I think [we have] a bedtime routine, I think if you swap out the word 'routine' and use, like maybe 'ritual' is a word? I don't know, it's a process isn't it? Is maybe a better word, like a process for preparing them to go to sleep." Amy (mother of 2 year old; Small CSP)</u>
19 (1y; napper; Very small CSP)	7	7	Y Bedtime, naptime	"It's [naptime] the exact same routine as bedtime, the same song and the same routine, except that he only gets one story." Faye (mother of 23 month old; Very small CSP)

Participant (target child age; child napping status; CSP perception)	Same Routine nights/ week (Questionnaire-reported)	Same Bedtime nights/week (Questionnaire-reported)	Do you have routines related to sleep? (Y/N) (Interview-reported)	Participants' own definition of 'Routine' (Interview- reported)
<u>20 (1y; napper; Small CSP)</u>	<u>7</u>	<u>5</u>	<u>Y & N</u> <u>Bedtime</u>	<u>"Probably [we do] not [have routines related to sleep] in the strictest sense of the word. But I do do the same things: in that I put her in her baby sleeping bag, always has her teeth brushed, her face washed, we're upstairs in her room doing these things normally. And she has the breastfeed, so I feel like those are probably quite strong cues for her. ... But at the same time, I don't have the classic bedtime routine of the stories and the bath and the gentle music, or whatever it might be."</u> <u>Louisa (mother of 1 year old; Small CSP)</u>
21 (1y; napper: No CSP)	7	7	Y Bedtime, naptime	"everyone knows what path we're on and you know where you're going to end up and [Talks to Child 1] the time frame is always roughly the same. ... And so I think with Child 1, even though the routine seems slightly more shambolic for Child 1... the fundamental structure is

Participant (target child age; child napping status; CSP perception)	Same Routine nights/ week (Questionnaire- reported)	Same Bedtime nights/week (Questionnaire- reported)	Do you have routines related to sleep? (Y/N) (Interview- reported)	Participants' own definition of 'Routine' (Interview- reported)
				always there and I think – I just think it means he knows what's coming." Tania (mother of 1 year old; No CSP)

Note. Underlined text = participants perceiving a small or moderate CSP; **Bold text** = participants with child meeting research definition of a 'poor sleeper'

Appendix R Table of Individual Activities Comprising Sleep-related Routines of Individual Participants

Routine	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
component	(3y; NN)	(2y; NN)	(3y; NN)	(2y; NN)	(1y; nap)	(2y; NN)	(1y; nap)	(2y; nap)	(1y; nap)	(3y; NN)	(3y; nap)	(3y; NN)	(3y; NN)	(3y; DN)	(1y; nap)	(2y; NN)	(1y; nap)	(2y; DN)	(2y; nap)	(1y; nap)	(1y; nap)
Managing	x	x	x	x	x	x	x		x	x	x	x	x	x	x		x	x	x		x
daytime																					
sleep																					
Language-																					
based																					
activities																					
Reading	x		x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x		x
Bedtime																					
Talking		x									x		x		x	x			x		
Bedtime																					
Songs							x	x				x	x						x		
Bedtime																					
‘Good			x						x			x		x	x						x

Routine	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
component	(3y; NN)	(2y; NN)	(3y; NN)	(2y; NN)	(1y; nap)	(2y; NN)	(1y; nap)	(2y; nap)	(1y; nap)	(3y; NN)	(3y; nap)	(3y; NN)	(3y; NN)	(3y; DN)	(1y; nap)	(2y; NN)	(1y; nap)	(2y; DN)	(2y; nap)	(1y; nap)	(1y; nap)
night'																					
Bedtime																					
Reading					x				x										x		
Naptime																					
Talking											x										
Naptime																					
Watching			x		x		x	x						x					x		
specific TV																					
Evening																					
Personal																					
care																					
Bath	x		x	x	x		x	x	x	x	x	x	x	x		x	x	x	x		x
Bedtime																					

Routine	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
component	(3y; NN)	(2y; NN)	(3y; NN)	(2y; NN)	(1y; nap)	(2y; NN)	(1y; nap)	(2y; nap)	(1y; nap)	(3y; NN)	(3y; nap)	(3y; NN)	(3y; NN)	(3y; DN)	(1y; nap)	(2y; NN)	(1y; nap)	(2y; DN)	(2y; nap)	(1y; nap)	(1y; nap)
Getting	x	x	x	x	x	x			x	x	x		x	x	x	x	x	x	x	x	x
changed																					
Bedtime																					
Getting							x													x	x
changed																					
Naptime																					
Giving a																					
drink of																					
milk																					
Evening		x	x		x			xx	x							x		x			
Naptime					x			x	x												
Play																					
Physical play				x			x			x							x		x		x
Daytime																					
Physical play										x		x									

Routine	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
component	(3y; NN)	(2y; NN)	(3y; NN)	(2y; NN)	(1y; nap)	(2y; NN)	(1y; nap)	(2y; nap)	(1y; nap)	(3y; NN)	(3y; nap)	(3y; NN)	(3y; NN)	(3y; DN)	(1y; nap)	(2y; NN)	(1y; nap)	(2y; DN)	(2y; nap)	(1y; nap)	(1y; nap)
Evening																					
Quiet play		x			x		x	x													
Evening																					
Ending play					x		x					x					x				x
Evening																					
Creating																					
sleep																					
environ-																					
ment																					
Dedicated	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
sleep																					
location																					
Light level			x	x	x		x		x	x		x	x		x		x		x	x	x
White					x				x								x				x
noise																					

Routine	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
component	(3y; NN)	(2y; NN)	(3y; NN)	(2y; NN)	(1y; nap)	(2y; NN)	(1y; nap)	(2y; nap)	(1y; nap)	(3y; NN)	(3y; nap)	(3y; NN)	(3y; NN)	(3y; DN)	(1y; nap)	(2y; NN)	(1y; nap)	(2y; DN)	(2y; nap)	(1y; nap)	(1y; nap)
Settling																					
children																					
to sleep																					
Giving milk																					
to settle																					
Bedtime										x					x		x	x		x	x
Night/am wake	x				x			x	x	xx				x	x		x	x			x
Naptime									x						x			x		x	x
Physical																					
contact																					
Bedtime	x	x		x							x	x				x	x				
Night wake		x	x	x		x	x				x	x		x		x					
Naptime								x													

Routine	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
component	(3y; NN)	(2y; NN)	(3y; NN)	(2y; NN)	(1y; nap)	(2y; NN)	(1y; nap)	(2y; nap)	(1y; nap)	(3y; NN)	(3y; nap)	(3y; NN)	(3y; NN)	(3y; DN)	(1y; nap)	(2y; NN)	(1y; nap)	(2y; DN)	(2y; nap)	(1y; nap)	(1y; nap)
Parental																					
presence																					
Bedtime		x	x			x		x					x								
Naptime								x													
Self-settling																					
Bedtime					x		x		x					x					x		
Night wake		x			x		x		x					x					x	x	
Naptime					x		x		x												

Note. Participant information in brackets denotes age in years and nap status: NN = not napping; DN = in the process of dropping nap; nap = regularly napping. For the routine components ‘Giving a drink of milk’ and ‘Giving milk to settle’, italics and bold text denote different feeding methods. x = breastfeeding; **x** = giving milk in a cup or bottle.

Appendix S Table of Themes and Illustrative Participant Quotations for RQ1: What Activities Do UK Parents Use Routinely With Their 1-3 year olds to Benefit Their Sleep?

Themes and subthemes Theme description	Numbers of individual participants expressing theme	Example quotes
PRE-SLEEP ROUTINE COMPONENTS		
Managing daytime sleep	1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21	“And we’re getting quite good at guessing when she can sleep during the day and whether we need to put her bedtime back a bit because of daytime sleep. ... So we’ve figured that if she has a 5, 10 minute nap in the car, when we’re driving somewhere, as long as it’s before lunch it’s fine. If it gets to about 2 in the afternoon and she has any sleep at all, even if it’s a 5 minute doze, it can add an hour on to her bedtime.” Sonya (mother of 2 year old; No CSP)
This theme represented managing timing and duration of daytime sleep. This could mean waking		“Well it almost starts at midday because if Child 1 looks like he’s going to nod off - If we go anywhere in the car, he’ll tend to sleep. ... So if we go in the car, I sit in the back next to him so I can make sure he doesn’t go to sleep because if he has a nap, he won’t go to sleep at 7. ... So avoiding him sleeping is a big part of the afternoon.” Gemma (mother of 3 year-old; No CSP)

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		
children or not permitting naps after a certain time in the afternoon, or avoiding daytime sleep altogether.		"I have a feeling of an impending ongoing inconvenience for the rest of the day if he was to have a nap, so I try to avoid it." Nicola (mother of 2 year-old; No CSP) "But I don't let her sleep past 4 o'clock. I just distract her, so we'll normally, if she's tired I'll take her out to the park, which is just 5 minutes away or take her in the garden and we'll do some water play with her ... So, if she doesn't nap all day and then she's tired at 4, tough, she's had the opportunity to sleep all day. Because if she sleeps past 4 then bedtime can be quite tricky. ... So I give her half an hour and if she hasn't slept within that half an hour then I'll pick her up and either try again a bit later on or if it's mid-afternoon she's missed her opportunity. As harsh as it sounds!" Jen (mother of 14 month old; No CSP)
Participants described strategies for preventing daytime sleep.		"But basically I'd never leave somewhere after 3, like, unless - If I've been out earlier in the day and she's had a mini-nap in the car then I'll risk a journey at 4 or 5, hoping that the mini-nap means she won't nap and sometimes she does and I have to wake her up and it's all a bit grumpy, but I wouldn't dream of going anywhere. If we haven't left by 2.30, we ain't going nowhere today. It's like there's a cut-off, like it's not worth the impact to my life!" Beca (mother of 2 year-old; Very small CSP)

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		“No, it’s actually probably more the morning one that I wake her up from than the afternoon one. But she never sleeps more than say 10, 15 minutes, half an hour over that designated spot so I’m not that fussed about it. And that’s probably if she slept till half 4 I tend to, just then everything, she doesn’t go to bed until 7. So I’m not really that fussed, as long as she’s in bed by 7, I’m quite relaxed about how we get there.” Jess (mother of 1 year old; No CSP) ”But at home on the weekends, he’ll probably have a nap before lunch and just keep going and sometimes we have to wake him up. ... Sometimes, especially if we’ve had a busy week, like on a Sunday for example, he might be showing that he’s tired from like 8 o’clock in the morning and you think ‘You can’t go back to bed now, that’s going to mess up bedtime’. ... I try not to let him nap after 2. Or any nap to finish by 2. Again, thinking about wake windows, if I want him to go to bed at 6, 7, because it used to be more 6.30, then I worked out that 2, 3 he needs to be awake from. And more recently that’s 2.” Laura (mother of 1 year old; Small CSP) “It [nap time] varies between about 12 and 2. I try and get her to be awake by 3 if she’s with me. And I do wake her if she goes over an hour. Because it makes bedtimes quite difficult” Lila (mother of 3 year-old; Very small CSP).

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		“Try to limit it [nap] and certainly if it’s later on in the afternoon then we try not to let him do that. ... If it’s – he could go to sleep at half 10 in the morning, which, even if he’s had a good night’s sleep, he just decides he’s tired and goes to sleep and that’s fine at that stage because there’s enough time to burn off any energy. ... But if it’s later on in the day, it’s just - it’s a disaster, because he is fully recharged and ready to go, yeah. You would have a mission of doing anything with him after that, well not getting him to sleep, anyway. Yeah. ... You would still try to do bedtime at the same time but he would just mess around and he would be making silly noises and jumping about the place and asking for another book and won’t just close his eyes, you know. It’s ‘Just close your eyes, go to sleep.’” Liz (mother of 3 year-old; Very small CSP) “Yeah, we’re starting to try and drop his naps. So when he’s at home with us, so on a weekend, or on a Monday – so I have a Monday off work every week – I’m trying to drop the nap with him. ...Just because it is starting to seem like he’ll go to bed half an hour earlier when he’s not had a nap. I don’t think it really affects his night waking yet, but it seems to make bedtime easier if he hasn’t napped. Unless we leave it too late and then he just has a meltdown. ... The other thing we avoid I guess, on a similar note, is trying to not let him sleep after 4. We call it a ‘danger nap’,

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		which I think is probably a universal term, isn't it? Yeah, danger nap." Amy (mother of 2 year old; Small CSP)
Play This theme represented using play either in the daytime, or as part of the bedtime routine to benefit child's sleep.	2, 4, 5, 7, 8, 10, 12, 17, 19, 21	"Tumble Tots - when she started crawling we used to take her [before Covid] to Tumble Tots, or messy play and things like that ... Yeah, it tires her out. It's only there to tire her out! I'm sure she's increased her mobility, or her hand-eye co-ordination, I'm sure, that's great, but I'm only doing it so she gets tired. And plus so that I don't have to tire her out. It's an activity that she can do herself. People who don't have kids – and I was guilty of this before I had a child – I don't think they understand how hard it is to tire a child out!" Jess (mother of 1 year old; No CSP) Yeah, I'm exhausted by this time of the night and then having to – it's a massive triclumb as well, it's a toddler size one. We store it next to the seats and me and my husband together have to lug it out. But if it means he'll go to sleep maybe even half an hour earlier, then it's worth doing." Julia (mother of 3 year old; No CSP)

Themes and subthemes Theme description	Numbers of individual participants expressing theme	Example quotes
<i>Physical play</i>	4, 7, 10, 12,	"There's one day a week she takes him to an organised playgroup that has a soft play thing inside.
Using physical play in the daytime or evening to benefit toddlers' sleep	17, 19, 21	So she does that on a Tuesday. My mother in law keeps him on Wednesday, actually. She does exactly the same thing on a Wednesday, but he really enjoys it because it gives him loads of time and space to play and run around and be boisterous and wear himself out." Nicola (mother of 2 year-old; No CSP) "We've got 3 or 4 parks where we live and there's meadows as well, so there's plenty of places to go and burn some energy. ... I will leave it for the afternoon because basically what I don't want is for him to fall asleep in the afternoon. ... "You know tonight we were outside trying to get him outside as much as possible, you know running off some energy." Portia (mother of 3 year-old; Moderate CSP) No, again we generally try to get him to do some physical play again to burn some energy, especially if he's had a long nap. So generally he sleeps an hour and a half, but he can go down for 2 and a half hours sometimes? So if he has a long nap like that then we definitely have an afternoon outing as well.

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		I'd like to think that giving him the correct amount of physical activity helps him burn some energy and then be ready for bed. However, I do find that it can be the opposite, right, it can work against us. Especially if he hasn't had a good enough nap and then he's been doing loads of physical activity then he's overtired by bedtime." Faye (mother of 23 month old; Very small CSP) "I try and make sure – like he has the walk or running up and down in the garden or something, so he's moved around a lot to help him be physically tired as well as mentally tired." Tania (mother of 1 year old; No CSP)
Quiet play	2, 5, 7, 8	"just keep a couple of toys out to play with together." Sonya (mother of 2 year old; No CSP)
Using quiet play with selected or fewer toys in the evening		"we have – we try and have quiet, calm play. So, we will encourage her to read her books, or just let her roam around. We won't encourage and stimulate her into playing with noisy toys or anything that is a bit too much for her." Jen (mother of 14 month old; No CSP)

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		“we just sit down on the floor together. She normally either just reads her books or she likes to play with her shape sorter.” Jess (mother of 1 year old; No CSP) “quiet play time... Really relaxed... they’re usually quite content and happy, we’re all home, I’m back from work, we can all just be together.” (31 years, mother of 2 year old, older sibling).
Ending play	5, 7, 12, 17, 21	“And we also, before we go for bath time, we help - try and get her to help tidy up time, so she helps tidy her toys away so she knows after tidying up she knows it’s bath time and bed time.” Jen (mother of 14 month old; No CSP) “we don’t miss out certain things like the chore and ‘Twinkle Twinkle’. ... Because I think routine - for me, it was really important that we have this routine. I suppose I just want her to know that that’s her trigger, that’s her trigger point I suppose.” Jess (mother of 1 year old; No CSP) “we will maybe play some kind of tidy up game, encourage them to do something like that.” Portia (mother of 3 year-old; Moderate CSP)
Having a routine practice for ending play in the evening.		

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		“Sometimes as the weather has been nice we’ll go back out in the garden, just for a little play, not very long. ... I tend to give time warnings, like ‘At the end of this programme, it’s going to be dinnertime’ and ‘After dinner, we can have 5 minutes in the garden’, or ‘Ok, now we’ve got 2 more minutes in the garden’, ‘We’ve got 1 more minute in the garden’, ‘Now we’re going for a bath’.” Tania (mother of 1 year old; No CSP)
Watching specific television This theme represented watching television in the family living space in the evening. Most	3, 5, 7, 8, 14, 19	“[Child 1] can have a bit of a cartoon on TV for about 20 minutes, something appropriate. ... ‘In the Night Garden’ I think is really good, it’s like a sedative. It’s got very low, calming tones, somnolent colours, low key, low pace, slow pace, very relaxing themes. Everything’s fine in that world, it’s lovely. So that’s fine ... Ninjago Lego, no, because it’s got scenes of death, violence, fighting, peril, fast-moving, colours. ... if it’s at bedtime, he will be so excited by it that he wouldn’t go to sleep.” Gemma (mother of 3 year-old; No CSP) “We’ll try and turn the TV off, or if we have the TV on , we’ll try and have something like ‘Pointless’ that’s just a bit dull and a bit chilled out – I like ‘Pointless’ – yeah, so it’s just more the winding

Themes and subthemes Theme description	Numbers of individual participants expressing theme	Example quotes
described purposely choosing the programmes that were watched.		down of the day. Calm play, nothing that's too stimulating for her, nothing that can get her too excited." Jen (mother of 14 month old; No CSP) "But actually, even herself, now she's more inclined to sit down with me and watch TV. Because I think even now she's realised she's tired? ... since the lockdown, obviously this [Nick Cope's Popcast] is something that me and her Dad actually sit down together with her and watch." Jess (mother of 1 year old; No CSP) "watch TV and his probable routine is that we kind of try and wind down a bit by watching something on TV. ... Usually a kids' film or CBeebies, you know, we don't really watch anything else, you know so we target it with them. And we watch it with them, so we always sit with them and cuddle and talk about what we're watching. Sometimes we're on our phone a bit as well, but it's like a wind-down time for everybody." Farah (mother of 2 year old; Small CSP) "So between those times, to be honest, he'd probably just be watching telly and chilling out a bit... Well, I just want a cuddle! Yeah, we just try and calm down with him and have him sit with us and calm down. Yeah, just have a cuddle." Lucy (mother of 3 year-old)

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		“He watches 1 to 2 episodes of a kid’s show. We generally make him watch ‘In The Night Garden’ because it’s meant to calm them down and get them ready for sleep. So he either watches that, or he watches ‘Hey, Duggee’ or he watches ‘The Twirlywoos’ or [inaudible]. Those are the only four shows that he watches.” Faye (mother of 23 month old; Very small CSP)
Personal care activities This theme represented using personal care activities as part of the bedtime routine.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21	“I think it helps him go to sleep, I don’t think it necessarily has any bearing on whether or not he wakes up. Like, so for example, the day before yesterday, he went and sat at the kitchen table at 5.30 and said ‘is my dinner ready yet?’ and then after dinner he said ‘I want to go and put my pyjamas on now’ and that was a first. And he knows exactly what we do know, and he’ll say ‘is tonight a bath night?’ because we don’t always have a bath, so he’ll say ‘is tonight a bath night? Is it hair night tonight?’ So I think it – he knows what’s coming next, so I think it helps him wind down and prepare for sleep, so I think it helps him go to sleep.” Fatima (mother of 3 year old; No CSP) “So I think she knows it’s time to go and get her bottle, she knows it’s time to go and put her sleeping bag on. And I think it probably all helps with the winding down at night time, rather than being

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		hyper and wired and wide awake and then suddenly told that she has to go to sleep.” Sonya (mother of 2 year old; No CSP) “we would chat in the bath. If they’re not getting a bath, usually it’s just while they’re getting their jammies on,” Liz (mother of 3 year-old; Very small CSP) “we change him into his night nappy ... We try and go at the same time, we change him into his pyjamas, his nappy. We have the milk, we have the adult stay with him until he goes to sleep, so that’s all very consistent.” Anna (mother of a 2 and a half year old; small CSP) “She’ll get dry, have her nappy on, put her pyjamas on.” Nikki (mother of 19 month old; Moderate CSP)
<i>Bathing</i>	1, 3, 4, 5, 7, 8,	
Bathing	9, 10, 11,	
perceived as	12, 13, 14,	“In the last few weeks he’s started to ask for a bath and if he asks for a bath, then I’ll bath him but it’s not very long. ... So he’s having the time of his life because he loves it, there’s loads of bubbles, there’s toys.” Nicola (mother of 2 year-old; No CSP)
part of the		

Themes and subthemes Theme description	Numbers of individual participants expressing theme	Example quotes
bedtime routine, although not always occurring nightly.	16, 17, 18, 19, 21	“bath time around about quarter past 6 Again, quite calming and quite relaxing ... She – We leave her - We put her in the bath and sit next to her in the bath but we don’t have a huge amount of interaction with her in terms of she has her toys in the bath and she will play with her toys and she will be quite happy just sitting, playing with her toys and we interact when she wants us to.” Jen (mother of 14 month old; No CSP) “She likes bathtime. She’s not too keen on washing her hair but she knows it gets done. Generally she’ll only stay in for about 10 minutes and then be happy to get out. Usually I ask her to get out and she says yes. Occasionally we have longer and that’s fine. ... She likes it. ... like I don’t say she has a bath every night because that’s not practical to have a bath every night. We sometimes have a bath in the morning, or in the middle of the day.” Lila (mother of 3 year-old; Very small CSP) “And then bath is at 7, depending on how that goes – he was a bath avoider for a year and a half, so. But he’s just started enjoying them again now. ... It’s lovely. We’ve sussed it for now with having both the boys in the bath at the same time. And it’s just lovely because after so long of him really not wanting to go in the bath at all, so I’d never make him. ... But on the whole he enjoys it and then I’m always in there with him as well. We have a routine of making sure his towel’s on

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		the radiator to warm up and singing a song for brushing teeth.” Portia (mother of 3 year-old; Moderate CSP) “and then by the time you – generally then it’s baths and beds, that’s it! That’s all there’s time for. ... Yeah, we would usually have a chat about the day. Usually we get that done in the bath actually, if they’re getting a bath, we would chat in the bath.” Liz (mother of 3 year-old; Very small CSP) “We tend to go [for a bath] every other day, sometimes every 3 days, depending. ... It used to be that he really enjoyed it as well. But now, some days he does and some days he doesn’t. So sometimes there’s a bit more of a ‘Come on now, it’s a bath day’ sort of thing. ... Yeah. Sometimes it ends up being ‘We’ll just get you in, we’ll just got to wash your hair, we’ve just got to do it, you smell a little bit’! So it’s just a really quick just get him in and get it done. ... He has toys in the bath, not lots, but he has a few. He particularly likes sea creatures, shapes and things like that. So he does, he does like playing with certain things in the bath and that can keep him interested for a while.” Lucy (mother of 3 year-old; Very small CSP) “if he’s going to have a bath, he’ll have a bath then as well Because he’s got quite dry skin we tend to just do it once or twice a week. So if he’s stinky he’ll have a bath, but otherwise it’s just

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		once or twice a week on set days. He loves having a bath so it's quite nice for us to do it, but.” Anna (mother of a 2 and a half year old; small CSP) “She's always enjoyed the water, so she has a nice time in the bath. ... And yes, she has quite a lovely time. She quite like to escape now, she prefers to stand outside the bath now and play with the water.” Nikki (mother of 19 month old; Moderate CSP) “Once he's done that, we come up to the bathroom, he has his bath. And he plays a little bit in the bath. We brush his teeth while he's in the bath. ... But if he's in a good mood, again, it's always good fun because we play with his toys in the bath, But yeah, no really it's always a combination of good cop, bad cop. ... Yes, he doesn't want to be dried, for example. So he's still clinging onto the towel and he won't let me finish drying him. ... especially given the battles at bath time, he's [my partner] often there for safety because one of us needs to hold him, while the other pours water over his head!” Faye (mother of 23 month old; Very small CSP)
<i>Getting changed</i>	1, 2, 3, 4, 5, 6, 9, 10, 11,	“All our kids put on their pyjamas at the same time and that is at about – we start doing that about 7 o'clock and then – putting Child 1 into my bed.” Nicola (mother of 2 year-old; No CSP)

Themes and subthemes Theme description	Numbers of individual participants expressing theme	Example quotes
Changing their toddler into nappy, pyjamas and/or sleeping bag for bed as part of the bedtime routine.	13, 14, 15, 16, 17, 18, 19, 20, 21	“My husband will take her in her room, put a nappy on her, play some quiet little game with her because she hates having her nappy on – for some reason she just wants to be naked – so he’ll do some little songs with her to distract her.” Jen (mother of 14 month old; No CSP) “Put her nighty on, she still wears a bed time nappy so put that on for bedtime ... Yeah, that’s generally ok, she’s got a nighty that she really likes so most nights she wears that. It’s like a really old-fashioned long one. It’s a princess nighty so she likes wearing that and it’s nice and comfy for her to put on, so that generally goes ok. ... I think then she knows that when she’s got her bedtime nappy on that’s a definite key for bedtime.” Lila (mother of 3 year-old; Very small CSP) “And when we start the routine, my husband would do her nappy, and get her in to her pyjamas ... So for her sleeping bag, I’ll lay it out on the floor and I’ll say ‘Child 1, please could you come and lie on your sleeping bag?’ She’ll often come and sit on it and I’ll lie her down and zip her up. And we have this game where she sticks her left leg out of the sleeping bag and I’ll say – I think I say ‘Why is that leg there? Put it back in!’ and she laughs. So, that’s actually quite a nice time.” Louisa (mother of 1 year old; Small CSP)

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		“also pursuing him to try and get a nappy on him ... do another nappy change ... we put his pyjamas on. ... He gleefully undoes all the poppers and takes his pyjamas off. We put the pyjamas on...” Tania (mother of 1 year old; No CSP)
Giving a drink of milk	2, 3, 5, 8, 9, 16, 19	“And she still has a bottle before bed, so she has a bottle in her room” Sonya (mother of 2 year old; No CSP)
This theme represented giving a drink of milk in a cup or bottle, or breastfeeding before sleep was perceived as beneficial		“offer him, I offer him milk. He doesn’t always want milk, Child 2 still has milk but Child 1 doesn’t always want it” Gemma (mother of 3 year-old; No CSP) “I’ll then breastfeed her and give her some milk. And then these past 6 weeks, 7 weeks, we’ve changed her routine a little bit, fingers crossed it’s working ok, where we now, after her milk, I will read her a book, or she’ll read a book and then I’ll give her a cuddle and put her down so she learns to self-settle.” Jen (mother of 14 month old; No CSP)

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		
to sleep, but did not involve children falling asleep while drinking.		“then they’ve got their little cups of milk, they have their milk while we read a book” Farah (mother of 2 year old; Small CSP) “he has a bottle of formula still” Laura (mother of 1 year old; Small CSP) “we’ll get his milk ready – he still has a bottle of milk. ... So he’s all chilled and all relaxed and lovely then and that’s really nice. And when he finished it he goes back to his usual energetic self.” Anna (mother of a 2 and a half year old; small CSP) “if my husband’s putting them to bed, they expect him to take them downstairs for a cup of milk.” Amy (mother of 2 year old; Small CSP)
Language-based activities	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16,	“and then they usually have something very, very, very important to tell me just as I’m starting to read their story. So usually there’s a little bit of chat then as well... So yeah, I love how you have to actually decide for yourself how you picture things and what I picture things like are not what the boys picture things. And actually, whenever they say things, whenever they try to describe
This theme represented using		

Themes and subthemes Theme description	Numbers of individual participants expressing theme	Example quotes
language-based activities to benefit child sleep as part of bedtime and/or naptime routines.	17, 18, 19, 21	things to me, it's really interesting to hear what they think, you know, so, yeah." Liz (mother of 3 year-old; Very small CSP) "ask him if he wants a story or not... Quite often he's refusing a story at the moment, but last night he was really into it, so he had a couple of stories last night... We've got another book which he's very familiar with and he gets us to recite that when we're pushing him on a swing in the playground and he knows lots of the bits to that one. That's '10 Little Dinosaurs' and he'll just get us to say that one on the swings, but that's another one where there's just little phrases where he jumps in and shouts them out. So he really seems to enjoy certain books... At the moment it's just because we've been through this phase of him not really wanting a book, I think we'll go with whatever book he says he wants!" Lucy (mother of 3 year-old; Very small CSP)
Reading Reading stories as a regular part of	1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14,	"usually now they have a separate story each... We used to do joint stories, it didn't work. It was really difficult because their stages are so different so now, usually my husband will take Child 1 into his room and read his story and it'll be a picture book, really. It'll be quite a simple picture book, or a board book is what he usually chooses" Gemma (mother of 3 year-old; No CSP).

Themes and subthemes Theme description	Numbers of individual participants expressing theme	Example quotes
bedtime routines.	15, 17, 18, 19, 21	“we have two stories and then he knows that the second story is the last one.” Nicola (mother of 2 year-old; No CSP) “And then we always read a book, so either my husband reads with one boy and I read with the other boy – it sometimes varies who it is. Usually we try to do it so that I’ve got time with my eldest and my husband is with Child 1, so he reads him a book and I’ll read Child 2 a book... Yeah, we always usually have a book” Farah (mother of 2 year old; Small CSP) “then it is actually the same routine we’ve been doing for 2 and a half years in terms of stories...But then really quickly it’s like into bed, cuddle and story...you know, soothing story voice and Child 1’s choosing his stories, because he can choose 2 stories, or sometimes more” Portia (mother of 3 year-old, Moderate CSP) “we all get into bed, me, including big sister, read a story in here...Yeah, when it works well, it’s really nice... And sometimes storytime has to get cut a bit short because everyone’s just getting a little bit crazy.” Siobhan (mother of 1 year-old; Very small CSP) “they’ve got like a sofa in their bedroom where we read stories before bed. So we have stories before bed. ... No, normally I do set a limit. I don’t – I think it depends how late it’s getting as well,

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		like if they've played for a long time, then I'm like 'No, we'll just have 1 story'." Amy (mother of 2 year old; Small CSP) "And then these past 6 weeks, 7 weeks, we've changed her routine a little bit, fingers crossed it's working ok, where we now, after her milk, I will read her a book, or she'll read a book and then I'll give her a cuddle and put her down so she learns to self-settle. Or my husband will come in and read her a book and I will leave and then he'll read a book with her and put her down to sleep. ... I introduced it because honestly I was getting really, really tired of me being the only person who could put her down." Jen (mother of 14 month old; No CSP) "Then she'll have a book or two... she's had at least one book before bed every day since she was about 4 days old, I think. So it's always been part of our routine and she's always - she actually really enjoys it in the day as well... But yeah, we'll usually take it in turns to read her a book. At the moment she's probably having more than one book but that's ok. It's for her [inaudible] before bedtime. She's quite keen for me to read over the last week, not her dad. We don't know why, but she's very adamant that if he starts, that I have to – she'll take the book and she'll ask me to read it." Nikki (mother of 19 month old; Moderate CSP)

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		“And then Dad walks out and I’m left with him only. And we read between 1 to 2 stories depending how late it is and how many minutes of negotiation we’ve had to go through after bathtime! But, 1 to 2 stories. ... But also some fun ones with animals in particular, are some of the favourite ones, which he loves. ... Well, I think for us, it’s always been a key part of the routine, so we’ve been doing it again since 12 weeks. We haven’t done any variations to the routine, other than adapting as he grows.” Faye (mother of 23 month old; Very small CSP)
Talking about the day	2, 11, 13, 15, 16, 19	“Mine does much better when she knows what’s coming next. It’s sort of the same with everything, so we’ll try and tell her what we’re doing and what our plans are.” Sonya (mother of 2 year old)
Parents recounted the day’s events with their children prior to sleep and/or shared		“Yeah, I try and – I ask her what she’s done in the day, what we’re going to do next day.” Lila (mother of 3 year-old; Very small CSP). “then he generally is happy enough to lie down and we have a little chat... That’s quite nice. We just lie with the night light on and have a little chat and he will just lie beside me, or sometimes sit beside me. And we just try and talk about the day at home and it’s like ‘Oh do you remember when we went to the park and you were on the swings?’ And he goes ‘Yeah, yeah!’ Just to have a

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		
plans for what would happen on waking as part of the bedtime and/or naptime routine.		little catch up and a chat. Yeah and he's generally quite happy at that time." Siobhan (mother of 1 year-old; Very small CSP) "So he'll talk about everything that happened in his day. Like, right from the morning, and he'll say 'I got upset' or 'I got scared' or this happened and that happened and I've been thinking about this. So he has a bit of a debrief from the day really. ... lying next to him in bed you got really good cuddles and really nice chat and it's quite a nice time really." Anna (mother of a 2 and a half year old; small CSP) "We finish going over his day... It's nice because I feel like it helps him to wind down. So what I've discovered more recently is that he's not quite ready to be read a story and then get a kiss goodnight and then be plonked in his cot, especially since, again, we've got him out of the sleep sack... Because I found that a few nights he was still a bit – a bit hyper, a bit kind of – His brain was still processing the day. So I started just sitting him on my lap for a bit longer, just stroking him, cuddling him. So I thought 'Maybe I'll just try going through his day to let him process everything and see if that helps him wind down a little bit quicker.'" Faye (mother of 23 month old; Very small CSP)

Themes and subthemes Theme description	Numbers of individual participants expressing theme	Example quotes
<i>Singing</i> Using songs such as nursery rhymes and lullabies as part of the bedtime routine.	7, 8, 12, 13, 19	“we don’t miss out certain things like the chore and ‘Twinkle Twinkle’.” Jess (mother of 1 year old; No CSP) “then sing them a song, usually do a couple of songs ... So, yeah, I put him down in his cot, then you know, usually shush him or sing to him or something, and most of the time he will – after maybe wriggling around a bit – he’ll go off to sleep. Yeah, so that’s probably about it.” Farah (mother of 2 year old; Small CSP) “singing him the same songs” Portia (mother of 3 year-old; Moderate CSP) “Oh yes, so I have been singing them the same songs that my Dad sang to me when I was a kid, so. ... I’d be like ‘You have to sing this one, and then this one, and then this one and then you finish up with this one and then you have to say this’. And people were like ‘You are mental!’. ... But the boys, that’s what the boys expect now, so they know that I always sing ‘You Are My Sunshine’ and then ‘Daisy, Daisy’ and then ‘If You Were The Only Boy In The World’ and then ‘Twinkle, Twinkle’ and then ‘Rock a Bye Baby’ and then I - we’ve started singing Brahms’ Lullaby. ... Child 2 found it in a nursery rhyme book and he really, really liked it and I sang it to him and

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		he was like 'Mummy, you have to put that in my songs', so that's now in the songs as well. " Liz (mother of 3 year-old; Very small CSP) "So that's the same lullaby that we've been singing to him, poor thing, since he was born. Basically, since he was a tiny baby. And since we started doing a little bit of a bedtime routine, I think at the age of 12 weeks, 3 months, whenever it is we started. ...So I sometimes think to myself 'He's 2 years old now, he's probably bored of this', but to me it's still feeling that he's my little baby. Yeah, it kind of, it signals to all of us, I think, that he's nearly in bed." Faye (mother of 23 month old; Very small CSP)
Saying 'Goodnight' to family as part of the bedtime routine.	3, 9, 12, 14, 15, 21	"Oh, and the other thing I didn't say is we all usually say goodnight on the landing before story time so that's a big part of the ritual and he gets quite upset if that hasn't happened and he hasn't had a kiss and cuddle from everyone." Gemma (mother of 3 year-old; No CSP) "And then we walk out and say 'night night'." Laura (mother of 1 year old; Small CSP)

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		“saying ‘good night’ the same way” Portia (mother of 3 year-old; Moderate CSP) “then we’ll do the kiss night-night ... my husband and I both kiss him night-night” Lucy (mother of 3 year-old; Very small CSP) “he likes to say ‘Bye bye’ to Daddy and Child 2” Siobhan (mother of 1 year-old; Very small CSP) “then when I’ve got Child 2 off to sleep, we say goodnight to Daddy” Tania (mother of 1 year old; No CSP)

ROUTINE

COMPONENTS

AT SLEEP ONSET

Creating a conducive sleep environment	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,	“And he’s still bedsharing with us, so he has a cot attached to our bed, which is where we ideally try and place him ... we leave the video monitor next to him and then we have the monitor downstairs. So if he moves we run up, and we have a stair gate, two stair gates on both of our

Themes and subthemes Theme description	Numbers of individual participants expressing theme	Example quotes
This theme represented participants' practice of ensuring the environment was conducive to their child's sleep.	14, 15, 16, 17, 18, 19, 20, 21	stairs so that he can't really go anywhere. And he can get down from the bed now without any assistance and things, so." Julia (mother of 3 year old; No CSP) "So it's actually not too bad now they're in separate beds again. ... Sometimes Child 1 will still fall out of bed because he's only really out of his cot about 4 months. ... we have them on the monitor" Liz (mother of 3 year-old; Very small CSP) "because of the way our house is, we've got the child safety gate, the sort that keeps - he's able to access our room and that's it, he's got no access to anywhere else. ... So really that's just my husband and I lying in bed saying 'Child 1, I think it's still sleepy time, go back to bed'." Lucy (mother of 3 year-old; Very small CSP) "we've got his cot here beside the bed and his little pile of books in the corner." Siobhan (mother of 1 year-old; Very small CSP) "And then my husband takes him upstairs and he lies in his bed with him. ... he's in a single bed with a bedside barrier – so he crawls down the bed, down the step and then walks back to the door. ... And he's got a gate across his room" Anna (mother of a 2 and a half year old; small CSP)

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		“then we go to his bedroom and – we have very dim lights in his bedroom. ... So I will wake up – we still sleep with the baby monitor next to us on, so we can hear what he’s up to – but mainly he just goes back to sleep on his own.” Faye (mother of 23 month old; Very small CSP) “I’ll usually lie with him and through trial and error with my other children, he’s actually in a double bed.” Nicola (mother of 2 year-old; No CSP)
<i>Dedicated sleep location</i>	1, 2, 3, 4, 5, 6, 7, 8, 9, 10,	“if he’s had a few really busy days and not slept during the day then I’ll try and get him upstairs really early, rather than later. ... So he’s in our bed, he goes to bed in our bed now, so he’s in between us” Fatima (mother of 3 year old; No CSP)
Taking children to a particular bedroom for sleeping, either the parents’ room	11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21	“and then take them both up ... my husband will take Child 1 into his room ... And then, usually my husband, but sometimes me, will take Child 1 in to bed, get him into his cot.” Gemma (mother of 3 year-old; No CSP) “My husband will take her in her room ... we’ve got a camera so obviously I can see her” Jen (mother of 14 month old; No CSP)

Themes and subthemes Theme description	Numbers of individual participants expressing theme	Example quotes
or the child's room.		"And I just wait with her until she decides to put her head down and go to sleep. So basically I generally try to take her up to her room away from other stuff, with stories, she may or may not want." Beca (mother of 2 year-old; Very small CSP) "Then I start by putting him into the bed, into his cot – he's in a cot, in our room now. The aim was to get him in with Child 2 when he started sleeping, but that hasn't happened yet, so." Farah (mother of 2 year old; Small CSP) "So it's things like that, you can normally tell, and plus recently, we have been when that has happened and we've been like 'do you want a nap?' she's actually taken us to the cot. She's actually walked herself to the cot, which we were like, 'Oh, ok then'." Jess (mother of 1 year old) "I refer to him as Mr I-only-sleep-in-my-cot. So you know, it's not like 'Oh it's nap time, here, go in your buggy and go to sleep'". Faye (mother of 23 month old)
Managing light level	3, 4, 5, 7, 9, 10, 12, 13,	"He has his owl nightlight on all night, every night, ... They [Child 1 and Child 2] both sleep with the lights on because they don't like the dark," Gemma (mother of 3 year-old; No CSP)

Themes and subthemes Theme description	Numbers of individual participants expressing theme	Example quotes
Using particular lighting levels to create an environment conducive to sleep. For some, this was total darkness, while others used nightlights.	15, 17, 19, 21	"I'll take her upstairs, I'll close her – she'll help me close her curtains and her blinds." Jen (mother of 14 month old; No CSP) "we're all in the dark, I don't open – I don't turn on any lights and stuff, we're all still in the dark" Jess (mother of 1 year old; No CSP) "And then into his darkened room ... we treat it [nap time] like bedtime at home for naps, so dark room, maybe read a book and dummy, white noise, in his sleep bag." Laura (mother of 1 year old; Small CSP) "Black out blinds. Daylight! It makes it a little bit harder." Portia (mother of 3 year-old; Moderate CSP) "We just lie with the night light on" Siobhan (mother of 1 year-old; Very small CSP) "And she would only nap, she'll only sleep if she's in a dark room, in her sleeping bag and with some white noise on." Nikki (mother of 19 month old; Moderate CSP) "then we go to his bedroom and – we have very dim lights in his bedroom. ... I do turn off the light" Faye (mother of 23 month old; Very small CSP)

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		“when I’ve got Child 2 off to sleep, we say goodnight to Daddy, turn the lights off, snuggle down.” Tania (mother of 1 year old; No CSP)
<i>White noise</i>	5, 9, 17, 21	“We’ll put her white noise machine on” Jen (mother of 14 month old; No CSP)
Using white noise to create an environment conducive to sleep.		“Then down with his dummy, white noise on and his bunny rabbit toy, that’s relatively recent.” Laura (mother of 1 year old; Small CSP) “We go in his bedroom and I close the curtains, I put the white noise on, which he has whenever he’s sleeping.” Tania (mother of 1 year old; No CSP) And from about 7 months when she started napping in her cot, she would only again nap if it replicated the night time conditions of dark, sleeping bag and white noise Nikki (mother of 19 month old; Moderate CSP)
Settling children to sleep	1, 2, 3, 4, 5, 6, 7, 8, 9, 10,	“So we, when we think it’s teeth we go in – so first we go in and see if he’s lost his dummy, give him his dummy back and then walk out. And then – only if he’s crying as well, that is – if he’s just

Themes and subthemes Theme description	Numbers of individual participants expressing theme	Example quotes
This theme represents the ways parents supported their child in transitioning to sleep.	11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21	chatting we leave him to it. Then what do we do? And then if we think it's teeth we give him Calpol and then we give him a bottle of milk. And if we're not sure, we do all of it... But he generally recently went straight back to sleep after the bottle, so I don't know if that was the hot weather, to be honest. Because he was drinking." Laura (mother of 1 year old; Small CSP) "But it's most – we can probably count on one hand the number of times that he's not gone back to sleep with some booby. ... I give him booby and then usually he falls back to sleep within 2 minutes. ... Sometimes he asks for milk, moo milk, which we obviously are trying to limit because of his teeth but we basically just severely water down some cow's milk and he seems to think that's ok. So he's basically having a little bit of milky water really. And we bought a couple of the 360 cups that are insulated so that we can bring those upstairs with us and just give them to him if he wants. But then he goes weeks at a time without asking for it and we forget to do it. And then we have to go downstairs to get the moo milk. Yes, so most of the time he gets off just with a bit of booby back to sleep." Julia (mother of 3 year old; No CSP) "So I will wake up – we still sleep with the baby monitor next to us on, so we can hear what he's up to – but mainly he just goes back to sleep on his own. ... But he resettles himself, and so we don't have to get up. So I will wake up – we still sleep with the baby monitor next to us on, so

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		we can hear what he's up to – but mainly he just goes back to sleep on his own. But sometimes I am left wondering 'Is he asleep or not?'. Faye (mother of 23 month old; Very small CSP) "I think I just feel that if I'm still in the room she's going to just want to see me. It's going to make things worse, is she going to be really frantic, like 'If you're here, why are you not picking me up'? Because normally I would never be with her but not picking her up when she's crying. ... So other people have different methods and in the past perhaps I've used different methods myself with Child 2, but for some reason I've just got a rhythm with her where I will just leave the room and let her cry. And then I'll just listen to her on the monitor or from my room and if I feel like she's been crying for too long or too urgently, I'll go back in and just pick her up and start again." Louisa (mother of 1 year old; Small CSP) "I just left the room as soon as I put her down. I always just leave the room when I put her down and go away. Then if she won't settle then I go back in." Louisa (mother of 1 year old; Small CSP)
Giving milk to support	01, 05, 08, 09, 10, 14, 15,	"So he's in our bed, he goes to bed in our bed now, so he's in between us, so he'll wake up one of us and ask for his milk and I bring it up cold, straight from the fridge, so that it's brought up to

Themes and subthemes Theme description	Numbers of individual participants expressing theme	Example quotes
<i>transition to sleep</i> Giving milk to aid children's transition to sleep by breastfeeding or using formula or cow's milk. Children fell asleep while drinking milk.	17, 18, 20, 21	room temperature by the time he asks for it and he'll just drink it and hand me back the cup - he has a cup that you can drink upside down in – and hand it back to me and go back to sleep and it really doesn't affect anything." Fatima (mother of 3 year old; No CSP) "Night before, so yeah, a few nights ago she woke up and I think she had a night terror because she woke up absolutely screaming. And I'm like, 'Oh my God, someone's murdering her'. So I rushed in and she was all in a panic and she was extremely distraught, so obviously I went in, fed her then put her down." Jen (mother of 14 month old; No CSP) "So in the end he just says 'mama, molk', I just pick up give him a cuddle, give him some milk and pretty much 95%, 97% of the time he will go to sleep and then I can put him down and he'll go back to sleep. ... I know that I'll be ok because especially because I can get back to sleep quite easily, it's fine." Farah (mother of 2 year old; Small CSP) "I'll feed her back to sleep. But it is quite quickly." Nikki (mother of 19 month old; Moderate CSP) "So while he is still waking several times a night, I want to just keep going [with breastfeeding] because it's quick." Amy (mother of 2 year old; Small CSP)

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		“Yes, it [breastfeeding to sleep] probably isn’t even 5 minutes, to be honest with you. So what happens is not entirely clear to me because I try not to even open my eyes when this is happening.” Tania (mother of 1 year old; No CSP) “So at home generally if I want to guarantee the nap, I’ll give him a bottle. But I’m very aware that I probably shouldn’t do that after the age of 1 because of his teeth. But it gets him to sleep, so I feel that’s more of a priority at the minute.” Laura (mother of 1 year old; Small CSP) “But yeah, generally yeah, we go in when he’s ready, we lie down, he has a feed, and he sleeps on his bed in his room for an hour and a half, on a good day.” Siobhan (mother of 1 year-old; Very small CSP) “Sometimes he’ll wake up a little bit early but will then doze off again with a quick feed.” Siobhan (mother of 1 year-old; Very small CSP) “she’ll have milk and she’ll just have a sleepy feed on me for about half an hour or sometimes 45 minutes and then she’s up for the day.” Nikki (mother of 19 month old; Moderate CSP)

Themes and subthemes Theme description	Numbers of individual participants expressing theme	Example quotes
<i>Supporting transition to sleep with physical contact</i>	01, 02, 03, 04, 06, 07, 08, 11, 12, 14, 16, 17	"I just drop the books off the bed, I'll cuddle him, then I'll distract him by saying 'ok, we'll have another story now' and then I'll make something up until he falls asleep. ... if he needs cuddles now, he needs cuddles now, so... that's the bottom line really." Fatima (mother of 3 year old; No CSP)
While cuddling was often described in combination with other activities such as watching television and breastfeeding, this subtheme represents using cuddles/touch specifically for		"and she'll either go in her cot sleep already, either having fallen asleep on either me or my husband or she'll go in her cot and we'll sit with her and pat her bum and hold her hand and whatever she decides she needs." Sonya (mother of 2 year old; No CSP) "So it's 'last one' and then when the stories are over and the lights are out, he likes to cuddle, he likes to cuddle in. He likes to cuddle in a lot and will nod off." Nicola (mother of 2 year-old; No CSP) "Well, the thing is she won't go to bed unless I'm cuddling her. So it's easier just for me to lie down with her and I end up go to bed the same time. So I'm having far too much sleep just to make sure she gets enough." Lila (mother of 3 year-old; Very small CSP)

Themes and subthemes Theme description	Numbers of individual participants expressing theme	Example quotes
helping children transition to sleep.		“I’m in his bed for him to go to sleep cuddling him... it’s usually a 10 minute, 15 minute story, song and a cuddle and then he’s asleep.” Portia (mother of 3 year-old; Moderate CSP) “And then my husband takes him upstairs and he lies in his bed with him.” Anna (mother of a 2 and a half year old; small CSP) “Then she’ll have a book or two and then she’ll have milk and then she’ll be put down to go to sleep. But at the moment, she’s either being put down to sleep with her Dad stroking, cuddling, or stroking her back, or I’m going in and I’m feeding her until she falls asleep.” Nikki (mother of 19 month old; Moderate CSP) “But if she wakes up and shouts for us, we’ve got a floor bed in the spare room – so we’ve got two mattresses pushed together on the floor - and all four of us just go in together. ... Because if she’s up, I don’t know if she has nightmares? She can’t express that she has nightmares, but she’s sometimes inconsolable by one of us, either me or my husband and she specifically needs one of us. And she’s very rarely talked about a man upstairs. So I think she’s started to get to the point that she’s having nightmares, so we don’t even try and put her back to bed anymore, we just bring her in with us and all get on with it.” Sonya (mother of 2 year old; No CSP)

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		“‘Mum’ and then it starts again, so that doesn’t actually really work so he comes into our bed for a bit. That doesn’t work, it’s just – he just kicks and wants to chat. And then after about an hour of that, we get really annoyed and we’re like ‘He’s got to go back to his bed, I’ve got to work tomorrow’ and so someone then will carry him back to his bed and lie with him and he might then go back to sleep, he might be tired enough to go back to sleep then.” Gemma (mother of 3 year-old; No CSP) “I’ll usually lie with him and through trial and error with my other children, he’s actually in a double bed. So if I have to lie with him then it’s not too uncomfortable.” Nicola (mother of 2 year-old; No CSP) “So she still – so I kept - she’s still in my room but she’s in her own cot. So normally she’ll wake up and just ask for a cuddle.” Beca (mother of 2 year-old; Very small CSP) “I think because she’s in my bed next to me, so it’s easier just to give her the cuddle, put her covers on. ... And luckily she goes to sleep quite quickly.” Lila (mother of 3 year-old; Very small CSP) “if he wakes, if his first wake up is at half 9, half 10, then it’s leg it into his room and cuddle him back to sleep. He’s normally just sitting on the bed or maybe wandering but just wants to go back to

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		sleep in his own bed. That's a really quick cuddle back to sleep and he'll go back." Portia (mother of 3 year-old; Moderate CSP) "We just put him down [for a nap] in the garden, lie him down in the pram, sit with him for a few minutes and he'll go to sleep. ... he's happy to be with me and stroking him or shushing him." Farah (mother of 2 year old; Small CSP)
Parental presence in child's sleep location when transitioning to sleep	02, 03, 06, 08	"I'll give her a bottle, and if she goes to bed fine, I'll just put her in her cot and that's it done, or if it takes a little while I'll stay with her." Sonya (mother of 2 year old; No CSP) "And then, usually my husband, but sometimes me, will take Child 1 in to bed, get him into his cot. He has his owl nightlight on all night, every night, get him into his bed and then lie next to him on the floor while he falls asleep. And that is an error." Gemma (mother of 3 year-old; No CSP)
Parents stayed in their toddler's room until they fell asleep, with		"And I just wait with her until she decides to put her head down and go to sleep. So basically I generally try to take her up to her room away from other stuff, with stories, she may or may not

Themes and subthemes Theme description	Numbers of individual participants expressing theme	Example quotes
no activity or interaction.		want. ... what she's demanding of me is just presence." Beca (mother of 2 year-old; Very small CSP)
<i>Allowing child to self-settle when transitioning to sleep</i> Parents allowed their child to fall asleep alone in their bedroom.	02, 05, 07, 09, 14, 19, 20	"we now, after her milk, I will read her a book, or she'll read a book and then I'll give her a cuddle and put her down so she learns to self-settle. Or my husband will come in and read her a book and I will leave and then he'll read a book with her and put her down to sleep. ... And then, usually 8 times out of 10 she will fuss for a little bit and maybe cry for a few minutes, but then go to sleep and settle." Jen (mother of 14 month old; No CSP) "a good night's sleep would be down at 7 in his – 7.15 - in his cot in his room, white noise on, shut the door, leave him having given him a bottle – still doing a bottle. Down in the cot, walk out and then hopefully not see him again until 6.30 in the morning. That's a good night." Laura (mother of 1 year old; Small CSP) "So we say 'Night-night' to the sun and then we – oh, my husband and I both kiss him night-night [Child 1 calls out] and then we go downstairs and leave him to go to sleep. Which he does do eventually. ... Depending on if – again it depends if he's had – if he's had any sleep during the

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		day, we tend to get lots of calling down to us, like 'Mummy! Mummy! I need another story'." Lucy (mother of 3 year-old; Very small CSP) "And I give him a few last strokes while he's in his cot and then I turn off the light and walk out and he falls asleep." Faye (mother of 23 month old; Very small CSP) "she'll just wake up and just roll over and put herself back to sleep. I think she's awake more than I realised she was now that I'm awake in the other room and I can see her waking up quietly and rolling about. And she'll sometimes have a bit of a chat and then go back to sleep." Sonya (mother of 2 year old; No CSP) "She might cry out and she might shout, but she's not crying? You know what I mean, she's not actively crying or that upset, it's just that she's had - I don't know, a nightmare or night terror and it normally just happens - she might shout a few times but then that's it, it kind of stops. But we don't go in to check on her." Jess (mother of 1 year old; No CSP) "if he's just chatting we leave him to it." Laura (mother of 1 year old; Small CSP) "So really that's just my husband and I lying in bed saying 'Child 1, I think it's still sleepy time, go back to bed'. But he might have got out of bed and he might be playing with his toys on the floor

Themes and subthemes	Numbers of individual participants expressing theme	Example quotes
Theme description		for a bit. And then just when we hear him, or when we're stirring, we'll just shout up and say 'Get back into bed'. And we give him a little bit of time and eventually he will go back to bed" Lucy (mother of 3 year-old; Very small CSP) "then I'll give her a cuddle and put her down and walk away." Jen (mother of 14 month old; No CSP)

Appendix T Table of Themes and Illustrative Participant Quotations for RQ2: How Do Parents Think Their Sleep-related Routines Benefit Their Toddlers' Sleep?

Themes and subthemes	Numbers of Individual Participants Expressing Theme/ Subtheme	Example quotes
Creating an optimal sleep window This theme represented putting child to bed during an optimal time-frame allowing sufficient sleep opportunity and when the child was appropriately tired to fall asleep easily. Routine strategies of managing daytime sleep and physical play were used to ensure	01, 02, 03, 04, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21	“It again also depends on her naps and what time she wakes up, so now she’s been napping since, where time are we up to? Half 12. So if she’s had a long nap because she’s exhausted, so if she wakes up at half 3, we’ll push the bath time back by half an hour but if she wakes up, if she woke up at half past 1 and that was her only nap, we’d keep it at 6 o’clock or even move it to quarter to 6 perhaps, but we try and keep it within, sort of, half an hour of 6 o’clock.” (Jen, mother of 14 month-old) “They’re just – they just – they need - you know how much sleep they need and if they’re not getting it then it’s not worth it sometimes... Try to limit it [napping] and certainly if it’s later on in the afternoon then we try not to let him do that... If it’s – he could go to sleep at half 10 in the morning, which, even if he’s had a

Themes and subthemes	Numbers of Individual Participants Expressing Theme/ Subtheme	Example quotes
children were tired at bedtime.		good night's sleep, he just decides he's tired and goes to sleep and that's fine at that stage because there's enough time to burn off any energy... But later in the afternoon, no, you just have to keep him awake and keep him going." (Liz, mother of 3 year-old) "Sometimes she'll say 'Bed, bed' and say she's tired, but sometimes she'll say that a bit too early and now that she's older, I know that if I don't – say she wants to go to bed at 10.30, if I put her down then even if it's for 10 minutes, she won't nap then for the rest of the day... Then it leads to poor night time sleep because she's over tired by the time she gets to bed. So I find that actually even if she's tired it's better to stretch her the extra hour to lunch time, so she has a proper 1 and a half hour sleep and then she goes to bed perhaps a bit earlier or on time. But yeah, I've found that if I put her to bed actually when she says she's tired, she's not quite tired enough to have a long nap but the power nap she has is enough to carry her through to bedtime. But that's not enough sleep really for her." (Nikki, mother of 19 month-old)

Themes and subthemes	Numbers of	Example quotes
	Individual	
	Participants	
	Expressing	
	Theme/	
	Subtheme	
		“Yeah, we’re starting to try and drop his naps. So when he’s at home with us, so on a weekend, or on a Monday – so I have a Monday off work every week – I’m trying to drop the nap with him. ... Just because it is starting to seem like he’ll go to bed half an hour earlier when he’s not had a nap. I don’t think it really affects his night waking yet, but it seems to make bedtime easier if he hasn’t napped. Unless we leave it too late and then he just has a meltdown.” Amy (mother of 2 year old; Small CSP)
		“So during the week when my husband’s at work, I’ll plan the days around – I’ll know – so, I’ll try to avoid driving back from somewhere at 5 o’clock so he doesn’t sleep in the car and then won’t go to bed, that sort of stuff. ... And when he does, it’s like a three hour mega-nap and then bedtime will be 9.30 or something like that.” Fatima (mother of 3 year old; No CSP)
		“And we’re getting quite good at guessing when she can sleep during the day and whether we need to put her bedtime back a bit because of daytime sleep.

Themes and subthemes	Numbers of	Example quotes
	Individual	
	Participants	
	Expressing	
	Theme/	
	Subtheme	
		... So we've figured that if she has a 5, 10 minute nap in the car, when we're driving somewhere, as long as it's before lunch it's fine. If it gets to about 2 in the afternoon and she has any sleep at all, even if it's a 5 minute doze, it can add an hour on to her bedtime." Sonya (mother of 2 year old; No CSP)
		"Well it almost starts at midday because if Child 1 looks like he's going to nod off - If we go anywhere in the car, he'll tend to sleep. ... So if we go in the car, I sit in the back next to him so I can make sure he doesn't go to sleep because if he has a nap, he won't go to sleep at 7. ...So avoiding him sleeping is a big part of the afternoon." Gemma (mother of 3 year-old; No CSP)
		"Yeah, if it's the weekend and he's not gone for a nap too early, I sometimes have to wake him up. And that's really hard because you don't want to wake him up because he's not going to want to wake up and although it's – you're having quite a nice break downstairs – I'll go and wake him up and you think 'oh no, he's having a nice nap', you're having a nice coffee, or something. But you have

Themes and subthemes	Numbers of Individual Participants Expressing Theme/ Subtheme	Example quotes
		to wake him up or else bedtime will be bad. Yeah, those are probably the two things we do.” Laura (mother of 1 year old; Small CSP)
		“It varies between about 12 and 2. I try and get her to be awake by 3 if she’s with me. And I do wake her if she goes over an hour. Because it makes bedtimes quite difficult.” Lila (mother of 3 year-old; Very small CSP)
		“I was trying to help him have a good lunch time nap. So he had to be that tricky balance of being tired enough to have a good nap at lunchtime at the right time, he’d have to wake up earlier.” Portia (mother of 3 year-old; Moderate CSP)
Helping child wind down This theme represented using particular calming practices, such as talking, stories, watching television and	01, 02, 03, 04, 05, 06, 07, 08, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21	“We’ll try and turn the TV off, or if we have the TV on , we’ll try and have something like ‘Pointless’ that’s just a bit dull and a bit chilled out – I like ‘Pointless’ – yeah, so it’s just more the winding down of the day. Calm play, nothing that’s too stimulating for her, nothing that can get her too excited.” (Jen, mother of 14 month old)

Themes and subthemes	Numbers of Individual Participants Expressing Theme/ Subtheme	Example quotes
keeping a calm demeanour helped child reduce their physiological, emotional and cognitive arousal after the day's activities.		"So yeah, we like stories. It just gives everyone a chance to – and it's also where everyone starts to calm down really. So if it's been silly, the silliness stops at story time and that gets everyone in the right frame of mind for bed." (Tania, mother of 1 year old) "his probable routine is that we kind of try and wind down a bit by watching something on TV. ... Usually a kids' film or CBeebies, you know, we don't really watch anything else, you know so we target it with them. And we watch it with them, so we always sit with them and cuddle and talk about what we're watching. Sometimes we're on our phone a bit as well, but it's like a wind-down time for everybody. ... we try to do a – the quiet time, you know, a TV or quiet play time before going up to bed - " Farah (mother of 2 year old; Small CSP)

Themes and subthemes	Numbers of	Example quotes
	Individual	
	Participants	
	Expressing	
	Theme/	
	Subtheme	
		"I think the days when we don't get the same routine in – Bedtime's always the same, but if you don't get the little bit in before that, if you don't get a little bit of a gap between dinner and time for a bath and that little bit of winding down time, you do notice that it's a little bit more difficult to get them to settle." Liz (mother of 3 year-old; Very small CSP)
		"[In the evening] he'd probably just be watching telly and chilling out a bit. ...Usually, I'd say, perhaps a little bit like we're winding down [at the evening meal] from our day as well. Really, it's the wind-down for all of us." Lucy (mother of 3 year-old; Very small CSP)
		"I think at first we found it really frustrating [when Child began running around after his bedtime routine] because we thought 'He's just working himself up again, he was all relaxed, he was probably going to go to sleep and now he's running around, he's doing all this stuff'. But then we just let him get on with it and he does settle down again, so I think we've got used to the fact it doesn't

Themes and subthemes	Numbers of Individual Participants Expressing Theme/ Subtheme	Example quotes
		mean we're starting right from the beginning. And it's ok." Anna (mother of a 2 and a half year old; small CSP) "It's nice because I feel like it [talking about the day] helps him to wind down. So what I've discovered more recently is that he's not quite ready to be read a story and then get a kiss goodnight and then be plonked in his cot, especially since, again, we've got him out of the sleep sack. ... [I talk about his day] Because I found that a few nights he was still a bit – a bit hyper, a bit kind of – His brain was still processing the day. So I started just sitting him on my lap for a bit longer, just stroking him, cuddling him. So I thought 'Maybe I'll just try going through his day to let him process everything and see if that helps him wind down a little bit quicker.'" Faye (mother of 2 year old; Very small CSP)
Communicating time for sleep	01, 02, 03, 04, 06, 07, 08, 09, 11, 12,	"I think everyone knows where they stand. It's easy – they can understand the routine more than language at some point, so I think – Yeah, I think everyone

Themes and subthemes	Numbers of Individual Participants Expressing Theme/ Subtheme	Example quotes
This theme represented the perception that predictable routines enabled parents to communicate to their children that bedtime was coming, reducing parent-child conflict around bedtime and helping toddlers self-regulate in preparation for sleep.	13, 15, 16, 19, 20, 21	knows that that is bedtime, it's time for sleep, not playtime and not running around and –" Lila (mother of 3 year-old; Very small CSP) "I think it's just the smoothness of it, just everyone is travelling in the same direction, I suppose. So, it's not that I don't have to remind people about brushing their teeth because I do. But when I do remind them, it's not coming out of the blue!" Tania (mother of 1 year old; No CSP) "So that's – the whole evening routine is about trying to cue him into the fact it's bedtime. So, even from 4 o'clock we're thinking ahead about getting him to bed. Like, the whole thing is about getting him to bed! ... I think for us it's just – it's that everyone knows what's happening next and you're not into a constant – well, hmm, shouldn't be – into a negotiation about everything and when it happens. That's the goal, that you wouldn't be in a position where they're constantly arguing about who's going to do what and when." Gemma (mother of 3 year-old; No CSP)

Themes and subthemes	Numbers of	Example quotes
	Individual	
	Participants	
	Expressing	
	Theme/	
	Subtheme	

“we have two stories and then he knows that the second story is the last one. ... There’s always a story, there’s always at least 2 stories and then the lights are off. And it’s quiet after that in order to go to sleep and it’s always the same. And it’s always in my bed. ... I think it gives them a – he knows what to expect, he knows where the limits are and he knows what his role in that little bit of the day is, I think, if it’s always the same. And I think if he knows what’s coming next and he knows what the routine is, he’s much more likely to comply.” Nicola (mother of 2 year-old; No CSP)

“I would say yes in terms of a bedtime routine. I would say, on the whole, we have a fixed set of activities we do before she goes to bed in terms of there are cues. Like ‘let’s go up and do some stories’, we go up, change her nappy and brush her teeth, and then we’ll sit in her bed, and then read stories -” Beca (mother of 2 year-old; Very small CSP)

Themes and subthemes	Numbers of Individual Participants Expressing Theme/ Subtheme	Example quotes
		"I just want her to know that that's [singing 'Twinkle Twinkle' her trigger, that's her trigger point [for going to sleep] I suppose. ... Or that's how it will go and then we won't deviate from it." Jess (mother of 1 year old; No CSP) "I think it does help him - I think he's always known that this is time for sleep. Even if he messes around, he's happy to understand it. He doesn't scream at night, he doesn't get upset. So even though he doesn't always want to go to bed, he knows that it is time for bed. ... So without having to get quite frustrated on our part, or having to shout at him or anything like that, he knows, we're able to communicate to him that it's bedtime." Farah (mother of 2 year old; Small CSP) "Yes, definitely. I think there's been a few times that I've looked at him and thought 'Oh, he's not tired, but we'll try it' and then by the time we've gone through the steps he's eye rubbing as we get him in his pyjamas and I think 'Yeah, this is going to work now'. ... And I think part of this is he knows it's

Themes and subthemes	Numbers of Individual Participants Expressing Theme/ Subtheme	Example quotes
		bedtime as soon as he's in the bath. It doesn't always work, but it generally works." Laura (mother of 1 year old; Small CSP)
Creating an emotional state conducive to sleep	01, 02, 03, 04, 05, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20	"It's lovely. We've sussed it for now with having both the boys in the bath at the same time. And it's just lovely because after so long of him really not wanting to go in the bath at all, so I'd never make him... But on the whole he enjoys it and then I'm always in there with him as well. We have a routine of making sure his towel's on the radiator to warm up and singing a song for brushing teeth...or getting him to shout, or make animal noises. Or we did the hokey cokey tonight to put the toothbrush in and out." Portia, mother of 3 year-old)
This theme represents mothers' belief that their routines benefited sleep by creating a positive emotional state of happiness and/or security and avoiding emotions of fear, anger or sadness to benefit child sleep. Having an enjoyable pre-bed routine was thought to		"I don't think [Child 1] would happily go to sleep if we hadn't gone through those steps..." Amy (mother of 2 year old; Small CSP) "My husband will take her in her room, put a nappy on her, play some quiet little game with her because she hates having her nappy on – for some reason she

Themes and subthemes	Numbers of Individual Participants Expressing Theme/ Subtheme	Example quotes
benefit toddlers' sleep onset by creating a positive emotional state. Parents were very careful to avoid practices which upset children as this was thought to be detrimental to child sleep.		just wants to be naked – so he'll do some little songs with her to distract her.” (Jen, mother of 14 month-old) “But at the end of the day, what I do works and the reason I do it is, I guess, just go with the flow, or lack of time to do these things and just looking at what works on the ground and see what keeps everybody happy and makes the day run and go, just feeling lucky really that that does seem to work.” (Louisa, mother of 1 year-old) “I've tried all these other things and none of it worked and I just decided to go with the flow and give him what he needs for now because – yeah, otherwise we're all going to be stressed and fed up. ... Yeah. If I fight him, it's going to be harder for everyone and I don't see the point in that.” Fatima (mother of 3 year old; No CSP)

Themes and subthemes	Numbers of Individual Participants Expressing Theme/ Subtheme	Example quotes
		“But over the last three weeks or so she’s become really scared of the bath so that’s been dropped from the routine slightly. She now has a bath out of necessity, rather than as part of a relaxing evening routine, type thing.” Sonya (mother of 2 year old; No CSP) “I think the next step would be for Child 1 to go to bed by himself and – or just read him a story and just leave for him to go to sleep. At the moment, he’s not really able to do that. I try to not make bedtimes too stressful and to force that.” Nicola (mother of 2 year-old; No CSP) “We try and remember to brush his teeth, but that doesn’t happen every single night because sometimes it causes a monumental tantrum which isn’t necessarily what you want really immediately before bed. But usually we use either the Hey Duggee or the Blippi toothbrushing song videos and they seem to work. ...Yes, he’ll do it [routine component] if he enjoys it. If he doesn’t enjoy it, no chance. So obviously he doesn’t enjoy having a toothbrush thrust into his

Themes and subthemes	Numbers of Individual Participants Expressing Theme/ Subtheme	Example quotes
		mouth by us, but if he's watching a character on a screen doing it, he's more than happy to do it as well. Fine by me, apart from the fact that it then means he's had screen time but it's only a couple of minutes." Julia (mother of 3 year old; No CSP)
		"So you're hoping everyone will have a cuddle and she'll give Child 1 a cuddle and a kiss and most of the time everyone goes off to bed reasonably happy. ... And yeah, I think he would – he only would tolerate me putting him to bed, he wouldn't be happy with his Dad, I don't think at this point." Siobhan (mother of 1 year-old; Very small CSP)
		"We started leaving [Child's bedroom] when he started messing around, we'd say 'We're going to go now, that's it, Child 1, you've had bedtime'. And then he'd get really upset and it would take probably three times as long to get to sleep because he'd just be howling and then we'd be going up and down. And it just was a lot more disruptive, rather than just being like 'Well, you need to stop

Themes and subthemes	Numbers of Individual Participants Expressing Theme/ Subtheme	Example quotes
		this soon because we are going to go if you carry on’.” Anna (mother of a 2 and a half year old; small CSP)
<i>Managing feelings around separation from family</i> This subtheme represents participants’ belief that their routines helped to manage their children’s feelings about separation from parents.	01, 03, 06, 12, 21	“I’ve tried all these other things and none of it worked and I just decided to go with the flow and give him what he needs for now [being cuddled to sleep] because – yeah, otherwise we’re all going to be stressed and fed up... If I fight him, it’s going to be harder for everyone and I don’t see the point in that.” (Fatima, mother of 1 year-old) “Oh, and the other thing I didn’t say is we all usually say goodnight on the landing before story time so that’s a big part of the ritual and he gets quite upset if that hasn’t happened and he hasn’t had a kiss and cuddle from everyone.” (Gemma, mother of 3 year-old) And so what started to happen was I would be leaving at 9.15 and my partner would give her a phone to calm her down. ... And what was happening was she

Themes and subthemes	Numbers of Individual Participants Expressing Theme/ Subtheme	Example quotes
		was staying up till midnight watching and falling asleep, collapsed on the phone. ... And we kind of let that slide actually, for I would say even a month, until - We were just getting through, you know surviving and getting through this fact that she was wailing as I left and was inconsolable." Beca (mother of 2 year-old; Very small CSP) "And then he'll have a 5 minute super time with my husband when he finishes work. My husband will finish work at 7 and then he'll have a 5 minute really special time when he gets to choose whatever he wants to do because my husband works a 12 hour day in his office so he doesn't really see him otherwise. ... He sometimes – it's something energetic, like we've got a huge box with balls in and his Dad will pretend to be a crocodile and he'll throw balls out. Imaginative, I'd say is the thing that sums it all up, is imaginative. It's not a board game, it's very much one on one time with his Dad. Sometimes he'll ask for a made up story from a world that they've created together. ... Yeah, and that starts in the same way as well. It always starts with 'I love you, Daddy', 'I

Themes and subthemes	Numbers of Individual Participants Expressing Theme/ Subtheme	Example quotes
		love you too', big hug, then big squeeze cuddle when they've got their five minutes." Portia (mother of 3 year-old; Moderate CSP)
		"And everyone relied on that as the point of contact at the end of the day, where everyone knew they were going to be with Daddy for stories and to get to sleep. And so suddenly if he was held up by a meeting or if he was held up by the Tube being delayed that would throw things out because he wasn't there. ... And so we'd end up with things like reading - normally we'd read stories in Child 2's room which is at the back of the house, but we'd have to do things like read stories on my bed at the front of the house, with the window open and my app turned on so we could track Daddy's progress home from the Tube. And then brush everyone's teeth while we were looking out of the window so we could spot Daddy and then Daddy come in and Daddy get everyone to bed!" Tania (mother of 1 year old; No CSP)
<i>Creating feelings of security</i>	02, 05, 06, 07, 08, 12, 13, 16, 17, 21	"I think they [sleep-related routines] introduce an element of predictability, which is quite good for everybody. You know, they know what's going to happen, in a

Themes and subthemes	Numbers of Individual Participants Expressing Theme/ Subtheme	Example quotes
This subtheme represents participants' belief that the familiarity of routines benefited their children's sleep by helping children feel safe and secure.		world where they have little control it's good to know 'Oh this is a sign that this is happening now'. I think that helps." (Beca, mother of 2 year-old) "I think toddlers and kids probably feel overall that this world is quite confusing, so having some cues and a predictable pattern in the day helps them to make sense of things. Actually helps them to learn, gives them some kind of comfort and security, knowing that these things are the same every night, the same thing's going to happen every night, this is ok, yeah, and they know what's going to happen." (Farah, mother of 2 year-old) "Yeah, I think they [routines] probably do [help with toddler sleep]. ... Mine does much better when she knows what's coming next. It's sort of the same with everything, so we'll try and tell her what we're doing and what our plans are. I told her this morning - well it caused a tantrum – but I told her this morning we were going to nursery so that she knew what was coming." Sonya (mother of 2 year old; No CSP)

Themes and subthemes	Numbers of Individual Participants Expressing Theme/ Subtheme	Example quotes
		“I think for her personally, but all children, having some sort of routine is important because it makes them feel secure and safe, it makes them aware that actually –it makes them feel that they know what’s coming next and they’re a little bit more in control, as much as they can be. ... And also, for Child 1, even if we are at a different person’s house and sleeping overnight, if we can keep the same bath time with the same bath toys she knows, ‘Ok well we are in a different place, but the same thing happens’, it makes her a little bit more relaxed about things.” Jen (mother of 14 month old; No CSP) “So I normally put on the kettle and then I make her bottle. And I think, actually, either if she’s talking and awake and she hears the fact that kettle’s boiling and her bottle is being made, she actually quietens down because she knows I’m going to come in within about 2 or 3 minutes.” Jess (mother of 1 year old; No CSP) “I think in the sense of knowing what’s coming, they [routines] do help, but I think they probably help different toddlers differently.

Themes and subthemes	Numbers of	Example quotes
	Individual Participants Expressing Theme/ Subtheme	
		“I think for Child 1 it probably helps that there’s not a fear of the unknown, so he knows that this, this, this will happen, but actually there’s other factors which affect his sleep more.” Portia (mother of 3 year-old; Moderate CSP)
		“Yes definitely, and they always get to choose, they get to choose their book and they know they have to turn their lights out after the books and then we get our songs and it’s all very – they know what to expect. ... And then you have to say ‘Night night, sleep tight, don’t let the bugs bite. If they do, God bless you, I’ll see you again in the morning.’ And then ‘Night night, sweet dreams, I love you.’ And then Child 2 has to say ‘Stars are out, it’s time for bed, so say’ and then he says ‘Good night’ and then I say ‘My sleepyhead.’” Liz (mother of 3 year-old; Very small CSP)
		“And I find them [songs] very comforting and I think the boys probably have that as well now, have that same feeling because - and it’s something very reassuring that you know what song’s coming next and you know what’s happening. ... Yeah, I think it’s actually really reassuring, especially when

Themes and subthemes	Numbers of Individual Participants Expressing Theme/ Subtheme	Example quotes
		you're going to sleep, having that sense of reassurance, yeah." Liz (mother of 3 year-old; Very small CSP) "I think we try and keep it consistent so he knows what to expect, what's happening, and because it just – I think he deals with it better if he knows what's going to happen. Like if we go away somewhere, his sleep is disrupted for a couple of weeks afterwards. So I think he deals better knowing what to expect and how it's going to go." Anna (mother of a 2 and a half year old; small CSP)

Appendix U Participant-reported Feelings In Relation To Their Overall Sleep-related Routines

Feelings about overall sleep- related routines	Participant number (child age in years (y) or months (m); child nap status (NN = no longer naps; nap = naps each day; DN = dropping naps/naps occasionally))																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
	(3y; NN)	(2y; NN)	(3y; NN)	(2y; NN)	(1y; nap)	(2y; NN)	(1y; nap)	(2y; nap)	(1y; nap)	(3y; NN)	(3y; nap)	(3y; NN)	(3y; NN)	(3y; DN)	(1y; nap)	(2y; NN)	(1y; nap)	(2y; DN)	(2y; nap)	(1y; nap)	(1y; nap)
Happiness/ Enjoyment						x		x					x	x						x	
Relaxed due to routine adherence		x	x		x		x		x			x		x					x		x
Relaxed due to flexibility	x			x		x									x		x				
Restricted/ trapped			x		x			x	x					x	x						x
Free	x			x	x	x		x	x						x		x				x
Sadness			x					x				x									

Feelings about overall sleep- related routines	Participant number (child age in years (y) or months (m); child nap status (NN = no longer naps; nap = naps each day; DN = dropping naps/naps occasionally))																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
	(3y; NN)	(2y; NN)	(3y; NN)	(2y; NN)	(1y; nap)	(2y; NN)	(1y; nap)	(2y; nap)	(1y; nap)	(3y; NN)	(3y; nap)	(3y; NN)	(3y; NN)	(3y; DN)	(1y; nap)	(2y; NN)	(1y; nap)	(2y; DN)	(2y; nap)	(1y; nap)	(1y; nap)
Guilt			x			x					x	x						x			x
Worry/ Uncertainty			x	x	x	x	x	x	x	x	x					x		x			
Frustration/ Anger			x			x		x	x									x			
Acceptance		x	x		x		x		x		x	x					x				x

Bold type = participants reporting a Small or Moderate CSP on the BISQ-R

Appendix V Themes and Illustrative Participant Quotations for RQ3: What Feelings Do Parents Experience In Relation To Their Sleep-related Routines With Their Toddlers?

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
Happiness and Enjoyment	01, 02, 04, 06,	“But sometimes, I’ll kind of enjoy it, because we’ll have been early that day and if we’re up in
This theme represents	07, 08, 09,	our bedroom at 6.30 I’ll spend a half an hour reading with him, so it depends on the day.”
participants’ feelings	10, 12, 13,	Fatima (mother of 3 year old; No CSP)
of happiness and	14, 15, 17,	“Yeah, we really enjoy watching it together with her. It’s sing along, she’s not quite learned to
enjoyment of aspects	18, 19, 20,	sing along yet, but like sing along and things like that, so since the lockdown, obviously this is
of their sleep-related	21	something that me and her Dad actually sit down together with her and watch... The
practices. Some		storytime’s quite cute. Yeah, I’m happy with the storytime. Yeah, she’s happy with reading
participants reported		her storybook. I think it’s quite important.” Jess (mother of 1 year old; No CSP)
feeling ‘happy’ with		
their child’s overall		
sleep-related routine.		

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	“Again, same, yeah, I’m relaxed and happy [when watching TV]... That’s [reading stories] lovely. Yeah, no, I like that. It’s lovely to share that time with them. The songs definitely feel lovely!” Farah (mother of 2 year old; Small CSP) “But yeah, I quite enjoy going in for a bath. Sometimes one of us’ll pop in for a shower while he’s in the bath and we’ll have a family bath time, or whatever. Or one of us’ll get in the bath with him, but that’ll be – if he’s moody sometimes, if one of us goes in the bath with him, sometimes that just helps to get him a bit more into it... I do enjoy it [reading stories], last night was really good because he was really into it. And he’s obviously got bits that he’s memorised as well so he’ll join in with little bits of it, which is quite nice.” Lucy (mother of 3 year-old; Very small CSP) “But it is just something we’ve always done together. I think because my partner works until 5 o’clock and then it’s only a small amount of time we get as a family until she’s asleep, it’s [bedtime routine] something we’ve just always enjoyed as a three, and we’re sort of quite keen to keep it as that, I think.” Nikki (mother of 19 month old; Moderate CSP)

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	“Like, yeah, I like reading one or two stories and I’ve started doing chapter books with the older one and that’s quite nice as well because the sort of feeling of continuity there is quite nice. Especially because I miss some evenings, I miss some bedtimes through work, so getting that connection with Child 2 is really nice. Yeah, I like reading them stories.” Amy (mother of 2 year old; Small CSP) But it’s [watching TV] also a nice time because it’s really my only time of day with him between daycare pick up and bedtime. And so if he’s in a – if he’s had his nap at daycare and if he’s in a good mood, it’s quite fun actually. I quite enjoy it.” Faye (mother of 2 year old; Very small CSP) “That [play time]’s nice too, because I’ve generally, even though there’s stuff to do, clearing up dinner, generally I don’t. I’m not trying to do anything else, I can just be with the children. And it’s nice. As long as nobody’s doing anything mad. It’s nice, I love being out with them in the garden because it’s nice to not be in front of the telly and to be actually playing together, it’s nice.” Tania (mother of 1 year old; No CSP)

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ Subtheme	
Feeling Relaxed	01, 02, 04, 05,	“Yeah, [I feel] quite relaxed and happy, she’ll be getting her pyjamas on and putting her nappy
This theme represents	06, 07, 08,	on for bed and if it’s cold, she’ll be getting in her sleeping bag, which she’s completely gone
participants’ feelings	09, 11, 14,	off now, so she doesn’t like to be in her sleeping bag any more. So, generally quite a
of being relaxed	15, 17, 18,	relaxing, quite calm time, we’re not into the frustration of her not going to sleep yet, it tends
related to particular	20, 21	to be quite an easy part.” Sonya (mother of 2 year old; No CSP)
components of their		“I quite like that time [reading stories before bed] because at that time of day I’m exhausted and
sleep-related routines,		so in a way I’m quite glad to lie down and not have to do anything else. And it’s easy to focus
or to their overall		that time - it’s not arduous or strenuous.” Nicola (mother of 2 year-old; No CSP)
routine.		“But I mean, most of the evenings, my partner is around, her father, so I’m normally sat on the
		sofa watching ‘Pointless’ and they’re just playing or reading books because that’s their time
		together really. ... So yeah, just quite chilled out really, just quite relaxed about it all... [Music]
		relaxes me, it definitely relaxes me, so it’s something which we take out, if I’m out with the

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
		pram, or we're out the house, I'll take it out and I'll put it on my phone and play it for a bit." Jen (mother of 14 month old; No CSP) "So if I think bedtime's going to be easy, I'm like, relaxed." Beca (mother of 2 year-old; Very small CSP) "Relaxed, yeah. Relaxed, so yeah, it's [breastfeeding Child 1 to sleep] lovely. He gets nice and sleepy and I get sleepy as well!" Farah (mother of 2 year old; Small CSP) "Otherwise I have no problem with [sleep onset] – because he goes to sleep really quickly so I'm not there for – unless he's had a nap – but there's not that kind of lying there uncomfortably for 3 hours, it's usually a 10 minute, 15 minute story, song and a cuddle and then he's asleep. So it's nice and relaxing." Portia (mother of 3 year-old; Moderate CSP) "It's [child-free evening time] just a little bit of time to unwind, just sit and do nothing and not have to answer to anyone, for - even just for a couple of hours. Just to do some things for myself, just to do anything that – even if it's just sitting and watching Netflix for a while. ... Or just being able to sit and have a conversation with my husband, which doesn't happen very

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
		often at the moment thanks to the 4 year old. Yeah, just a bit of downtime.” Siobhan (mother of 1 year-old; Very small CSP) “That [Child 1 napping on lap] normally feels quite nice because she normally gets on with it and I can go on my phone and read a book on my phone, so that’s actually quite a nice bit of down time for me. I think it’s just time to relax, in a quite busy day, particularly if I’ve got both children at once... Just like a time to have some me-time, I guess, in a busy day of child care.” Louisa (mother of 1 year old; Small CSP)
<i>Feeling Relaxed Because of How Routines Are Implemented</i> This subtheme represented participants’ feelings	01, 05, 06, 07, 17, 18, 20, 21	“So I’m not really that fussed, as long as she’s in bed by 7, I’m quite relaxed about how we get there. ... I suppose it’s an ease now, there’s an easiness now to it. Like for instance if my husband wants to go out in the evening, if he’s working late, after work and because we’ve all, we’ve got this routine down – or if I go out on a Saturday with some friends in the late afternoon, it means that he can do the routine and I can do the routine, by ourselves, without – And know that it’s going to work. Yeah, like we know, we know that this set routine works,

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
of being relaxed either due to adhering to sleep-related routines, or due to a more flexible approach to child sleep.		we know what her trigger points are. If we do it – and it's normally you have your life back by yourself by 7 o'clock." Jess (mother of 1 year old; No CSP) "It means I can go out and not worry. It means I can be at work and not be worried about what's going on at home. Or I could go out with a friend, if we weren't in lockdown, and not be worried about bedtime too much. I think that does help." Amy (mother of 2 year old; Small CSP) "I think we inevitably do [have a routine], but I like to think of it as more of a pattern and I'm not that stressed or strict if it doesn't work out that way. ... Yeah, I just, it's not my style... Before I was like, yeah, 'Rules help and routines are good'... But I think, with my first daughter, for me anyway, they created more anxiety than – I didn't find them relaxing, I found them more anxiety-inducing because I felt like I was setting targets and failing them, if that makes sense?... So, I think after – I think it was a really big life, well not life lesson, but it was a big – Like, very quickly I realised that isn't who I am, that's not what makes me feel comfortable." Beca (mother of 2 year-old; Very small CSP)

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	“I thought I didn’t really want to bother with trying to force her in to a routine and I was just a bit more relaxed about what you should and shouldn’t do, I suppose and a bit more pragmatic about it. Whilst also probably suffering more from tiredness actually, with the two children. ... I guess I’m just a bit laid back and think if they’re enjoying running around together, that’s great, I’ll just let them do it and we can all enjoy it. That often means she gets really hyper before bedtime but then she still seems to settle down as soon as she’s in her sleeping bag and feeding, she seems to know that it’s sleeping time. So probably if she wasn’t like that, I would try a different approach of classic calming approach, but I don’t seem to need to do that.” Louisa (mother of 1 year old; Small CSP)
Feeling Free	04, 05, 06, 07, 09, 13, 14, 18, 19, 21	“I like the routine, I like knowing what can be done within a certain amount of time and - Because my free time’s probably going to be in the evening, isn’t it, knowing it’s probably going to be at this time and give me the opportunity to do something myself... So, once Child 1 is asleep. So I think the key factor is Child 1 being asleep, because once Child 1 is asleep then
This theme represents participants’ descriptions of feeling		

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
free or released from parenting responsibilities at particular points, or as a consequence of their child's sleep-related routines.		you can do everything because the girls are a little bit more independent. So, one parent can go to the gym, or go to the supermarket or whatever." Nicola (mother of 2 year-old; No CSP) "I can actually pretty much ignore her in that time, she's not so demanding of adult attention – she might body slam me, she might want my attention a bit, but she also doesn't mind if I'm just on my phone, whilst she's bouncing around... So her sister in contrast really needed a lot of physical touch to be able to fall asleep. Whereas I don't mind this version because what she's demanding of me is just presence. So I don't mind as much. ... But even these small things where I can leave the room for a couple of minutes for her and she's content actually make a huge difference as to how I feel." Beca (mother of 2 year-old; Very small CSP) "Well, it's – I'm quite relieved when she's getting bathed, because I can put her down when she's getting bathed. I know that it means I can probably have some time to myself in the next half an hour. I suppose it's a routine for our family as well. Me and my husband know that at 7 o'clock, if she's in bed by 6.30, 7, it means we can have our own time plus it means

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
		we can get dinner sorted for ourselves. And know that it's going to work. Yeah, like we know, we know that this set routine works, we know what her trigger points are. If we do it – and it's normally you have your life back by yourself by 7 o'clock." Jess (mother of 1 year old; No CSP)
		"And my friend just seems to go with it and I would struggle with that. I would really struggle with the idea of – all of my timings were around – I definitely felt like I needed to have some time where it was just adults and - Because if Child 1 was up, he'd be dictating so much more stuff." Lucy (mother of 3 year-old; Very small CSP)
		"And sometimes Child 1's a bit upset actually about me not being there, but it's nice for me to know that he can do it without me, you know. It means I can go out and not worry. It means I can be at work and not be worried about what's going on at home. Or I could go out with a friend, if we weren't in lockdown, and not be worried about bedtime too much. I think that does help." Amy (mother of 2 year old; Small CSP)

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ Subtheme	
		"If I know that he's calm and he's going to fall asleep quickly, it's like 'Oh great, liberation!'. I can go down and watch TV for a little book or read a book or do the piles of unpaid care work that still await me... But I think it's mainly liberation and that's when my evening starts. It's precious. Its gold dust. It's basically the only me time I have." Faye (mother of 2 year old; Very small CSP)
Feeling Restricted	03, 04, 05, 06,	"I introduced it [reading] because honestly I was getting really, really tired of me being the only person who could put her down... I think breastfed, well, my experience – I've only got one baby so I'm not an expert – what I've read and what I've seen and what I've seen other babies, breastfed babies can be more difficult to put to sleep because they're so reliant on being fed to sleep... And then, because I wanted my husband to be able to settle her, because sometimes she'll wake up in the middle of the night, I'm knackered, she'll only want me, I'm like 'I can't be doing this every day'. So, yeah, it got to the point where I said 'right, we're going to try it'." Jen (mother of 14 month old; No CSP)
This theme represents participants' feelings of being restricted by particular sleep-related practices, or by their overall sleep-related routine.	07, 08, 09, 11, 15, 17, 19, 20, 21	
		"Yeah, I mean we don't have a social life any more. Or rather if we did, it's like we get a babysitter in or a friend comes to look after her and then we might go out for dinner... But

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
		obviously it means, I suppose because of the routines, like the naps and the bedtime routines and that, it means we normally have to leave things early.” Jess (mother of 1 year old; No CSP) “Well, the thing is she won’t go to bed unless I’m cuddling her... I have no life. But it works for now. It’s not forever... I struggle [to study in the evenings].” Lila (mother of 3 year-old; Very small CSP) “I’ve been looking at things that you – NCT group, that lovely NCT group – posting lots of photos of like ‘hey guys, remember this from a year ago, two years ago’ and it’s just lots and lots of photos with me not there for the photos... Because what would happen was either I couldn’t make it or because I wasn’t there because I had to leave early to get him back for a nap or I had to leave and walk him in the buggy for that. So it’s lots of events or situations that I either couldn’t relax or – because I knew that I wouldn’t be able to relax, I would just say ‘sorry, can’t make it’ or go for a little bit and leave to fit in with nap windows because he wouldn’t go

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
		down easily either. He was a big shouter and needed the car or black outs or whatever. So I missed a lot of nice and relaxing social engagements really... Not doing things. Basically it's just saying no to things, the primary reason being that, yeah, the effect that it might have on sleep." Portia (mother of 3 year-old; Moderate CSP) "But yeah, for now we're a bit limited and I can't – not like we could be going anywhere anyway under current circumstances [Covid-19 restrictions], so I don't feel like I'm missing out too much, but it's, yeah, we - I feel that I'm a bit more restricted because I'm the one who puts him to bed... And yeah, I think he would – he only would tolerate me putting him to bed, he wouldn't be happy with his Dad, I don't think at this point." Siobhan (mother of 1 year-old; Very small CSP) "I think – it makes us worry if we go away because things are different, they're not going to be the same." Anna (mother of a 2 and a half year old; small CSP) "It very much had to be we're at home because we need to get back for this nap at this time, otherwise she'll get overtired and if she's overtired there's no hope for sleep is there?

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	So it is – it’s challenging at the minute. We are finding it quite difficult. One of us will spend between 1 or 2 hours in the room with her. It’s quite oppressive in a dark room. Sometimes she gets quite upset, even if we’re comforting her.” Nikki (mother of 19 month old; Moderate CSP) “But even more so once we had him and it proved very difficult to have him nap on something else other than me for hours on end. I said ‘Ok, I need to sort this, it’s very important for my freedom, for my independence, for my own self care’.” Faye (mother of 2 year old; Very small CSP) “But it’s always me who gets Child 1 to sleep. It’s quite limiting. Sometimes he falls asleep in about 10 minutes and sometimes it can take half an hour. And that half an hour can feel really long because I can’t move and I can’t read. I can’t do anything until he’s sleeping and that can occasionally feel quite wearing. It’s just sometimes – because at the moment I’m not working because I’m unexpectedly off with him – I don’t even get work as a break. And so by the end of the day sometimes I’m like, ‘I just

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
		want – I just want you to go to sleep so that I can stop being with you for a bit’.” Tania (mother of 1 year old; No CSP)
Sadness	02, 03, 08, 12	“I just feel really sad for her [child]. I hate it [night wakings]... I just feel sad for her. And sort of sorry for her and she can’t – she’s got really good speech, but – she can’t articulate what the problem is, especially in the night and especially when she’s upset, so yeah, it just makes me feel sad.” Sonya (mother of 2 year old; No CSP) “The thing is, the thing is, because I’m not the main person, my husband is the favourite of both of them. So if they know they’ve got to have me, they complain and they’re like ‘I want Daddy, no I want Daddy, oh, all right, I’ll have Mum’. And that’s – [Child] really gets upset if he has me, whereas [Older sibling] has accepted that he gets me. And actually he’s quite happy now having me because we have ‘Wimpy Kid’ and those things, so it’s just like forcing [Child] to have me instead of my husband feels like a bit of a hassle at bedtime and not – It’s really hurtful, it hurts. That, really. I mean, it’s good in a way because I want them to be attached to
This theme represents the feelings of sadness expressed by a very small number of participants in relation to aspects of their sleep-related routines.		

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
		my husband because he's the one that's there. But it is quite hard to stomach, yeah." Gemma (mother of 3 year-old; No CSP)
		"I think [I'd like] just maybe a closer connection with my husband. I'd – I feel – I mean, I know he's quite happy to sleep downstairs especially because he's not having to be woken up by Child 1. But it just feels a bit sad that we're not sleeping together." Farah (mother of 2 year old; Small CSP)
		"I think emotionally as well. Just sleep obsessed, really. ... All the activities as well. Not being stimulating at what time, so it's kind of not just naps but sensory inputs, food inputs, activities that you do, where you might be at what time and who you might see. All based around trying to get him to sleep for longer at night. And then just monitoring, yeah, just keeping a close eye on all that. And it not working. Miserable really." Portia (mother of 3 year-old; Moderate CSP)

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
Guilt	3, 6, 11, 12, 18, 21	“I mean, I always worry – I always think – I worry about those things [attachment and impact of sleeping practices] all the time anyway. It just adds to the guilt and the worry. And that’s not even going onto breastfeeding and feeding and do they go to nursery, or not go to nursery.” Gemma (mother of 3 year-old; No CSP) “it’s a bit harder when I think about my older daughter sometimes because I feel like she’s been trapped all day and then, especially if she says to me she wants to leave the house, then I’ll feel really guilty... But I’ll be honest, often if that sort of thing does comes up, I just – I generally tend to take the hits to myself, I generally end up agreeing.” Beca (mother of 2 year-old; Very small CSP) “And also it [sleep training] would mean, as I say, disrupted nights for me. So selfishly, that’s why I haven’t done it.” Lila (mother of 3 year-old; Very small CSP) “I want to be there for [sibling], but sometimes I’ve got a baby who is just so tired and can’t tolerate the 20 minutes of playing with Daddy that me sleeping with Child 2 [sibling] would entail... And so I have to say no to Child 2 and so sometimes there can be ‘I’ll read you one

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
		more story' or 'I'll get into bed for a cuddle', you know, but it can be very difficult to feel like you're sacrificing the needs of one child for the needs of another." Portia (mother of 3 year-old; Moderate CSP)
		"They're just excited. Like I feel bad for them because they don't see each other during the day very often and they're at nursery and school and stuff, and they want to hang out together." Amy (mother of 2 year old; Small CSP)
		"This is so bad – my husband takes him to bed rather than me because we kind of worked out that if I try and put him back into bed, he wants feeding again. ... Oh, it's just like both of us are awake! I have to wake my husband up to take him back into his room – it's silly. I don't know. One day we'll get it!" Amy (mother of 2 year old; Small CSP)
		"And I feel guilty that it [napping with Child] takes me away from [Older sibling] as well because ever since the baby was born, whenever time the baby has been asleep, I have been unavailable to [Older sibling]. And that seems unfair. Even though it's the same treatment

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
		that [Older sibling] got, there was only [him] to worry about when he was a napper." Tania (mother of 1 year old; No CSP)
Worry	01, 03, 04, 05,	"The worry is often that if I'm so tired that I doze off whenever he's dozing off, so I'm mindful of
This theme represents	06, 08, 09,	that." Nicola (mother of 2 year-old; No CSP)
participants feeling of	10, 11, 12,	
worry during and	13, 14, 15,	"I don't know. Fortunately, I was fairly awake so it was actually all right. What I found really
about their sleep-	16, 17, 18,	hard in the early days was that I would sometimes fall asleep myself while feeding her to
related routines.	19, 20, 21	sleep in a chair. I just felt so stressed about the safety implications of that, as well as obviously
		it making me really tired to be up in the night... So I was just really happy that I didn't fall
		asleep last night while I was trying to get her to sleep. But I was also aware that I might. You
		know, there's a possibility that I might do that, so there's always that anxiety surrounding
		that." Louisa (mother of 1 year old; Small CSP)

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
		“Not so much in the things we do day to day things, but bedtime is always on our minds from 6.30ish. And we always do it in the same order. Yeah, as soon as we get home you’re thinking about bedtime basically... I think it’s because you don’t want to get it wrong. You don’t want him to get a second wind and become overtired because I think I read somewhere it gets your cortisol going and your adrenalin, maybe... Yeah, he was running around like a nutter and then you think ‘Well you’re never going to wind down now’. I’m keen to avoid that generally.” Laura (mother of 1 year old; Small CSP) “Well, I’m anxious [at bedtime]. Like when I text you earlier I was feeding him at the time and I was like ‘please go to sleep, please go to sleep’ and I knew he wasn’t going to because he was still tossing around and he was climbing on me and stuff. And sometimes he does just spontaneously drop off and it’s like ‘yes!’ . It is quite an anxious time because I’m just thinking if he doesn’t go to sleep we’re going to have to go through all of this again about an hour later which is really annoying.” Julia (mother of 3 year old; No CSP) “But I think from always having a lot of inconsistent naps it’s a bit ‘Ok, what can I get done in this time? Is she going to wake up? Don’t make a noise’! She’s a very light sleeper... [I’m] still

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
		ok at this point [playtime after dinner], but maybe a little bit of apprehension setting in about how bedtime's going to go... I think apprehension's definitely set in by this point [getting Child 1 changed for bed] of how is bedtime going to go? Is it going to take hours?" Nikki (mother of 19 month old; Moderate CSP)
<i>Worries about consequences of not following sleep routines</i> This subtheme represents participants' worries about the consequences for themselves and/or	3, 5, 6, 8, 9, 10, 11	"So I feel more restricted by that [her nap], I get quite nervous about taking her out for a day than my husband does... I always just get concerned that it might affect her sleep in terms of, if she's really tired and she doesn't sleep, she might be really grumpy." Jen (mother of 14 month old; No CSP) "But I'm just so – this is going to sound – I'm just actually a bit scared and a bit frightened about moving her – I know that sounds really out of key, but – Basically, I don't want to mess up. We're ok right now sleep-wise... We've had a lot of rough times, over the past 5 years with sleep, the idea of me maybe moving her, her starting to wake up, or her waking up her sister,

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
their child of their child's sleep-related routines not being followed.		or her sister waking up with her – it just fills me with a dread and I kind of feel like 'if it ain't broke don't fix it'." Beca (mother of 2 year-old; Very small CSP) "But I'm very aware that I probably shouldn't do that [give milk in a bottle] after the age of 1 because of his teeth... Bottles I would like to get him off soon, but we've just had a patch of slightly rougher sleep so I'm not in a hurry. That was teeth, I think... It's hard because when you're working full time you don't want to mess with his sleep, not when it's better than some people's... Yeah, I can't - It's hard to go in [to work] with less sleep." Laura (mother of 1 year old; Small CSP) "So yeah, that's it, it's stressful. I seem to spend my entire life, especially on my days off, just concerned about getting my child tired enough that he will go to sleep and just desperately avoiding the nap in the car... And then it's just a bit – like, I'm fully aware that what I do throughout the day - And if he sleeps, oh my God, like my brain, I just, I just, I just can't cope with it, I'm like 'Noooo!' because I know that all the good work I've done that morning, like going out for a wonderful long bike ride is just completely – It'll need doing again in order to get him tired enough to go to sleep. And there's been a couple of nights where he hasn't

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	gone to sleep until half 10 and it's just absolutely exhausting. And they're usually when he's napped, so – "Julia (mother of 3 year old; No CSP) "It's [Child 1 waking at night] always when I'm working the next day though, just to throw a spanner into the works. ... I suffer from insomnia sometimes, so. And it's always after the night feed, which is really exhausting. ... And I'm still really, really tired, but I just think that's the anxiety about work, the anxiety about Covid and stuff, it's just there in the back of my mind. ... And if I give it even a second's thought ... then I'm like 'Aah! Now I can't go back to sleep'. ... And those days have been pretty big write-offs really. I mean, one of them was at work and it was fine, you just get on with it, don't you? Everyone's as tired as each other. But, yeah. Not ideal. So I much prefer it when he does sleep through the night which happens 6 nights out of 7, so." Julia (mother of 3 year old; No CSP) "Yeah, yeah. Just - bedtime – I think because I need my sleep, sleep has always been important for me. I just – I really struggle if I'm tired. I used to do night shifts as part of my job and it

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
		made me – made me really poorly, really. Not getting enough sleep and not having a proper sleep pattern.” Lila (mother of 3 year-old; Very small CSP)
<i>Parenting Uncertainty</i>		
This subtheme represents parents worries about whether aspects of their sleep-related routines were ‘right’ for their child’s sleep and emotional development. This could be part of wider		“It is difficult, isn’t it, though, knowing what’s best to do? I mean, I always worry – I always think – I worry about those things all the time anyway. It just adds to the guilt and the worry. And that’s not even going onto breastfeeding and feeding and do they go to nursery, or not go to nursery. You know, the whole thing is just fraught with worry, I think, and guilt. I wish I’d known – I wish I’d known what I know now, but how could I have done? I couldn’t have done really... I would have just thought ‘oh this is fine, we’re doing fine, don’t worry’, instead of what I did think which is ‘social care are going to take him away because I don’t know what I’m doing’, which is what I did think... I think I just wouldn’t have been torturing myself, beating myself up about ‘What am I doing wrong?’. Because there’s a lot of – and there’s loads of people giving you advice all the time. And that’s all aspects of it, actually, not just the

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
concerns about their abilities as a parent.		sleep, everything, and you're always thinking 'I'm doing it wrong, I'm not getting it right', just thinking constantly 'Am I doing the right things?'" Gemma (mother of 3 year-old; No CSP) "before I was like, yeah, 'Rules help and routines are good'. But I think, with my first daughter, for me anyway, they created more anxiety than – I didn't find them relaxing, I found them more anxiety-inducing because I felt like I was setting targets and failing them, if that makes sense?" Beca (mother of 2 year-old; Very small CSP) "But I think – yeah, I just need routine and I need regular sleep and 8 hours. Which is – that's put me off doing any sort of sleep training because I know that for a few nights I won't get 8 hours so we've just carried on as we are... But also I don't want her upset and I don't know if that [sleep training] affects them emotionally long term. And I'm sure it does absolutely nothing because so many people do sleep training and let children cry." Lila (mother of 3 year-old; Very small CSP) "We did really struggle with Child 1's sleep for a long time. And it's only really improved, like the past 6 months have been - felt like it's fairly normal. Like, he's – not that he's ever been

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
		abnormal, just that we've really struggled with it. He used to wake up a lot, lot more, for a lot longer. And cry, and we just would not know what was wrong with him. We'd try all sorts, like. But we'd just get to a point where we were 'We do not know what is wrong with you at all'. And he'd end up just crying so much and we'd just no idea!" Lucy (mother of 3 year-old; Very small CSP) "what am I doing wrong?" Siobhan (mother of 1 year-old; Very small CSP) "I don't know if - sometimes I feel ok, have we – I hate the saying – but have we created a rod for our own backs? So, by putting her down consistently in her sleeping bag, in the dark, with white noise, now she won't sleep without that, should we have persisted and tried something else?" Nikki (mother of 19 month old; Moderate CSP)
Frustration and Anger	01, 02, 03, 04, 05, 06, 07, 08, 10, 11,	"She's – for example, at home – if we're out I'm like 'that was predictable she'd go to sleep in the car'. I tend not to be agitated about those, unless the car journey was out of my control, someone else made a decision we were going to leave at 6 or 7 and I [inaudible]... But at

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
This theme represents participants' feelings of frustration linked to aspects of their child's sleep-related routine and its implementation.	12, 13, 14, 15, 16, 19, 20, 21	home when I find she's gone to sleep at like 5pm or something like that, then it's like 'Aaaah! This wasn't supposed to happen! ... But it's like 'this is what life is like, this is what things are like' It's almost like I'm getting that taste of a bit of my evenings back, a bit more sleep. It's like I'm less tolerant of when they buck the trend and do something that's going to mess it up?" Fatima (mother of 3 year old; No CSP) "You could be in and out of the room a lot, and it gets quite frustrating all around if he's not ready for a nap, or if you've just misread the signs." Laura (mother of 1 year old; Small CSP) "And he often bites me, which I'm totally used to now because he's been doing it now for about two years. But my husband will occasionally hear me scream. So that's annoying." Julia (mother of 3 year old; No CSP) "Yes, maybe once a week. He did last – did he wake last night? Oh no he didn't, maybe the night before... It's always when I'm working the next day though, just to throw a spanner into the works." Julia (mother of 3 year old; No CSP)

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
		“However, 10 minutes is long enough for him to have the danger nap. So I said to her ‘We have to go in the morning.’. That’s the only way I can think to try and prevent that from happening. And he still napped on the way back and it was like ‘Aaah! I tried my hardest’.” Julia (mother of 3 year old; No CSP)
		“If I’ve wanted her to nap, I get really frustrated and then I start getting stressed about how tired she’s going to be later and how it’s going to make the evening stressful. That’s why I encourage her to have a nap because I know it makes the rest of the day a lot more pleasant. Otherwise by 4 o’clock it’s difficult, then by 5 o’clock she wants to go to sleep and that’s obviously way too early and then she gets grumpy because I’m trying to wake her up at 5 o’clock.” Lila (mother of 3 year-old; Very small CSP)
		“Because that’s with Child 2 and my husband here, my husband will need to go back to work and then Child 2 will probably wake up and want some milk and that’s just not nice for either of them really, to do that. So it’s just that frustration again really [when there is an unplanned

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
		late afternoon nap]... If I'm coming back from somewhere then I'll probably be quite cross with myself for doing it. I think, even if we've had a lovely time, it's still that sense of 'Ohhh'... That tinged with regret of what it will mean which does taint things. Yeah. So it's more that kind of – yeah, cross with myself I'd say, yeah." Portia (mother of 3 year-old; Moderate CSP) "And I guess if we ate when he'd gone to sleep, it put a bit more pressure on getting him to sleep earlier because otherwise it'd be 8, 8.30 before we'd eat and we'd both be a bit hungry and crabby." Anna (mother of a 2 and a half year old; small CSP) "Other times it [long sleep onset] can feel very frustrating because I don't have any time with my partner. And so – my partner might be making dinner and then we have to eat the dinner in the bed, with the baby, watch TV on the iPad with the headphones in, if they haven't been destroyed by the baby." Tania (mother of 1 year old; No CSP) "It's [having to be in bed while child sleeps] quite limiting. And the actual experience of getting him to sleep can be quite frustrating because sometimes it just takes a while and he can be very wriggly and – I don't know – the sort of thrashing around that happens can sometimes

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
		involve him accidentally headbutting me in the nose or whacking me in the face, basically he can be physically quite wearing and quite often by then, we've all had an enjoyable bedtime but at the same time, I've been with the children all day, I'm quite tired - [Talks to Child 1] ... You know I'll just be ready for everybody to be asleep so I can turn my brain off and stop thinking about everyone." Tania (mother of 1 year old; No CSP)
<i>Anger</i>	03, 06, 07, 08	"my attitude about night wake-ups is that I'm extremely angry and resentful... I've been awake at night for a very long time for various reasons and I still find myself angry at the world... I think the real key for me is 'do I have to get out of bed?' If I have to get out of bed, that's just really – the level of disrupted sleep is quite high... But one [night wake] where, you know, she's waking in another room and I have to get out of bed and find out what's going on? Ugh, bleurgh, like, ugh, hate it so much." Beca (mother of 2 year-old; Very small CSP) "And sometimes I get annoyed because obviously I've woken up and it's me that has the problem going back to sleep afterwards... So it's that. In a way, I'm slightly annoyed by it
This subtheme represents participants feelings of anger in relation to aspects of their sleep-related routines and disruption to them.		

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	because it takes me another 45 minutes to get back to sleep because I'm constantly on the lookout, I'm alert to whether she might do it again." Jess (mother of 1 year old; No CSP) "We'd been waiting for him for so long, you know, this is perfect, we should have this perfect life. It was just a horrible, horrible thought of getting angry with my baby that I was meant to love. So I sort of thought 'Well that's because of sleep, so if I can sleep and he sleeps, then everything will be fine'. So it just turned in to this self-perpetuating cycle that sleep was this one wonderful thing that would cure everything and if I could just make him sleep then everything would be fine." Farah (mother of 2 year old; Small CSP) "If it's like, maybe half 5 then I feel really tired and frustrated that he has decided it's morning and that nothing's going to shift him... I think it's really hard if you're going to go to work because you start off and you already feel completely drained. You feel like there's just nothing left and so the commute you're tired, when you get to work, you just - I think you've got less tolerance for anything that doesn't go how it should do. And then when you're coming back you're thinking 'I've got to deal with this energetic toddler and I don't have any

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	energy and I bet he's going to be a nightmare going to bed tonight' and it just puts the whole day in a bit of a negative light." Farah (mother of 2 year old; Small CSP) "So, first port of call, first response is 'Night, night, sleepy time, night night darling, get back in your cot, kiss, kiss'. Walk out the door. ... 'Mum' and then it starts again, so that doesn't actually really work so he comes into our bed for a bit. That doesn't work, it's just – he just kicks and wants to chat. And then after about an hour of that, we get really annoyed and we're like 'He's got to go back to his bed, I've got to work tomorrow' and so someone then will carry him back to his bed and lie with him and he might then go back to sleep, he might be tired enough to go back to sleep then." Gemma (mother of 3 year-old; No CSP)

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
Acceptance	1, 2, 3, 4, 5, 7,	"I've tried all these other things and none of it worked and I just decided to go with the flow and
This theme represents	9, 10, 11,	give him what he needs for now [co-sleeping] because – yeah, otherwise we're all going to be
participants'	12, 13, 14,	stressed and fed up." Fatima (mother of 3 year old; No CSP)
descriptions of	15, 16, 17,	"Yeah, I don't know, I don't know the answer, I just keep thinking it won't always be like this.
accepting aspects of	18, 21	But on the other hand we did have a good social life for many years, like 20 years, before we
their child's sleep-		had the boys. And I just keep thinking it won't always be like this and one day I'll be really sad
related routines,		that they'll have left home and they don't need us lying by their bed anymore and I'll be
which they recognised		crying in a different way because I'll be so lonely and I'll miss them, so I am aware of that."
might be considered		Gemma (mother of 3 year-old; No CSP)
challenging. These		"I mean, my husband and I had almost 15 years together as a couple to do stuff in the evenings
could be day-to-day		and do stuff without a baby. So, we never really were into going out a lot in the evenings or
challenges in		drinking, or doing any of that stuff. We do all our socialising, which is minimal generally,
implementing their		during the day. When she's old enough and she's able to look after herself a bit more, then
routines, or		
acceptance of		

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
elements of their routines which they were not satisfied with.		that's when I'll go 'Ok, well, I'll do what I want to do now'." Jen (mother of 14 month old; No CSP) "I have no life. But it [co-sleeping] works for now. It's not forever... I think it'll be good for both of us [when Child 1 sleeps in her own bed] but it'll come in time. Hopefully she won't be doing this when she's 16... Yeah, and I think when she's older she will understand a bit more and she will want to go in there. So, I've done it for 3 years now, what's another few years?" Lila (mother of 3 year-old; Very small CSP) "So my husband likes to find solutions to problems, but I don't think there's an awful lot you can fix. I think there's just things [related to child sleep] you have to accept that are going to be funny for a few days and upset things and then do you know what? They'll go back to normal after that and then something else'll happen. He's only 3, you know, so." Liz (mother of 3 year-old; Very small CSP) "If it's a weekend then it's [unplanned nap] a lot easier to handle. 20 minute nap before 3 o'clock, we can usually handle it getting him to bed before half past 8 or around half past 8.

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	
		We can handle that, that's fine! We just accept that's happening." Lucy (mother of 3 year-old; Very small CSP)
		"So it'd be nice to – it's probably going to come with time that I'll be able to reliably put him down and he'll sleep for more than a couple of hours without needing any sort of intervention. But I don't think – there's not really much I can do about that, that'll just come with time. ... But again, been through all this with my bairn, now she only wants her Dad to put her to bed, so I'm sure it will all change again, yeah." Siobhan (mother of 1 year-old; Very small CSP)
		"So he's all chilled and all relaxed and lovely then and that's really nice. And when he's finished it [milk] he goes back to his usual energetic self. ... I think at first we found it really frustrating because we thought 'He's just working himself up again, he was all relaxed, he was probably going to go to sleep and now he's running around, he's doing all this stuff'. But then we just let him get on with it and he does settle down again, so I think we've got used to the fact it

Themes and subthemes	Numbers of	Example Quotes
Theme Description	Individual Participants Expressing Theme/ <i>Subtheme</i>	doesn't mean we're starting right from the beginning. And it's ok." Anna (mother of a 2 and a half year old; small CSP) "It's like maybe when she turned about 1, I gave up trying, I gave up trying, I just gave up trying. I just accepted that ok, she doesn't sleep great. She is an early waker. When she's ready, everything will come together. If she wants to sleep longer, when she's ready she will. And that's definitely helped. And I think a couple of months after that she started sleeping through, so I think that did help... I feel better because I don't feel like I'm constantly trying to figure out how to get her to sleep better and worrying is she getting enough sleep, is she going to develop ok because sleep's obviously great for development. Just accepting that actually no, she's absolutely smashed all her things, she's a really clever little girl. And obviously yeah, she'll sleep when she's ready and if she needs it. I just have to trust that she knows what she's doing." Nikki (mother of 19 month old; Moderate CSP)

Appendix W Table of Themes and Illustrative Participant Quotations for RQ4: What Are the Parent-perceived Barriers and Facilitators to Consistent Use of Their Preferred Sleep-related Routines?

Themes and subthemes	Participants	Example quotes
Theme description	theme/ subtheme	
Child Factors	01, 02, 03,	"his Dad is already up and happy to take him but I end up having to get up and take him so that he
This theme	04, 05, 06,	doesn't feel too upset." Fatima (mother of 3 year old; No CSP)
represents	08, 10, 11,	"I mean, it would be ideal if he would sleep in his own room, but he will at some point and if he
individual	12, 13, 14,	needs cuddles now, he needs cuddles now, so... that's the bottom line really." Fatima (mother of
differences	15, 16, 18,	3 year old; No CSP)
specific to	20, 21	"But over the last three weeks or so she's become really scared of the bath so that's been dropped
individual		from the routine slightly." Sonya (mother of 2 year old; No CSP)
children which		"I would love it when she gets to the stage that she can put herself to sleep and she doesn't need an
affected content		active input, but she's two and it'll happen when it happens. ... But no, the alternative is to leave
and consistency		her to cry at this stage because if we leave the room and she's not ready for us to leave then she
of parents' use of		cries. And that's not an alternative for us." Sonya (mother of 2 year old; No CSP)
sleep-related		
routines.		

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ subtheme	
		“And it’s a rod that we’ve made for our own backs because in the beginning we didn’t used to do it and then they started asking for it about – Child 2 started at the age of 3 probably, asking... Because once you’ve created that routine, you can’t get out of it. And so, with Child 2, I lie next to him on the floor of his bedroom for sometimes an hour and a half of an evening because he gets really upset if I leave him. Which is a really difficult one.” Gemma (mother of 3 year-old; No CSP) “In the last few weeks he’s started to ask for a bath and if he asks for a bath, then I’ll bath him but it’s not very long.” Nicola (mother of 2 year-old; No CSP) “And what happened is after lockdown, she became really, really, really quite clingy. Really, really anxious when I was leaving for my night shift, which she wasn’t doing before. And so what started to happen was I would be leaving at 9.15 and my partner would give her a phone to calm her down. And what was happening was she was staying up till midnight watching and falling asleep, collapsed on the phone. We were just getting through, you know surviving and getting through this fact that she was wailing as I left and was inconsolable.” Beca (mother of 2 year-old; Very small CSP) “And he’s still bedsharing with us, so he has a cot attached to our bed, which is where we ideally try and place him... He’s got his own massive Thomas bed set up in his nursery that we tried to – in

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ subtheme	
		about February time – to get him to use. And he just didn't want to." Julia (mother of 3 year old; No CSP)
		"I often put, we have a couple of playlists, Spotify playlists, sleep playlists and I'll put that on quietly in the room. But he's now getting wise to that and he's like 'Mum stop turning on the sleep music, I don't want to listen to the sleep music, turn it off'." Julia (mother of 3 year old; No CSP)
		"I keep trying to get her in her own bed, but she tells me she's going in there when she's 4. She says she will. But she told me that when she was 3." Lila (mother of 3 year-old; Very small CSP)
		"And then bath is at 7, depending on how that goes – he was a bath avoider for a year and a half, so. But he's just started enjoying them again now. It's lovely. We've sussed it for now with having both the boys in the bath at the same time. And it's just lovely because after so long of him really not wanting to go in the bath at all, so I'd never make him." Portia (mother of 3 year-old; Moderate CSP)
		"Quite often he's refusing a story at the moment, but last night he was really into it, so he had a couple of stories last night." Lucy (mother of 3 year-old; Very small CSP)

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ subtheme	
		“Ordinarily, it really varies with Child 1. Sometimes Child 1 will be in his bed, that sleepy but awake phase, sometimes he’s happy to do that. Sometimes he wants to feed right to sleep, in my arms. So that varies. Sometimes he just goes to sleep in between us in our bed at that point. Sometimes he wants to go back to bed.” Amy (mother of 2 year old; Small CSP) “But he can’t make it through the whole week really without a midday nap, he gets a bit too tired. So, on one of the days of the week, maybe once, maybe a bit less than that, he’ll konk out at some point during the day and have a sleep. And when he does, it’s like a three hour mega-nap and then bedtime will be 9.30 or something like that.” Fatima (mother of 3 year old; No CSP) “sometimes if he sleeps a little bit later, or days that I’m not working, or days that he’s been out playing a lot and he’s really tired, he might have a nap, in which case bedtime goes to pot and he’s not down till 10 o’clock... I wouldn’t even try to put him down until he was showing signs of tiredness that day because it’s just a losing battle otherwise.” Nicola (mother of 2 year-old; No CSP) “and then around 8 o’clock I would normally say to her, regardless of the time that her – that she’s – except that if she’s had a nap, she might go to bed at 10, but if she hasn’t had a nap, she’ll go to bed around 8.” Beca (mother of 2 year-old; Very small CSP)

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ subtheme	
		“And then at other times it might be that [Child] is too tired so he can’t really wait for the story, he doesn’t - he just wants me and just wants to feed, so he interrupts my story time with Child 2 and comes in and shouts ‘molc’ and drags me away! So it’s a little bit different” Farah (mother of 2 year old; Small CSP) “So yeah, that’s probably what we’re aiming for, standard night, but I’m not going to get too upset if it varies from it. Because things do vary just because nursery varies and they do do different things with him. And obviously if he’s not at nursery, he’s got me trying to tire him out, which is not always as effective.” Julia (mother of 3 year old; No CSP) “But if it [nap]’s later on in the day, it’s just - it’s a disaster, because he is fully recharged and ready to go, yeah. You would have a mission of doing anything with him after that, well not getting him to sleep, anyway. Yeah. You would still try to do bedtime at the same time but he would just mess around and he would be making silly noises and jumping about the place and asking for another book and won’t just close his eyes, you know. It’s ‘Just close your eyes, go to sleep.’... And then the following night they’ll either want to go to bed really, really, really early, or they’re going to mess around again and it’s going to be a horrible night!” Liz (mother of 3 year-old; Very small CSP)

Themes and subthemes	Participants	Example quotes
Theme description	theme/ <i>subtheme</i>	
<i>Multiple Children</i>	02, 03, 04,	"And we're relying a lot more heavily on the iPad for entertainment. Because obviously I'm stuck
This subtheme represents the barrier to consistency posed by meeting the needs of more than one child.	06, 13, 15, 21	under a breastfeeding newborn, so she'll sometimes watch 5 or 10 minutes of YouTube music on the iPad before she goes to bed." Sonya (mother of 2 year old; No CSP)
		"We used to do joint stories, it didn't work. It was really difficult because their stages are so different... so [Older sibling] was getting into Pat Barker books which have no pictures in them, they're more like a novel or novellas. [Older sibling] loves them, but [Child] couldn't really access them because they're not visual enough and so he would jump up and down on the bed like it was a trampoline, jump on his brother, run around, throw things. It was really difficult. Or, we would read something that was a little toddler book and it would be over in two minutes' and [Older sibling] would be saying 'Can I now have my book?' and it would go on even longer." Gemma (mother of 3 year-old; No CSP)
		"And it just – if we find that one parent is trying to co-ordinate bedtimes for the whole family, you can be pulled in more than one direction because she would come in – if I'm trying to get [Child] to sleep – She [Older sibling] would come into my room and be upset and want into my bed. And then if she gets into my bed it disturbs [Child] and they want to play and it just means the whole thing just goes to pot. Whereas if you can separate them and make it two separate tasks, then the likelihood of success is much greater." Nicola (mother of 2 year-old; No CSP)

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ subtheme	
		“And they [Child and sibling] were sharing a bed for a bit as well, so Child 2 would kick him, maybe Child 2 would kick him in his sleep, Child 1 would wake up and batter Child 2 awake because he thought Child 2 had kicked him on purpose! So then you’re going in to referee in the middle of the night.” Liz (mother of 3 year-old; Very small CSP) “Sometimes it’s the 4 year old that tends to be a bit, like I said, a bit wired around that time. So sometimes she’s just bouncing all over the bed and getting him all hyped up. And sometimes storytime has to get cut a bit short because everyone’s just getting a little bit crazy.” Siobhan (mother of 1 year-old; Very small CSP)
Parental Beliefs About Sleep This theme represents the beliefs about sleep which influenced the content and	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21	“He was such a – he was what you’d say was a bad sleeper definitely when he was a baby and all the way through toddler. ... This is really recent this [sleeping] 7 till 7 thing, really. And like compared to [sibling], who’s so chilled, like at the moment, she – touchwood – wakes up once a night and she’s only 3 months old. So, I’ve thought about it and ruminated about it and I don’t think there is anything, I just think they’re kids and they just need to grow up, so I’m a bit laissez-faire about it.” Fatima (mother of 3 year old; No CSP)

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ subtheme	
consistency of sleep-related routines. These included the belief that child sleep is primarily affected by intrinsic factors and can't really be changed, belief in the importance of sleep for parent and /or child and the belief that routines benefit child sleep.		"I would love it when she gets to the stage that she can put herself to sleep and she doesn't need an active input, but she's two and it'll happen when it happens." Sonya (mother of 2 year old; No CSP) "I wish in some ways I'd known then what I know now, about sleep and the baby and toddler phase, which is that you don't have a lot of control over it, you've just got to go with it is the main thing. When the boys were babies, I use to drive myself mad trying to work out what were the variables that were having an impact, but there's nothing and then there's nothing you can do about it. ... You just have to wait until they grow up a bit and then they might sleep better and then – Yeah that really. But it is – it's so difficult while it's happening." Gemma (mother of 3 year-old; No CSP) "I think the next step would be for Child 1 to go to bed by himself and – or just read him a story and just leave for him to go to sleep. At the moment, he's not really able to do that. I try to not make bedtimes too stressful and to force that." Nicola (mother of 2 year-old; No CSP) "Child 2 is a really good sleeper. He wasn't until age 2 – and he was really bad, well not really bad, he was 3 or 4 times a night like Child 1 until age 2.

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ subtheme	
		I was still feeding him. And then something happened at age 2 and he just clicked and – magically – just started sleeping all night, so I was really hoping that Child 1 would do that too and since he hasn't, we're a bit like 'Oh'!" Farah (mother of 2 year old; Small CSP) "I think it [sleeping in her own bedroom]'ll be good for both of us but it'll come in time. Hopefully she won't be doing this when she's 16. Yeah, and I think when she's older she will understand a bit more and she will want to go in there." Lila (mother of 3 year-old; Very small CSP) "So it'd be nice to – it's probably going to come with time that I'll be able to reliably put him down and he'll sleep for more than a couple of hours without needing any sort of intervention. But I don't think – there's not really much I can do about that, that'll just come with time." Siobhan (mother of 1 year-old; Very small CSP) "Her sleep's evolving all the time and so she – she just magically started sleeping through the night one day, so magically she might just start settling back down to sleep by herself again." Nikki (mother of 19 month old; Moderate CSP) "So I'm having far too much sleep just to make sure she gets enough. ... because it makes my life in the daytime easier if she's not tired as well. But I think she needs her sleep for her development and to learn." Lila (mother of 3 year-old; Very small CSP)

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ subtheme	
		“I just – I really struggle if I’m tired. I used to do night shifts as part of my job and it made me – made me really poorly, really. Not getting enough sleep and not having a proper sleep pattern. So when she was a real newborn, I found it really difficult because obviously newborns are awake a lot. And she wouldn’t sleep without me holding her so it was a long few months. ... But I think – yeah, I just need routine and I need regular sleep and 8 hours. Which is – that’s put me off doing any sort of sleep training because I know that for a few nights I won’t get 8 hours so we’ve just carried on as we are.” Lila (mother of 3 year-old; Very small CSP) “That would be nice and to be able to confidently – to be confident that he could nap for a long time without me too, but my experience with Child 2 was that he could nap without me, but only for half an hour and there comes a point where half an hour’s just not manageable. It’s not good for their wellness I think to sleep for only half an hour, if that’s the only nap you’re getting.” Tania (mother of 1 year old; No CSP) “I think probably they [routines] do [help with toddler sleep] actually. ... I always thought it wouldn’t make much difference to their quality of sleep in the night and whether they wake up or not. ... I don’t know, I think it helps him go to sleep, I don’t think it necessarily has any bearing on whether or not he wakes up.” Fatima (mother of 3 year old; No CSP)

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ subtheme	
		“So I think she knows it’s time to go and get her bottle, she knows it’s time to go and put her sleeping bag on. And I think it probably all helps with the winding down at night time, rather than being hyper and wired and wide awake and then suddenly told that she has to go to sleep.” Sonya (mother of 2 year old; No CSP) “Because we do the same things at the same time every night because I think it will become so embedded in his brain that he will – it’ll make it easier and easier. And actually, maybe it has worked. I think it probably has worked because they know what’s coming next. ... I do think so [routines help with toddlers’ sleep], yeah. ... I always think of someone I once worked with – and this is how desperate people are for advice – because on a training day he was talking about the importance of systems and routines as a reassurance for the person putting it in place, not even whether it makes any impact or not.” Gemma (mother of 3 year-old; No CSP) “I think like when I said before, I think it gives them a – he knows what to expect, he knows where the limits are and he knows what his role in that little bit of the day is, I think, if it’s always the same. And I think if he knows what’s coming next and he knows what the routine is, he’s much more likely to comply.” Nicola (mother of 2 year-old; No CSP)

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ subtheme	
		“Because I think routine - for me, it was really important that we have this routine. ... Yeah, so for me, I can’t emphasise enough, for me, that sleep routine was really important for me to get her into.” Jess (mother of 1 year old; No CSP) “I think there’s been a few times that I’ve looked at him and thought ‘Oh, he’s not tired, but we’ll try it’ and then by the time we’ve gone through the steps he’s eye rubbing as we get him in his pyjamas and I think ‘Yeah, this is going to work now’. And I think part of this is he knows it’s bedtime as soon as he’s in the bath. It doesn’t always work, but it generally works.” Laura (mother of 1 year old; Small CSP) “Whereas I think that without that routine they maybe wouldn’t be as well rested. But there’s – if they made up for their sleep with lie-ins that might be a different story. ... But because they’re so – they just seem to have this natural wake up time and even if they’re getting to bed late, they’re not sleeping in so you can’t rely on them making it up the next day.” Liz (mother of 3 year-old; Very small CSP) “I think they like to know what to expect. I think Child 1 knows clearly that when we say it’s time to get ready for bed that he’s going to get changed, he’s going to be taken up to bed, he’s going to have his milk and he’s then supposed to go to sleep... when he’s not sleeping, everybody’s a lot

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ subtheme	
		more unhappy. So if we can get him into a better sleep pattern, then it's really good." Anna (mother of a 2 and a half year old; small CSP) "I do try to just think well as long as we can get nap time and stick to a routine, she does seem to work better on a routine. ... I've always said routines help, but she's always been a particularly bad sleeper, so I don't think people believe me! But when she doesn't have a routine, her sleep is even worse. I do believe that children thrive better on routine because they know what's coming and I think that does help them especially at toddler age." Nikki (mother of 19 month old; Moderate CSP) "But I think in conversations with some of my other friends who have kids Child 1's age and that's why we're friends, some of my friends who don't follow a specific routine are not very good sleepers. They wake up a lot at night, they don't go to sleep at the same time, they nap at irregular times. Absolutely. I think for us the advantages are the results – I'm convinced that setting up that routine very early on has made Child 1 a good sleeper. Maybe he was genetically predisposed to be so anyway but I think it [sleep-related routine]'s definitely helped." Faye (mother of 2 year old; Very small CSP)

Themes and subthemes	Participants	Example quotes
Theme description	theme/ subtheme	
		"I don't know, it just gives things a rhythm and – maybe it's just helpful for me, but that me being comfortable in that way is what enables the children to feel comfortable. Or it might be that – but I do think the predictability is helpful for them." Tania (mother of 1 year old; No CSP)
Parental Attitudes to Routines This theme represents the attitudes to routines – liking or disliking - which influenced the consistency of use of sleep-related routines with toddlers.	1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21	"And I also think I don't really have a routine for my life and I want to teach him flexibility. ... Yeah, I just, it [a strict routine]'s not my style." Fatima (mother of 3 year old; No CSP) "Like, very quickly I realised that [someone who adheres strictly to routines] isn't who I am, that's not what makes me feel comfortable. ... So it [having a strict routine] was – it often meant, like, a lot of uncomfortable - sometimes uncomfortable conversations, sometimes me going with the flow and suffering the consequences. ... But ultimately it meant I couldn't be flexible in the way I naturally feel I am?" Beca (mother of 2 year-old; Very small CSP) "Yeah, I think it [routine adherence] varies really on what we feel. We do try to be quite spontaneous, and go with the flow a bit, so I think we'd hate to put ourselves under too much stress and the boys can sense it too." Farah (mother of 2 year old; Small CSP)

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ subtheme	
		“But I’ve never been particularly driven by routine and I’m always happy to follow him and try and keep things fluid so that I’m not stressing him out by trying to make him fit into this little box that I’ve created or whatever. ... And that feels right for us.” Julia (mother of 3 year old; No CSP) “I’m just a bit of a hippy, I think – I didn’t really like the idea of trying to make rigid timetables for babies. ... I also didn’t want to do that for myself. I felt a bit sorry for the parents who felt trapped by their child’s, their baby’s routine. Like, ‘Oh, we’d better get home because it’s his nap time.’ I’m like ‘What are you doing?’. It just seemed a bit sad.” Amy (mother of 2 year old; Small CSP) “I think we probably do have a certain amount of routine now, but I think especially for babies, I don’t like the idea of routines. I don’t like the idea of feeling obliged to put your baby into a box in an Excel spreadsheet. It seems stupid. Perhaps that stems down from being – I don’t know, I think perhaps breastfeeding makes you a little bit less able to rigidly follow a routine anyway? Because you just have to go with it, don’t you?” Amy (mother of 2 year old; Small CSP) “I like the routine, I like knowing what can be done within a certain amount of time and - Because my free time’s probably going to be in the evening, isn’t it, knowing it’s probably going to be at this time and give me the opportunity to do something myself.” Nicola (mother of 2 year-old; No CSP)

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ subtheme	
		It makes family life much easier. I guess it makes evening, busy, the busy spell of the evening time, it makes it easier to plan that and then to plan around that. Not just for household tasks, but for say, my husband or I want to go out to the gym or go for a run, it makes that a little bit easier. It makes preparation for the next day much easier because you can get it all done before you're too tired to stop doing things, or too tired to continue doing things. "Like for instance if my husband wants to go out in the evening, if he's working late, after work and because we've all, we've got this routine down – or if I go out on a Saturday with some friends in the late afternoon, it means that he can do the routine and I can do the routine, by ourselves – "Jess (mother of 1 year old; No CSP) "We definitely want to have part of our evening which is still our own. I still like to go down stairs and feel like I'm in an adult space. I like to go downstairs and put all his toys away, sit in the living room and not see a mess. I'm quite happy with the idea – he's got a bit of a playroom and that can be as messy as he likes and that's fine, as long as I can sit down in a space which isn't just his toys everywhere and just relax and watch the telly or have a drink or whatever then, yeah, that's important to me. It's just to have an adult time. A bit!" Lucy (mother of 3 year-old; Very small CSP)

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ subtheme	
		“And it’s [having a sleep-related routine] helped us achieve as a family that balance between the work, full time paid work, still having some quality time with him and then us having some time, some me time, Mum and Dad.” Faye (mother of 2 year old; Very small CSP) “My husband and I wanting the kids going off to bed so we can sit down and have a chat and watch some TV and just do the things we’re not allowed to, like stare at our phones, when he’s awake... Yeah, so that sort of motivation to have a relaxing time gets you going with the routine. Right, so I’m going to get dinner in him at 5, then I’m going to get him up to bed for half past 6 tonight so we can have a nice long evening, or yeah, just having some pleasure time in the evening would be a motivator.” Fatima (mother of 3 year old; No CSP) “So I think probably the things I put in were for my own benefit so I thought I was doing something, I would say. Because, in the same way of just writing things down about what time you fed or slept, just so you feel like you need to do something to keep sane. ... But I’ve always done the routine from the start, just because I’m a very routine person myself, so. That just makes sense to me.” Portia (mother of 3 year-old; Moderate CSP) “And I find them [sleep-related routines] very comforting and I think the boys probably have that as well now – “Liz (mother of 3 year-old; Very small CSP)

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ <i>subtheme</i>	
		"I think I'm very good with routines. So I've found it very easy, and for me it's like the normal thing to do, to establish a routine, so I think it's absolutely worked. Tthe routine gives] a little bit more control over his day and my day." Faye (mother of 2 year old; Very small CSP) "I don't know, it just gives things a rhythm and – maybe it's just helpful for me, but that me being comfortable in that way is what enables the children to feel comfortable." Tania (mother of 1 year old; No CSP)
Parental Limit-setting	1, 2, 3, 4, 5,	"If I fight him [over sleep], it's going to be harder for everyone and I don't see the point in that."
This theme	6, 8, 9, 10,	Fatima (mother of 3 year old; No CSP)
represents how	11, 13, 14,	
parents' attitudes	15, 16, 17,	"Because once you've created that routine, you can't get out of it. And so, with Child 2, I lie next to him on the floor of his bedroom for sometimes an hour and a half of an evening because he gets really upset if I leave him. Which is a really difficult one." Gemma (mother of 3 year-old; No CSP)
to limit-setting	18, 19, 20	
could influence		
content and		"I think the next step would be for Child 1 to go to bed by himself and – or just read him a story and just leave for him to go to sleep. At the moment, he's not really able to do that. I try to not make bedtimes too stressful and to force that." Nicola (mother of 2 year-old; No CSP)
consistency of		
toddlers' sleep-		
related routines.		

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ subtheme	
		“But if he’s going to wake up, I’m such a light sleeper, I hear him and he climbs over my husband and he goes ‘Mummy I want some booby’ and I’ll say ‘Ok, yeah, certainly’. I never refuse him because it’s just not worth – Well, I mean it doesn’t really sit with my philosophy and also it just isn’t worth the tantrum. ... So, and there’s just no point in remotely deviating from what he wants to do first thing in the morning because he’ll just kick off, so basically we try and accommodate what he wants to do.” Julia (mother of 3 year old; No CSP) “But also I don’t want her upset and I don’t know if that affects them emotionally long term. And I’m sure it does absolutely nothing because so many people do sleep training and let children cry. I think just letting her scream in her room, that’s not a very nice way of doing it.” Lila (mother of 3 year-old; Very small CSP) “And yeah, I think he would – he only would tolerate me putting him to bed, he wouldn’t be happy with his Dad, I don’t think at this point.” Siobhan (mother of 1 year-old; Very small CSP) “I felt awful [when sleep training child]. I’d end up in tears as well when he was crying. It didn’t feel right.” Anna (mother of a 2 and a half year old; small CSP) “We started leaving when he started messing around, we’d say ‘We’re going to go now, that’s it, Child 1, you’ve had bedtime’. And then he’d get really upset and it would take probably three

Themes and subthemes	Participants expressing	Example quotes
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		times as long to get to sleep because he'd just be howling and then we'd be going up and down. And it just was a lot more disruptive, rather than just being like 'Well, you need to stop this soon because we are going to go if you carry on'." Anna (mother of a 2 and a half year old; small CSP) "And we know it's not ideal, but equally we don't want to walk out of the room and just leave her crying. So yeah, we know possibly we're not helping things because are we confusing her because we're in there? Does she think 'Ok it's time to play because I'm asking for this and I'm getting it'? But at the same time, we're not prepared just to leave her in her room crying even though she can understand and does know it's bedtime." Nikki (mother of 19 month old; Moderate CSP) "So I think with her [Child], the cry turned from being a sad cry and 'oh my God, you're leaving me, the world's ending' to 'I'm cross'. ... It was 'I'm really pissed off you've put me down, pick me back up, mother' and that's when I thought 'No, you're clever, you know what's going on, you know the routine at bedtime', she just doesn't want to sleep. It's not that she's can't sleep or she's hungry, she's just cross. And that made me feel better and a bit more confident about doing a bit more tough love, leaving her to cry ... she just needs to have a bit of a cross period and then she's ok and she's calmer and she'll go to sleep." Jen (mother of 14 month old; No CSP) "Let me go back to the screens. So in respect of the screens I think he knew it was bad, but felt incapable of riding out the storm required to undo what had been done. ... He [Husband] was not

Themes and subthemes	Participants	Example quotes
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		willing to ride out the tears, so basically actually what happened was, I did it. That's how he got on board. ... Just the quantity of sleep deteriorated so badly and so I just went one day 'no, we're not doing this anymore, I don't care if she's crying. This can't be acceptable'. And we just did a couple of rough nights and let her have it [mobile phone] in the day again." Beca (mother of 2 year-old; Very small CSP) "I think the things that we've gone through with him, he does, he kicks up a fuss initially with them and then he gets used to them after a relatively short period of time. You're doing something with him where he gets angry and he kicks a fuss but then if you just leave him to have a bit of a fuss and a bit of an argument, eventually, over a couple of weeks, say, that stops and it just becomes normal and he doesn't moan about it any more." Lucy (mother of 3 year-old; Very small CSP)
Formation of Habits	2, 6, 10, 14,	
This theme represents how the quick establishment of pre-planned or	15, 17, 18, 19	"Often what happens when you get into these bad – I don't know how to describe them – like bad parenting spirals down, where things are getting worse. Like something you're not happy with is now – is coming out of control, and you don't know how you got there, but you're here now." Beca (mother of 2 year-old; Very small CSP)

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ subtheme	
reactive sleep- related practices as habit could affect the content of parents' sleep- related routines and how they were carried out.		"we always had a little bit of a smug feeling to ourselves that he never had a dummy and we got to a point a while ago where we thought 'Well his bottle's basically his dummy, that's what he's been doing.'" Lucy (mother of 3 year-old; Very small CSP) "I think it has just become a bit of a habit. Like, 'Ok this is still fun, I'm just going to go into my bedroom with Dad and I'm just going to carry on with him and boss him around in there', really." Nikki (mother of 19 month old; Moderate CSP) "I don't think this was ever really discussed, it seemed to just evolved – for some reason – This is so bad – my husband takes him to bed rather than me because we kind of worked out that if I try and put him back into bed, he wants feeding again." Amy (mother of 2 year old; Small CSP) "It's just something we've sort of fallen into, my husband grabs the bottles, I grab the children and up we go and then we know which room we're going into first and then we'll go for a bath. ... But it's just something that we've fallen in to really, that we follow a very similar structure. I never considered that people don't do it all together. That we've always both of us gone upstairs and put Child 1 to bed, even when there were two parents and one child. And then we'd both come downstairs and get tea sorted and get the dogs sorted." Sonya (mother of 2 year old; No CSP)

Themes and subthemes	Participants	Example quotes
Theme description	expressing theme/ <i>subtheme</i>	
		“We do aim to have bedtime around the same time and we do follow roughly the same pattern, not necessarily intentionally, it’s just sort of what’s happening and what works.” Siobhan (mother of 1 year-old; Very small CSP) “And I just feel like it’s essential that I brush her teeth and essential that I give her that basic level of hygiene and it’s essential that I get her in a sleeping bag, so those things are done for what I deem to be very basic essential parenting purposes, rather than because I have any philosophy about a routine. ... We get everybody to bed at the right amount of time so that we can – I don’t know – clean the kitchen and go to bed, that sort of thing. It just from a logistical point of view, it just seems to fit in with people’s needs and the chores that need to be done in the evening.” Louisa (mother of 1 year old; Small CSP)
Support	01, 02, 03,	“my husband will come home and start roughhousing with him at 7 o’clock while I’m getting him
This theme	04, 05, 06,	ready, but again, that’s life, like I’m not going to fight with that too much” Fatima (mother of 3
represents the	07, 08, 09,	year old; No CSP)
ways support	10, 11, 12,	“So at night time, my husband lets Child 1 watch his phone, or watch the telly whilst in bed with the
from other	14, 16, 17,	lights off, and Child 1 doesn’t go to sleep when you do that! And it takes ages and ages and ages,
significant people		

Themes and subthemes	Participants expressing	Example quotes
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in their lives, or lack thereof affected consistent use of sleep-related routines with toddlers.	18, 19, 20, 21	and often my husband is asleep long before Child 1 is at that stage. ... And if it battles on for a long time, then Child 1 just wants – he gets really overtired and he'll get up and ask for me. And I end up getting up and taking him to bed, but I take him to bed much later than would have been normal." Nicola (mother of 2 year-old; No CSP) "And when it's not me, which I'd say is once or twice a week, my partner just lets her play downstairs, he doesn't do any of the stories or anything like that. He's just like 'I want her to get really tucked out, and then whenever she's almost ready to pass out, then I'll take her up and put her in her bed'. So when I come around, he doesn't really do what I do with her which is try to take her to a space that is allocated for sleep, if that makes sense? ... I think I'm ok with it, because - it's taken me a long time to get to this point, but ultimately if I'm not – the only way that I can feel like the parenting is being shared is if I can switch off when I'm not there." Beca (mother of 2 year-old; Very small CSP) "And it's nice to know that there's someone else sat on the other side of the wall who can come and help if I'm struggling. Because I think knowing if you're, if we're going to sit with her until she falls asleep – if that's two hours, that's a long time for one person. And knowing that the other one's there, even if you don't need them, just available, I think really helps with psychological – not

Themes and subthemes	Participants expressing	Example quotes
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		warfare, that's too strong a word – But when it's a difficult night just to know that there's someone else waiting to help. ... I think it [having a routine]'s helpful for my and my husband, I think it's helpful for us two because we now know what to expect of each other and who's good at what bits of what. And there's bits of putting her to bed that I don't mind at all, but there's bits that we find more difficult than other bits so we can swap. It's let us know what those things are.” Sonya (mother of 2 year old; No CSP) “I think the fact that we're both [Mum and Dad] on board with it is the main thing. So we both agree that they need to have a dinner at 5, bath at 6. There's a bit of time for them to have some milk and a cartoon, then bed at 7. 7 has always been the time that we've had, I don't know why, but – yeah. It's just both being on board with it and that we both agree and we both reiterate it to the children. And sometimes if they try and play one off against the other there's no space for manoeuvre.” Gemma (mother of 3 year-old; No CSP) “And in a way we have to tag team it so if one parent does one child, then the other parent can do the other two.” Nicola (mother of 2 year-old; No CSP) “It was tough, the first night she cried for me and she was holding her arms for me. I went back in and fed her but I didn't feed her to sleep, I just made sure she was awake before putting her down. So, yeah, we just kept the same thing going – I'd feed her, my husband would come in, I'd

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ subtheme	
		say 'goodnight', book, cuddle, bed and it's got better and better. ... So yeah, team work is very, very important when it comes to parenting, especially at this age." Jen (mother of 14 month old; No CSP) "It's – I suppose it means that he can do it as well, it's given me a bit of a relief to do it. Because some days, where I've been – where I've had to go into work, I'm just tired. So it's just – especially if she's acting up – it's like, I'm tired, you're acting up, everybody's feeling a bit grumpy. So yeah, I don't feel as strung out, I suppose emotionally exhausted." Jess (mother of 1 year old; No CSP) "Yeah, it's a big relief. So yeah, it's a massive weight off my mind that I know that if I'm struggling, if I need to go, or -Sometimes there's been times when Child 1 just will not go to sleep for love nor money for just hours and if I start to get really frustrated I know that I can just tap out, give myself some space and he can come in and help for a bit." Farah (mother of 2 year old; Small CSP) "Yeah, it's definitely easier now my partner's at home [working from home due to Covid-19 restrictions]. Yesterday with him being in the office and getting home later definitely made things tricky. So I was trying to do the whole evening routine by myself, you know, from dinner to cleaning up afterwards and getting them both ready for bed. Actually trying to get both of them

Themes and subthemes	Participants expressing	Example quotes
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		to sleep – yeah, it was definitely more difficult. So yeah, having him around is easier.” (mother of 1 year-old; Very small CSP)
		“I think both of us being consistent about it because we do the same thing, we don’t – We have an agreement about what we’re going to do and if it’s not working and one of us has to come out, the other person will go back in and do the same things. But we’ll talk to each other about what we think is acceptable and what isn’t, so we’re always being very consistent about what we do.” Anna (mother of a 2 and a half year old; small CSP)
		“He’s just kind of there for company... it feels like we’re a team. It feels supportive.” Faye (mother of 2 year old; Very small CSP)
<i>Judgement</i>	03, 06, 10,	“And the brothers as well. None of our brothers have any children so they just don’t understand,
This subtheme represents the barrier perceived judgement from a range of sources	12, 16, 17, 20, 21	really. Sometimes [I feel] a bit irritated because they’re quite judgemental of us and our parenting, but I think ‘well it’s very easy to be when you’ve never done it or looked after anyone’s children’. And never offered to look after our children. So it irritates me really, a bit. ... And when then they say ‘Oh our brother’s never able to come and do stuff, he’s always with the children, he

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ subtheme	
posed to parents’ consistent use of sleep-related routines they considered optimal.		can’t - he’s not able to speak on the phone’. And one of them said ‘I feel like I’ve lost my brother because he’s always with the kids’. It really annoys me.” Gemma (mother of 3 year-old; No CSP) “Mainly middle-age ladies, women. Middle-aged women in the workplace or in the family, is one [source of judgement]. Other Mums is another one. And then there’s quite a lot, if you go on, I used to go on Mumsnet loads when I had Child 2 because I didn’t know what I was doing at all and there’s lots of bossy co-sleeper Mums on there who are like ‘No, you have to co-sleep, it’s damaging to the child to put them in their own room as a baby, it’s damaging to their attachment and they’ll never recover’.” Gemma (mother of 3 year-old; No CSP) “And it [having sleep-related routines] meant having to – you know, any time you have to explain to someone what you’re doing with your kid, you’re opening yourself up to a layer of judgement, which whether they say it or not, you know is probably going to happen and it – it can be uncomfortable, and often that discomfort is not really a reflection of what they – sometimes it’s a reflection of what they’ve said – but sometimes it’s just a reflection of your own personal discomfort. So, you know, you’re always second guessing yourself as a parent and when someone says to you ‘Oh, do you have to?’ you’re like ‘Well, do I have to? Am I being anal?’ That starts a whole – And then you go, ‘you know what? Today caution to the wind, we’ll stay out!’ And then you suffer the consequences and you’re up at 1am and you’re like ‘Dammit! Why did I listen to

Themes and subthemes	Participants expressing	Example quotes
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		someone else?’ It feels like that’s what my entire parenting life is like!” Beca (mother of 2 year-old; Very small CSP)
		“Yeah, I don’t think I’m as good at it [gentle parenting] as a lot of my friends. ... Like I think a couple of my friends are psychologists, so - and one’s a child psychologist, so I take their lead on quite a lot of things because they do seem to know what they’re talking about. ... So I’ve got a lot of people who are doing, or striving to do gentle parenting and I think I’m doing it the least convincingly out of all of them.” Julia (mother of 3 year old; No CSP)
		“Oh god, I feel like a really awful parent when I realise how few routines we actually do.” Julia (mother of 3 year old; No CSP)
		“Yeah, so I’m part of an NCT group, so there’s 10 of us in our group and their children have all slept amazing. Apart from one, he’s still a bit ropy, but they’ve all slept, always slept through from about 4 months onwards, will nap anywhere. And they’ve always – they’ve never really had set routines, they’ve always been happy to meet up at any time, it doesn’t really matter, baby will sleep with them, toddler will nap. So I think they’ve seen that I’ve got a rigid routine but have the child who won’t nap without - and will wake up consistently. So it looks like it’s not beneficial. But it is because I know that without that routine everything is a lot worse and I don’t necessarily think that their children are sleeping well because they don’t have a routine, I think it is that – just

Themes and subthemes	Participants expressing	Example quotes
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		the luck of the draw, I suppose I'm saying. ... [It feels] Hard. It's not so much now because I really do know, actually know this routine benefits us and it works for us, but when we were going through a lot of stuff in the early days, yeah I did struggle with it. It did hurt to hear that others thought I was doing something wrong and thought I was being too strict almost." Nikki (mother of 19 month old; Moderate CSP) "And having to say no to people, I think family particularly found it tricky. Like, 'Why can't I see my grandchild? Can she not just sleep, like an hour later?' And I'd say like 'No, you don't understand the effect that has and how you're not going to be the one who's going to have to get up every hour at night if she doesn't go to sleep now', sort of thing. I think a lot of people just didn't understand quite how significant the impact for her missing a nap would be? Because while she doesn't need much sleep at all, she needs what she does need!" Nikki (mother of 19 month old; Moderate CSP) "I think it's the kind of patronising – without meaning to be patronising – comments like, 'Have you tried a routine?' ... And it's like 'I've been reading my child the same book with the same inflection in my voice since he was 3 weeks old. Yes.' It's that kind of thing, I think. The helpful comments are probably just more irritating. ... And then they would also make you question yourself as well, I think, especially when you're not thinking particularly coherently anyway and spiralling quite a

Themes and subthemes	Participants expressing	Example quotes
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		bit with sleep deprivation. It's just 'Am I not doing this right? Should I just throw the routine out the window and just go with it?'. And I don't even know if I did try and do that, I probably did and then things got worse, yeah." Portia (mother of 3 year-old; Moderate CSP) "And it felt like there was a lot of pressure from everybody outside that we should be getting him into a routine, we should be getting him to sleep. And if he wasn't sleeping, it was to do with what we were doing and that we needed to treat him like a puppy to be trained, rather than actually respond to the fact that he was in distress. So that, we felt a lot of pressure to try it but then when we did try it, it really wasn't for us at all." Anna (mother of a 2 and a half year old; small CSP) "I think if I could just pop her in the cot and then she'd just go to sleep that would be amazing because then I'd feel like 'Oh, that's it sorted for ever'. And if at some point she can't lie on my lap any more, when she's six years old or something, then we might have to change the routine. I probably feel like then the sleep experts would say 'Oh, well done'!" Louisa (mother of 1 year old; Small CSP) "But then if I were to stand back and think about it, I think 'Oh, perhaps I should be giving her a bath more often and perhaps I should be reading to her every night to improve her verbal skills and perhaps I should be doing these things'. But at the end of the day, what I do works and the reason

Themes and subthemes	Participants	Example quotes
Theme description	expressing theme/ <i>subtheme</i>	
		I do it is, I guess, just go with the flow, or lack of time to do these things.” Louisa (mother of 1 year old; Small CSP)
		“I think we’re all better, we’re better equipped to deal with it than we were. Because Child 2 was the first baby and we were probably trying to do things in the way we thought we should do them, rather than in the way we just needed to do them and now we just all sleep in the bed together and that is the solution and it’s fine. So yeah, I don’t really have an emotional response, I just have a ‘Oh, here you are’ and then go back to sleep.” Tania (mother of 1 year old; No CSP)
External Schedules	01, 03, 04,	“It’s the same with babies’ napping, I don’t want too much routine because I want – because it’s
This theme	05, 06, 07,	nice sometimes if you go to your friend’s house for dinner, or if I go to my parents, you want to
represents the	09, 10, 11,	take his pyjamas. I’ll take his pyjamas, brush his teeth and put his pyjamas on there so we can
ways external	15, 16, 17,	leave at say 9, or even 10 and you know he’s going to be knackered but he’ll fall asleep in the car
schedules (such	18, 20, 21	and we can just pop him into bed. ... And some people say ‘oh, it’s amazing you can do that, my
as work, nursery,		toddler would never do that, blah, blah, blah’ and I’m like, I want him to be a bit flexible so that I
or social events)		can do that, like go and have fun with my friend and he can play with their kids and then in
influenced the		pyjamas and plopped in bed at home.” Fatima (mother of 3 year old; No CSP)
content,		

Themes and subthemes	Participants expressing	Example quotes
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emotional climate and consistency of use of sleep- related routines with toddlers.		"I don't mind dropping her morning nap if we are going out to – we might have a playdate with some friends and things like that." Jess (mother of 1 year old; No CSP) "But it [evening routine] does feel quite rushed, compared to the weekend. But yeah, it's just calmer all round, I'd say [at the weekend]. Because as well, at 6 o'clock he's tired. So, we don't get a lot of tantrums, but when he's tired, he's more likely to express himself. And you don't get that so much when it's all a bit slower." Laura (mother of 1 year old; Small CSP) "She's definitely more clingy after nursery days. Depending on the day, she can go down quicker because she is just absolutely exhausted. Or it can take longer because she's just so over tired and she does want to play. So I don't think there's any consistency there, really, that we've noticed at the moment. It can depend on whether she just crashes." Nikki (mother of 19 month old; Moderate CSP) "Nursery is obviously a big challenge, we do try and ask them to put her down at 12 o'clock, but it doesn't ever seem to be the case. But I appreciate that Child 1 isn't the only child there... So I do understand but equally there is part of me that wishes they would try, try and get her down on time, but I know that it is hard." Nikki (mother of 19 month old; Moderate CSP)

Themes and subthemes	Participants expressing	Example quotes
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		“So my husband wasn’t working for all of lockdown and I was the only person getting up in the morning and going out to work so they all slept much later... And I also, I also felt a little bit envious of all the time my husband got to spend with my kids so sometimes we would go to the park and go for a walk after I came home from work, which might take us to 7 o’clock. So, things might not – Or 8 o’clock even, so things would start much, much later.” Nicola (mother of 2 year-old; No CSP) “The other factor is that basically I do night shifts and I leave quite – it’s not, I mean most night shifts start at 8, 9 o’clock – mine start at 10pm and it’s about a 45 minute drive, so sometimes I put her to bed before I leave, sometimes it’s not me. And when it’s not me, which I’d say is once or twice a week, my partner just lets her play downstairs, he doesn’t do any of the stories or anything like that.” Beca (mother of 2 year-old; Very small CSP) “And what happened is after lockdown, she became really, really, really quite clingy. Really, really anxious when I was leaving for my night shift, which she wasn’t doing before. And so what started to happen was I would be leaving at 9.15 and my partner would give her a phone to calm her down. And what was happening was she was staying up till midnight watching and falling asleep, collapsed on the phone.” Beca (mother of 2 year-old; Very small CSP)

Themes and subthemes	Participants expressing	Example quotes
Theme description	theme/ subtheme	
		"I hate the drive back from work because she's tired by that point and I'm trying to keep her awake or stop her from screaming. And it's made bedtimes a bit more – rushed, I guess." Lila (mother of 3 year-old; Very small CSP) "When I was working, it would depend when I finished whether we'd eat together or we'd wait until he'd gone to sleep. And I guess if we ate when he'd gone to sleep, it put a bit more pressure on getting him to sleep earlier because otherwise it'd be 8, 8.30 before we'd eat and we'd both be a bit hungry and crabby." Anna (mother of a 2 and a half year old; small CSP) "So it [sleep-related routine] varies depending on if I'm at work or not because I'm a shift worker. So for example, last weekend I was working night shifts. But that doesn't actually make a difference to bedtime. If I'm working the evening shift, it makes a difference to bedtime, I suppose... Yeah, I think my work makes quite a big difference to my – because just by definition we can't have a routine every night the same." Amy (mother of 2 year old; Small CSP) "I certainly think the nights where I've not been around for bedtime he wants to hang about with us more. He seems more snuggly and he wants to feed more through the night as well. He's kind of on catch up. I've noticed that recently, he's much more clingy on an overnight." Amy (mother of 2 year old; Small CSP)

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		“It can be harder in normal times when my partner is working and he’s working late ... there can be disruption if he doesn’t get away on time. Like the routine – the difference would be that he wouldn’t be present for the bath time part, usually. And he’d get home as they’d have the stories and a sleep. And everyone relied on that as the point of contact at the end of the day, where everyone knew they were going to be with Daddy for stories and to get to sleep. And so suddenly if he was held up by a meeting or if he was held up by the Tube being delayed that would throw things out because he wasn’t there. ... we’d have to do things like read stories on my bed at the front of the house, with the window open and my app turned on so we could track Daddy’s progress home from the Tube. And then brush everyone’s teeth while we were looking out of the window so we could spot Daddy and then Daddy come in and Daddy get everyone to bed!” Tania (mother of 1 year old; No CSP) “School term times definitely help [our routines]. Yes, probably related to the time they get up in the morning and having a schedule to the day and then that pattern for recognition of what happens after dinner.” Nicola (mother of 2 year-old; No CSP) “But again, it’s individual to the family. I mean, my husband and I had almost 15 years together as a couple to do stuff in the evenings and do stuff without a baby. So, we never really were into going

Themes and subthemes	Participants expressing	Example quotes
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		out a lot in the evenings or drinking, or doing any of that stuff. We do all our socialising, which is minimal generally, during the day.” Jen (mother of 14 month old; No CSP)
		“I think just having quite a sort of basic, predictable life, really, where we don’t do too many things apart from work and childcare [helps us with our routines]!” Louisa (mother of 1 year old; Small CSP)