ASPECTS OF PERSONAL HAPPINESS AND THEIR RELATIONSHIPS WITH INDIVIDUAL DIFFERENCES IN PERSONALITY

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Thesis submitted in partial fulfilment of the requirements of the Degree of PhD in the School of Social Sciences and Law

Oxford Brookes University

September 2001

DECLARATION

The studies described in this dissertation are based upon original data collected and analysed by the candidate, who has also prepared the work for publication and dealt with any referees' comments made prior to acceptance by the appropriate journals.

ABSTRACT

There is a substantial body of literature on the positive associations between personal happiness (subjective or psychological well-being) and a wide range of human activities such as personal relationships, leisure, work and religious beliefs. It has also been reported that well-being is related to personality, particularly the traits of extraversion (positively) and neuroticism (negatively). The main aim of the work now described is an investigation of the extent to which the self-reported satisfactions derived from a variety of activities, generally assumed to be conducive to well-being, are mediated by individual personality differences. In addition, the scale used to measure happiness, the Oxford Happiness Inventory (OHI), was examined and revised and new data has been provided on the relative importance of extraversion and neuroticism as predictors of well-being.

Three studies (section 2) were concerned with the positive moods generated by leisure. With the exception of membership of sports clubs (section 2.1), it was not possible convincingly to demonstrate that any of the activities was directly associated with self-reported happiness. A study of adult users of the Internet (section 2.2) showed few statistical associations with personality and well-being when the effects of gender and age were controlled for. An investigation of three pre-existing theories of leisure motivation (section 2.3) suggested that among young people, leisure motivations could best be explained by the opportunities provided for making social contacts. Other investigations examined the connection between well-being, spiritual experiences and religiosity (section 3). Mystical experiences were widespread among an adult sample, irrespective of religious affiliation, but were not associated with happiness (section 3.1). A study of members of religious organisations and of performing musical groups (section 3.2) showed that both activities evoked similar positive affects and these were stronger for musical than for religious participation. No evidence was found for a relationship between happiness and either of the activities. The influence of religiosity upon attitudes to work was also investigated (section 3.3). The components of a Contemporary Work Ethic (CWE) were identified and compared with those of the traditional Protestant Work Ethic. Religious people endorsed the value of hard work more and were marginally less self-reliant than those who were non-religious, but neither the CWE nor religiosity was associated with happiness. An overall association between happiness and extraversion has often been reported and confirmed here. However, a study of happy introverts (section 4.1) established that there is little difference in the levels of happiness reported by individuals who vary widely in introversion/extraversion. It was also demonstrated (section 4.2) that emotional stability is a stronger predictor of happiness than extraversion and the sole predictor of happiness for younger participants. The failure to record an association between most of the activities studied and self-reported happiness might have been due to the properties of the Oxford Happiness Inventory (OHI) that was used as a measure of well-being throughout. A new scale, the Oxford Happiness Questionnaire (OHQ) has been devised and its psychometric properties established. This

scale may possess some practical advantages over the OHI, and it appears that the form of happiness measured by the OHQ is uni-dimensional (section 5.1). Overall, happiness might better be considered as a personal pre-disposition, rather than a consequence of particular activities. ■

PREFACE

This work would neither have begun nor continued without the stimulus, guidance and support provided by Professor Michael Argyle, who has supervised the study at all stages, and I most gratefully acknowledge his constant interest and friendship. My thanks are also due to the friends and acquaintances who formed the initial nucleus of the subject panel who have so willingly co-operated in recruiting other members and have patiently completed the questionnaires on which the studies have been based. Finally I would like to thank the staff and fellow research students of the School of Psychology who have provided a friendly and congenial atmosphere that has allowed the work to be done so pleasantly.

Parts of this study have been published as the following research Communications.

Journal articles

Argyle, M., & Hills, P. (2000). Religious experiences and their relationships with happiness and personality. *International Journal for the Psychology of Religion, 10,* 157-172.

Hills, P., & Argyle, M. (1998a). Musical and religious experiences and their relationship to happiness. *Personality and Individual Differences, 25,* 91-102.

Hills, P., & Argyle, M. (1998b). Positive moods derived from leisure and their relationship to happiness and personality. *Personality and Individual Differences, 25,* 523-535.

Hills, P., & Argyle, M. (2000). *The Influence of Religiosity upon Attitudes towards Work.* Manuscript submitted for publication.

Hills, P., & Argyle, M. (2001). Emotional stability as a major dimension of happiness. *Personality and Individual Differences, 31,* 1357-1364.

Hills, P., & Argyle, M. (2001). Happiness, Introversion-extraversion and Happy Introverts. *Personality and Individual Differences, 30,* 595-608.

Hills, P., & Argyle, M. (in press). A Psychological Dimension to Implicit Religion. *Implicit Religion.*

Hills, P., & Argyle, M. (in press). The Oxford Happiness Questionnaire: A compact scale for the measurement of psychological well-being. *Personality and Individual Differences*

Hills, P., & Argyle, M. (in press). Uses of the Internet and their Relationships with Individual Differences in Personality. *Computers in human behaviour.*

Hills, P., Argyle, M., & Reeves, R, (2000). Individual differences in leisure satisfactions: An investigation of four theories of leisure motivation. *Personality and Individual Differences, 28,* 763-779.

Conference Presentations

Argyle, M., & Hills, P. (1998, September). The nature of two kinds of religious experience and their effect on happiness. *New developments in Happiness Research.* Symposium conducted at the Annual Conference of the Social Psychology Section of the British Psychological Society, University of Kent: Canterbury.

Hills, P., & Argyle, M. (1998, September). Positive moods induced by leisure and their relationships with happiness and personality. *New developments in Happiness Research.* Symposium conducted at the Annual Conference of the Social Psychology Section of the British Psychological Society, University of Kent: Canterbury.

Argyle, M., & Hills, P, (1999 September). *The study of positive emotion: Testing Cziksentmihalyi's theory.* Annual Conference of the Consciousness and Experiential Psychology Section of the British Psychological Society, Wadham College, Oxford University.

Each of the studies included in this dissertation has been submitted for publication upon completion, and most have already appeared in the literature. It therefore seemed proper to present the studies herein in the form in which they were published. However, with the knowledge and experience gained from the early studies, it became possible to employ increasingly sophisticated methodologies and statistics as the overall work progressed. Some stylistic differences may therefore be noticed between the earlier and later studies, particularly in the reporting of statistical data.■

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1 INTRODUCTION

The desire for happiness, in the present or some future existence, is an almost universal characteristic of the human condition. Most past and present cultures have accepted that happiness in one form or another is the ultimate aim of human activity and the ways in which individuals regard, pursue, anticipate and experience happiness within their societies has been a concern of philosophy since classical times. Yet although happiness is a social phenomenon and a positive mental condition, it has received rather less attention in social psychology than have the more negative mental states met in clinical practice. This lack of emphasis has begun to be corrected over the last 30 years or so. It is the intention of the present study to contribute further to the expanding interest in happiness as a positive state of the individual human mind.

Although happiness is a condition that most people have experienced to some degree at one time or another, an initial problem is the different ways in which it is regarded and defined. The word "happiness" in common with "haphazard" and "hapless" derives from the archaic "hap", meaning chance. Going further back, the Latin "felix" which is often translated as "happiness" implies good fortune, and the Greek equivalent "eudaimonia" has connotations of being favoured by the Gods (Barrow, 1980). But the full concept of happiness cannot be defined exclusively or even necessarily in terms of good luck alone.

Happiness is a broad concept containing a number of fairly distinct ideas. In Roget's Thesaurus (Kirkpatrick, 1987) happiness appears under several different headings. Under "Cheerfulness" it is associated with exhilaration, good humour and optimism. Under "Good' it is mentioned alongside benevolence, blessings and Utilitarianism - the greatest happiness of the greater number. Under "Joy" it accompanies delight, fulfilment and pleasure. Under "Physical Pleasure" it is connected with, comfort, contentment, ecstasy, euphoria, good-living, hedonism, physical well-being and sensual gratification. It is also included under "Prosperity", with affluence, luxury, success and wealth. From colloquial usage, therefore, one can associate happiness with a state of mind, good intention, well-being, physical gratification and the enjoyment of wealth. All these ideas can be traced back to different strands in the philosophical approach to happiness.

1.1 HAPPINESS IN EARLY WESTERN PHILOSOPHY

ARISTOTLE

The first thinker to attempt a systematic treatment of the notion of happiness was Aristotle (384-322 BCE) in the work now known as the "Nichomachean Ethics" (Thompson, 1953). Aristotle's view of man is that he is essentially a logical and purposive being whose actions are directed towards some rational good or end. The majority of actions are directed towards the satisfaction of immediate needs or wants, but such satisfactions need not be an end in themselves; they may be the means for seeking new

ends. Aristotle's unique contribution was his consideration of whether there is an ultimate end for man, one that is pursued for its own sake alone and never as a means for achieving some further good. He concludes that there is such an end, "eudaimonia", generally translated as "happiness" (Guthrie, 1981).

Aristotle concedes that different people have different conceptions of happiness. "Persons of low tastes hold that it is pleasure" (Book 1, Chapter 5). But whereas pleasure is an immediate end "felt by us in common with all animals" (Book 2, Chapter 3), true happiness, eudaimonia, is the end for a whole life time. This does not mean to say that pleasure is inconsistent with eudaimonia, indeed happiness is in part dependent on the satisfaction of our natural needs - food, drink and, for Aristotle, knowledge (Book 1, Chapter 9). In Aristotle's view, truly happy people may also expect their wants to be satisfied, provided their satisfaction is not injurious to themselves or others. In other words, eudaimonia is a condition of having a good spirit and being well endowed; on a practical note Aristotle observes that the possession of at least a modicum of material wealth is essential for happiness.

Nevertheless Aristotle is suspicious of pleasure, and holds that the experience of some pain does not preclude happiness: "pleasure and pain are ... the standards by which ... we regulate our considered actions" (Book 2, Chapter 3). But the Greek philosophers were always preoccupied with the idea of the mean, a desirable balance between opposites, and this may have influenced Aristotle's view of functions of pleasure and pain in the virtuous life. At the end of the Nichomachean Ethics Aristotle relates the highest form of eudaimonia to the intellectual, contemplative life: "the life of the intellect is the best and pleasantest for man, because the intellect more than anything else is the man. Thus it will be the happiest life as well" (Book 10, Chapter 7). "Happiness then covers the same ground as contemplation and those who have the greatest power of contemplation are the happiest" (Book 10, Chapter 8).

The way Aristotle uses the term eudaimonia is rather different to the way pleasure and happiness are generally thought of - to Aristotle eudaimonia was an intellectual activity of which the end product was a virtuous and moral life. And here again there are differences in linguistic understanding. In contemporary usage "virtue" is almost synonymous with moral virtue. But to Aristotle virtue was the active and positive characteristic of the whole, well-functioning man who had perfected and applied the most excellent parts of his intellectual faculties. In older English, some traces of this usage remained in phrases such as "the virtue of a drug" (Korner, 1969). This particular emphasis was fully consistent with a culture whose main preoccupation was the proper use of leisure; there was no need for the Greek philosophers such as Aristotle to pay much attention to work.

Aristotle's concept of happiness has these features:

- Happiness is the ultimate condition to which the rational, purposive man can legitimately direct his efforts in order to lead a virtuous and moral life.
- Happiness is a concomitant of pleasure, although happiness comprises more than pleasure alone.
- The sensation of pleasure is an immediate aim, whereas the achievement of happiness is a life-time's endeavour.
- Basic security, provided by at least a modest endowment with material resources, is a prerequisite of happiness.
- In so far as true happiness requires the adoption of a mean or balanced position with respect to pleasure and pain, the experience of some pain does not preclude happiness.

In the Aristotelian view, ultimate happiness is primarily a state of the contemplative intellect which most men are incapable of attaining. They have to make do with an inferior degree of happiness generated by a successful life lived at the practical level (Book 10, Chapter 8).

Not surprisingly, commentators differ about the interpretations that can be put on Aristotle's view of happiness and these are important in considering the psychology of happiness.

- He seems to contradict himself in Books 1 and 10. At first he appears to say that human happiness resides in the practical, active life and later that true happiness is essentially contemplative.
- There are also various interpretations as to whether Aristotle really meant to imply that happiness is the sole and supreme end which exclusively explains everything that men do, or that happiness was just one such end (Anscombe, 1964).
- It is most generally considered that Aristotle's exposition is about the essential nature of happiness, but a minority of commentators maintain that he is only delineating the sources and causes of happiness (Barrow, 1980).
- Almost every mention of happiness by Aristotle is qualified by the phrase "in a complete life" and he makes reference to Solon's axiom, "Call no man happy until he is dead" (Book 1, Chapter 10). This has even been used to suggest that Aristotle was commenting upon an afterlife! (Solomon, 1976). But it sees most reasonable to assume that he was really saying that happiness could not be identified with good fortune alone, since luck is variable. Happiness can only be assessed over a full life time, and is not something that can be measured from moment to moment. One swallow does not make a summer!

The special value of the Aristotle's analysis of happiness to psychological theory is that he was the first to identify the pursuit of happiness as a dominant principle of human life. He clearly identified most of the components of happiness that are colloquially recognised

today and described at length the inter-relationship between pleasure and happiness. Yet his concept of eudaimonia is of limited applicability. It is a state of the philosophical, contemplative mind and one that must be deliberately and ethically chosen. Those unable to choose, such as children, cannot be called happy. He acknowledges that "the mass of men do not follow any consistent plan in the pursuit of their pleasures ... their pleasures are not inherently pleasurable" (Book 1, Chapter 8). In Aristotle's terms therefore, either they are not happy or they fall outside his concept of happiness.

Waterman (1984), who has questioned the translation of eudaimonia as happiness, has identified a final constraint on the applicability to Aristotle's construct to psychology. In his view, the implied equivalence of eudaimonia and happiness is not consistent with the thinking of Classical Greece. He proposes that Aristotle's eudaimonia can better be interpreted in the sense of the Greek "Daimon" - an ideal or perfection toward which one strives and which gives meaning and direction to human life, or, in Waterman's words: "the feelings accompanying behaviour in the direction of, and consistent with, one's true potential". This distancing of pleasure and happiness allows an alternative reading of the "Nichomachean Ethics" and resolves some of its apparent conflicts. But it does not explain the widespread colloquial association of happiness and pleasure of which Aristotle was so wary, if not dismissive.

EPICURUS

The part that pleasure plays in the happy life was given a more central position in Hellenistic times in the hedonistic philosophy of Epicurus (341-270 BCE). Epicureanism, in common speech, usually means the devotion to pleasure, comfort and high-living, with a taste for style and elegance, but this is a distortion of Epicurus' teaching. Whereas Aristotle considered that human action was ideally prompted by reason, Epicurus' system of ethics was based on experience - empirical observations of human behaviour and what was natural to the human being. Taking his cues from the animal world in which he saw pleasure as a natural phenomenon, he concluded that anything which was natural must also be good: "All living creatures from the moment of birth take delight in pleasure and resist pain from natural causes independent of reason". Since pleasure is both natural and good, "it is reasonable to seek to attain the limit of pleasure which life affords" (Hamlyn, 1987). To Epicurus "pleasure is the beginning and end of a happy life" (Barrow, 1980).

Epicurus distinguished two types of pleasure: kinetic and static. Kinetic pleasure is mediated by the senses whereas static pleasure exists where there is freedom from pain and anxiety. By definition both types of pleasure are good in and of themselves, but the wise man selects his pleasures with care: "While every pleasure is in itself good, not all pleasures are to be chosen, since certain pleasures are produced by means which entail annoyances many time greater than the pleasures themselves" (Long, 1974). So, Epicurus acknowledges that pain can be associated with some pleasures and that pain does not

necessarily preclude pleasure. Indeed, pain need not always be eschewed: he considered that there is a "calculus" of pain and pleasure, such that pain should be endured if the consequent pleasure could be extended thereby. Finally Epicurus makes the distinction between enjoyment, and the freedom from pain and anxiety, "ataraxia" , both of which may be pleasurable. In Epicurean ethics the state of ataraxia is the most desirable: "freedom from pain in the body and from trouble in the mind is the ultimate aim of a happy life" (1998).

Once this aim has been chosen and secured, its continuation is best served by reducing one's needs to a minimum and withdrawing from the stresses of the everyday world, although not in isolation. Epicurus places great store on friendship as source of pleasure: "To eat and drink without a friend is to devour like the lion and the wolf" (Carlo, 1998). So despite the central part that pleasure plays in Epicureanism, the Epicurean is in the end still abjured to live a controlled and temperate life in order to attain and prolong happiness. The outcome is little different in practical terms to that recommended by Aristotle!

Although the Epicurean approach has few followers among modern philosophers, several of its arguments are germane to the issues that arise in pursuing a psychology of happiness.

- In contrast to Aristotle, Epicurus associates pleasure more definitively with happiness, arguing that pleasure is the unique and exclusive means and end of happiness.
- The preferred form of happiness comes from freedom from pain and anxiety rather from active pleasure; in modern terms contentment is to be rated more highly than physical enjoyment.
- Although pain is best avoided, the experience of pain does not necessarily extinguish happiness; to endure pain is worthwhile provided it can be seen to be the precursor of greater ensuing pleasures.
- Friendship is vital to the state of happiness, even if one has in most other respects withdrawn from the world to avoid pains and anxieties. This would imply that (Epicurean) happiness remains a social rather than a solitary condition.

The central importance that Epicurus accorded to pleasure is to some degree reflected in 19th century psychology. Fechner (1801-1887) considered pleasure to be a major psychic determinant of human action and Freud subsequently proposed that pleasure, through its demand for instant satisfaction was the main driving force of the Id. However, there is no evidence that they based their ideas on the work of Epicurus.

1.2 LATER DEVELOPMENTS: THE EXPECTATION OF HAPPINESS

By the end of the third century BCE most of the components of the contemporary colloquial understanding of happiness were already in place. And these views more or less still stand today, with some change in emphasis. Subsequent philosophers of the Hellenic age had little to say on the subject of happiness, and thereafter philosophy largely devoted

itself to the production of commentary rather than the examination of new ideas. In the interests of Christianity, the teaching of philosophy anywhere in the Roman Empire was forbidden by the Emperor Justinian (483-562), and philosophy virtually died out in the West.

The one important element of the present colloquial understanding of happiness that was missing was the wide-spread social aspiration to happiness. Both Aristotle and Epicurus believed that happiness could only be enjoyed through philosophical contemplation. Aristotle in particular, implies that those actively involved in the affairs of the world have alternative and inferior satisfactions, power for the military and status for the politician, and are thereby precluded from experiencing true happiness. This formulation gave no reason for the majority of people ever to expect happiness. The idea that everyone could aspire to happiness emerged in the Middle Ages.

It was the intention of Thomas Aquinas (1225-1274) to construct a philosophical system which would provide a rational basis for the revealed truths of the Christian faith, and he chose for his model the works of Aristotle which had just been reintroduced to Europe through Moorish Spain. His work is essentially theological, but within that context, he introduces ideas that are psychological in nature and modify the Aristotelian concept of happiness. In so far as Aquinas was seeking a system based on reason, he follows Aristotle in ascribing primacy to the intellect, and establishes the doctrine that nothing exists in the human intellect which has not been perceived through the senses. The means by which the intellect is informed are the five conventional senses and again following Aristotle a "common sense". But Aquinas adds four internal or non-rational senses, one of which is "will". The will is directed to achieving the "good" which Aquinas identifies with Aristotelian happiness. In other words "Men always will the good, or what they see as good, and that good is happiness" (Hamlyn, 1987). But Aquinas regards Aristotle's happiness as merely temporal; true happiness could only be fully experienced in the after life.

Aquinas' prestige was unique and great, and his views had a profound effect on the development of Western Christian culture from the Middle Ages onwards and they may have influenced people to believe that happiness in earthly life was in some way inferior and not necessarily to be expected. This belief was no doubt reinforced by the fact that peoples' lives were short in Aquinas' day. The average life span for a man was only about 33 years and less for women, due to the hazards of childbirth (Roberts, 1980). Perhaps the promise of future happiness through eternity seemed more important than happiness in a fleeting life. In terms of social expectations, this change in emphasis went even further in the Reformation, particularly in Puritan countries, where the concept of happiness became almost entirely projected into the afterlife, such that earthly pleasure, if not happiness itself, was to be avoided.

The expectation of earthly happiness was brought back into the picture in the late 18th and 19th centuries in the Utilitarian ethics of Jeremy Bentham (1748-1832) and John Stuart Mill (1806-73). Both were concerned with providing a philosophical justification for a

programme of radical legal and political reform. Bentham proposed that "psychological hedonism" was the sole governing principle of human conduct and that human actions are motivated simply and entirely by the pleasure or pain they create: it is for pleasure or pain alone "to point out what we ought to do, as well as to determine what we shall do". Actions can be evaluated purely in terms of their consequences, and the distinction between "right" and "wrong" acts was that right actions promote pleasure and wrong actions its reverse. Pleasure was absolute and he expressly dismissed Aristotle's discrimination between happiness and pleasure, and any distinctions among different kinds of pleasure. These ideas led to the famous Principle of Utility: "the greatest happiness of all those whose interest is in question [is] the only right and proper and universally desirable end of human conduct" (Scruton, 1995).

The political attraction of the principle of utility was that it promised the translation of ethics into manageable, quantitative terms. Like Epicurus, the Utilitarians believed that it was theoretically possible to develop a "felicific" calculus thar could be extended beyond direct consequences to include dependent consequences for all others who might be affected immediately or in the future. Provided pleasures and pains are accepted as having an exclusively quantitative inter-relationship it becomes possible to compare the results of alternative actions, to settle all matters of right and wrong, and hence test the adequacy of any law or act of administration.

Within the confines of the present study it is not necessary to dwell on the telling criticisms that have been made of Utilitarianism. But in so far as the principle became the ideological mainspring of law, economics, politics and even of the welfare state, the promotion of widespread happiness became a leading issue in Western culture. People expect happiness and believe they have a legitimate right to seek it. For example:

> "We hold these truths to be sacred and undeniable; that all men are created equal and independent, that from that equal creation they derive rights inherent and inalienable, among which are the preservation of life, and liberty, and the pursuit of happiness". (Thomas Jefferson's original draft for the American Declaration of Independence).

The intention of the foregoing discussion was not to provide an historical critique of the philosophical views of happiness. Most of the ideas described were challenged in their time, and there is no shortage of alternative positions. Its limited purpose was to show that most of the elements contained in the common, colloquial understanding of happiness have, at one time or another, featured in serious philosophical thought. The aim of ethics is to identify how the ideal human should behave. But each individual is different and probably extremely few people have ever lived fully in accordance with any one of these ethical codes. Human nature is complex, volatile, and dependent upon mood, and different

individuals think about and experience happiness in different ways; and it would be foreign to human nature to be content with contentment, even if this would ensure happiness. In approaching real human behaviour it will therefore be necessary to bear in mind that happiness is an unusually complex concept.

1.3 HAPPINESS IN MODERN PSYCHOLOGY

Although the study of happiness has only recently become a recognisable sub-discipline of psychology, many ideas emerged before that time which remain highly relevant to the field. Throughout the 20th century, there was a continuing therapeutic thread in psychological research, directed towards the understanding of mental disturbance and the relief of its accompanying mental distress. From this background, a number of ideas have arisen as to what constitutes the positive psychological functioning that characterises freedom from distress. Positive psychological functioning is virtually synonymous with happiness.

It has already been mentioned that Fechner proposed pleasure as a determinant of human behaviour early in the 19th century. This idea was adopted by Freud (1856-1939) who, in proposing the first modern theory of personality, considered the desire for pleasure to be the primary human motivation. He borrowed from the ideas in science which were current in his formative years. From Darwinism he concluded that since human beings had evolved from lower forms of life, the unconscious mind was more representative of the essential primitive and animalistic nature of the human being than the conscious, and that the unconscious instincts are totally hedonistic. To provide an explanatory mechanism he adopted the idea from contemporary physics that each individual was endowed with a certain amount of energy distributed among the basic life instincts. Were these instincts not to be promptly gratified, there would be a painful concentration of tension in the most primitive and unconscious part of the mind, the Id. "To discharge this tension, the Id seeks pleasure irrespective of any other circumstance or conscious consideration" (1927). What ever view one takes of Freud's overall theories, few have disagreed with his identification of the search for pleasure as a basic human drive, or the view that if the need for pleasure is not met either directly or indirectly, then some degree of mental malfunctioning will occur. Following Freud only this far, one can conclude that while pleasure by itself may not assure happiness, its total absence will preclude it.

Freud's views at first attracted many notable followers, but his ideas soon became a source of controversy and offensive to some because of the central importance he attributed to sexual motivations in infancy. One of those who broke away from Freud was Jung (1875-1961) who considered that human behaviour and fulfilment could be better explained by abstract, quasi-religious motivations than by sexual drives. For our purposes, his most important contribution was the recognition that people were predisposed to seek satisfaction in different ways. He was the first to make the distinction between introversion and

extraversion. Introversion was defined as a preoccupation with inner feelings at the expense of social interaction. On the other hand, extraverts, are more concerned with the external world and prefer to seek satisfaction through social encounters. As we shall see in due course, the extraversion/introversion personality dimension is an important correlate of happiness, and it is widely believed that extraverts are predisposed to happiness more than introverts.

Whereas Jung first called attention to the individual's need for fulfilment and originated the idea that people had different ways of realising it, Maslow (1908-1970) suggested that needs and motivations and therefore satisfactions were arranged hierarchically (Maslow, 1943, 1954). It was necessary that the needs at each level should be at least partially fulfilled, before higher needs became apparent. The lowest levels comprise the basic biological needs for respectively nourishment, shelter and companionship. As these are satisfied, psychological motivations become more dominant, examples are the need for social approval and esteem, and for aesthetic satisfaction. He proposed that the need at the highest level was for what he termed self-actualisation, the human aspiration for self-fulfilment and the realisation of one's true potential.

Maslow (1967) went on to study people who could be described as self-actualisers. Initially he characterised a variety of famous people, and then went on to look for self-actualisers among college students. He recognised that many self-actualisers have, usually transient, peak experiences characterised by feelings of fulfilment and great happiness. Finally, by analysis of questionnaires asking people to describe the nature of their peak experiences, he was able to conclude that their experience of happiness was associated with feelings of "wholeness, perfection, aliveness, uniqueness, effortlessness, self-sufficiency and the values of beauty, goodness and truth" (Atkinson, Atkinson, Smith, Bem & Hilgard, 1990). Thus for the first time we can discern the emergence of a positive view of happiness, that is, happiness is essentially a state of mind which cannot adequately be explained by the absence of distress.

Kelly (1905-1966) rejected any general theory of motivation, especially that of the psychodynamic tradition. Kelly's Personal Construct Theory (Kelly, 1958) takes no account of specific motivations; every person is motivated 'for no other reason than that he is alive'. Instead, he viewed people as intuitive scientists who are constantly constructing and reconstructing their personal theories in the light of changing circumstances. The therapist's role was to reveal those constructs and, where they were a source of distress, to suggest other ways in which life events could be perceived and interpreted (Constructive Alternativism). Kelly was not overly concerned with the absolute truth of personal constructs, more with their interpretation in terms of their convenience or utility to the individual. Therefore distress (and happiness too?) is as much dependent on how individuals perceive and construct their circumstances, which implies that happiness is subjective and as much related to personal perceptions of life events as to the events themselves.

Perhaps the theorist whose ideas are most relevant to the understanding of happiness as an optimal human condition is Rogers (1902-1987). He more than anyone was responsible for turning modern psychotherapy away from the diagnosis and treatment of "disorders" towards enabling a client to fulfil himself by coming to know himself accurately and as a complete person. Rogers' underlying idea is that all living organisms strive to maintain, further and actualise their experience according to their subjective perceptions, and that this process is one which goes on through the whole of life. From this comes a construct of "mature behaviour" that seems to be as much a definition of the conditions for happiness as it is a therapeutic end. "The individual exhibits mature behaviour when he perceives ... in a flexible and alert manner, that is not defensive, accepts the responsibility of being different from others, accepts responsibility for his own behaviour, evaluates experience in terms of the evidence coming from his own senses, changes his evaluation of experience only on the basis of new evidence, accepts other as unique individuals different from himself, prizes himself, and prizes others" (Rogers, 1959). From this construct Rogers derives a special extension to define 'the fully functioning person' who is in a state of optimal psychological adjustment, optimal psychological maturity and is totally open to experience (Rogers, 1961).

The foregoing theoretical considerations reinforce the view that happiness is a varied and divergent concept, but two things stand out. In particular:

- Peak experiences of happiness have been positively and clearly identified with self-actualisation, which is the satisfaction of psychological rather than physiological needs. Although a degree of physiological satisfaction remains important, since without it the psychological needs will not appear, the evidence points to happiness as ultimately being a state of mind.
- Because people cherish different personal constructs, the condition of happiness need not be the same for everyone. Indeed it can be regarded as a subjective quality, to which individuals may be variably predisposed depending on aspects of their personalities.

While the above conclusions might have formed a basis for research, in practice the majority of the recent work on the psychology of happiness is empirical, subjective and narrative, and prosecuted by the administration of self-report questionnaires. This approach has been adopted from sociological research, where it was first used as a means for correlating subjective life satisfaction, "quality of life", with socio-economic data on the "standard of living". The field has been recently reviewed (Argyle, 1987; Diener & Griffin, 1984; Strack, Argyle & Schwarz, 1991) and these sources have been heavily drawn upon in this introductory chapter.

POSITIVE AND NEGATIVE AFFECTS

Subjective well-being is made up of several different elements. The first to be examined was the contribution of fluctuating emotional moods or "affects". (An affect can be defined as the conscious subjective aspect of an emotion considered in isolation from any physical changes that the emotion might produce). Affects may be positive or negative and were postulated to influence individuals' self-reported well-being accordingly. Wessman and Ricks (1966) explored the affect variations within a small group of students and proposed that the sum of positive and negative affects, formed the "average hedonic level", with happy individuals registering an excess of positive over negative affect. They also observed that individuals varied greatly in the extent to which they reacted to both positive and negative life events.

The next important contribution in the field came from Bradburn (1969) who, in a study of the effects of social changes in, for example, education, employment and urbanisation, used separate scales measuring positive and negative affect to assess the influence of the societal variables. He found that while the items forming each of the separate scales were strongly inter-correlated, positive and negative affect were virtually independent. Support for this finding was provided by an examination of the correlation with some positive and negative circumstantial traits, for example sociability/social participation and worry/anxiety. Positive affect correlated with sociability but not with worry, and vice versa. The independence of positive and negative affect has also been confirmed with other external variables (see for example Beiser, 1974; Warr, Barter & Brownbridge, 1983). These counter-intuitive findings created considerable interest because they imply that subjective well-being must be measured along two different dimensions that vary independently of one another, which was not consistent with the earlier work of Wessman and Ricks (1966).

Independence of positive and negative affect

Diener and Emmons (1985) examined the effect of time scale on positive and negative affect. They sought an analogy for subjective well-being in the literature of emotion. Several researchers (Lorr & Shea, 1979 for example) have found that while moods of happiness and sadness are certainly triggered by different sets of cues, they remain strongly negatively correlated. Using adjective checklists rather than Bradburn-like questions, Diener and Emmons examined the correlation between positive and negative affect over different time periods. Over periods of a year positive and negative feelings were independent, but negatively correlated over a period of a month. These findings were uniform across samples of American and Black Caribbean students and older non-academic Americans. The reason suggested for the difference in short and long term results is that in the short term positive and negative affect cannot coexist, one cannot be happy and sad at the same time, therefore positive and negative moods are negatively correlated. Over long term periods,

happy and sad moods can be recalled and evaluated separately and so the affects become progressively more independent.

Frequency and intensity of affect

To discover why positive and negative affect are mutually exclusive over short but not long periods, Diener, Sandvick and Pavot (1991) considered the question of frequency and intensity of affect. Does happiness arise from a chain of frequent but mild positive experiences or from occasional moments of great ecstasy? The authors argue for the former, on the grounds that moments of ecstasy are relatively infrequent and that it is part of common experience that although moments of ecstasy are greatly desired at the moment they are experienced, their side effects are not always so satisfactory and may not promote general happiness. In these studies a number of groups of subjects were required to complete reports of their mood at the end of each day for a period of ten weeks. The reports were designed to indicate the daily dominant mood, positive or negative, and the intensity with which the dominant mood was experienced.

The results showed a high positive correlation between positive and negative intensity. The intensity of positive effect is therefore not a good indicator of overall happiness; those who experience the most intense positive emotions also experience the most intense negative ones and their emotional peaks tend to cancel one another out. In further experiments, Diener, Larson, Levine and Emmons (1985) examined the percentage of time that one affect outweighs the other, when the effects of intensity were controlled for. Before the effect of intensity was removed the correlation between positive and negative affect, although positive, was not significant. With intensity partialled out, the correlation between mean positive and negative affects was negative and statistically significant, showing that subjective well-being is better associated with the frequency with which positive events are experienced, rather than their intensity.

A nice confirmation of this conclusion came from a detailed comparison of particular groups of individuals taking part in the study. One group comprised seven participants, each of whom reported a high frequency (>80%) of positive affect with low levels of intensity. When administered a commonly used happiness questionnaire, all scored highly. With another group of three individuals who reported high emotional intensities, none scored in the "happy" range on the same happiness scale, (Diener, Sandvick & Pavot 1991).

SATISFACTION WITH LIFE

Other workers have considered that positive and negative affect are insufficient to account for happiness, and have proposed the existence of another component, satisfaction with life (Andrews & Withey, 1976). Unlike the affects which represent feelings, satisfaction is an evaluation, an individual's considered opinion, reached by the exercise of judgement: "a global assessment of a person's quality of life according to his chosen criteria" (Shin & Johnson, 1978). Such a judgement is person-specific, it relates an individual's perceptions

of his circumstances with his expectations. Satisfaction with life is generally associated closely with specific areas of social activity, such as work, family and leisure. But it has been shown (Campbell, Converse & Rogers, 1976) that satisfactions in individual areas are closely correlated one with another, which supports the argument that life satisfaction is a distinct component of subjective well-being.

Several different test instruments have been developed to measure life satisfaction and these have been criticised on several accounts (Larsen, Diener & Emmons, 1985). Some only include one item and others have been designed for specific, usually geriatric, populations and so are not suitable for general use. Other questionnaires contain items that relate to emotional states and so are not capable of measuring the satisfaction with life purely in judgmental terms. The earlier questionnaires have usually been assembled from the material which the investigators thought significant. Diener, Emmons, Larsen and Griffin (1985) designed a new questionnaire, the Satisfaction with Life Scale (SWLS) from which affect items, identified by factor analysis, have been eliminated.

The SWLS has been exhaustively validated against a battery of nine other well-being scales. In addition subjects completed five standard questionnaires designed to elucidate their personality characteristics. The SWLS correlated uniformly well with the other well-being scales with the exception of one which was designed to establish the intensity of subjects' emotional experience, which supports the argument that satisfaction with life is the result of a cognitive rather than an emotional process. Further support for this contention comes from the comparison of individual subjects' scores with their personality traits. The correlations were positive' for self-esteem, activity and sociability, and negative for neuroticism, emotionality and impulsivity, from which it appears that those "who are satisfied with their lives are in general well adjusted and free from psychopathology" (Diener, Emmons, Larsen & Griffin, 1985).

If satisfaction with life is the result of individual thoughtful appraisal, then it should be possible to establish which life domains are most important. There is no shortage of material in this area, which overlaps public sector research in examining the extent to which social improvements can increase human happiness. That it should be expected to do so is the ideological underpinning of modern welfare states (Veenhoven, 1991). Campbell, Converse and Rogers (1976) identified in descending order, health, friends, income and education. Along the social dimension, the same researchers identified, in descending order, family life, marriage, friendships, community and organisations. In a German study, Glatzer (1991) identifies 16 domains ranging from Marriage, family life, household management and job, down to education, church member ship, public safety, and environmental protection. In this study as in others, it is notable that the highest and most prevalent satisfactions occur in the private area (Marriage, family life, and friendships) rather than the public area (for example education, church membership and public safety).

The relativity of satisfaction with life

The concept of satisfaction with life has its origins in socio-economic theory and this field is traditionally one in which comparisons are made, for example of the standard of living. If, as has been argued, satisfaction with life is the result of a cognitive process, it is hard to escape the conclusion that satisfaction with life must be based on a comparison. Then the question of whether satisfaction with life is absolute or relative comes to the fore.

In respect of income, several workers (Campbell, Converse & Rogers, 1976; Michalos, 1980) have reported that individuals' satisfaction with life is only weakly positively linked with income and standard of living. A similar finding resulted from an American study (Bradburn, 1969) of some 50 people with incomes in excess of $10M/year. Compared with controls living in the same localities, the extremely wealthy reported being a little, but not much, happier on a range of happiness measures. For example the wealthy appeared to be happy 77% of the time whereas the controls were happy 62% of the time. These findings are supported by cross-cultural studies. Easterlin (1974) compared the average reported happiness in 23 nations against GNP/head and concluded that differences in happiness relative to the standard of living were small and inconsistent. He also showed using US data that the level of reported happiness remained unchanged through the period 1945-1970 when national income doubled. But Veenhoven (1988) has strongly criticised Easterlin's methodology and conclusions, and contends that the same data can be used to support the opposite argument. One clear example of a comparative view being taken of income comes from the work of Runciman (1966). He found that manual workers earning well above the average manual wage were much more satisfied with their income than non-manual workers earning the same. That is, manual workers based their comparisons on other manual workers, rather than similarly paid non-manual workers.

There are also examples of individuals making relative judgements which appear surprising. Irwin, Allen, Kramer and Danoff (1982) found that patients three years after a cancer operation were happier than a control group. Similarly evidence has been produced to show that paralysed accident victims, after a time, become nearly as satisfied with their lives as members of the general population, (Brickman, Coates & Janoff-Burman, 1978). This suggests that self-assessments of happiness are relative and not absolute and that people adapt their standards of comparison according to their circumstances, in these instances not with what they were in the past, but with what they can expect to be in the present and future.

The different standards that people employ have been distinguished by Michalos (1985). He identifies (a) what one wants, (b) what relevant others have, (c) best experiences in the past, (d) expectation for the next few years, (e) what one deserves and (f) what one needs, and has combined these factors into a "Multiple Discrepancies Theory". It should be noted that most of these references are self-directed: comparisons with others are slight. The

closeness of the match between what an individual has and what he wants appears to the most reliable single predictor of perceived happiness, but Michalos showed that the best predictions were obtained when all the variables were taken into account.

It seems reasonable to make the distinction between affective happiness, the balance of positive and negative emotions, and satisfaction with life, contentment. But this distinction has been challenged by Kammann, Farry and Herbisson (1984). From another factor analysis of the results from 13 different well-being scales, it was found that positive affect and satisfaction with life were statistically indistinguishable; they both coalesced into a general well being factor whereas the negative factor remained statistically isolated. On these grounds they question the validity of some of the distinctions which have been made among the components of subjective well-being.

In summary it appears that satisfaction with life is not an absolute condition, nor can it be adequately explained in the terms of single factors. It has a strong comparative element, although the comparisons people use will vary from situation to situation and are predominantly self-referential. In theory, satisfaction with life is a purely cognitive function, but in any practical instance, it seems that it must be coloured to some degree by emotional factors.

1.4 HAPPINESS AND PERSONALITY

TRAIT VARIABLES

So far we have largely considered the subjective constituents of happiness. But it is also possible that individuals may be constitutionally predisposed to happiness - or to melancholy - by their personalities. Almost any situation can be viewed either optimistically or pessimistically, and people appear to be fairly consistent in which view-point they adopt. Those who are clinically depressed are depressed most of the time (Argyle, 1987), but everyone else is influenced by changing moods which colour their perceptions.

In this respect there are two alternative explanations of happiness; the first considers happiness to be the results of being exposed to a reasonable number of happy events whereas the second considers that happiness is a matter of temperament, that is personality. Diener and Larsen (1984) conducted a series of experiments to find out which explanation was the more appropriate. They used a questionnaire about work and leisure containing both person-related and situation-related items and found that satisfaction with life was more closely linked with people than with circumstances. The relationship was not so strong for positive affect, yet more of the variation in positive and negative affect could be explained by persons than by situations. It therefore seems that there are some individuals who are consistently happier than others across a range of situations (Argyle & Martin, 1991); they tend to construct their circumstances in a specific, or idiosyncratic way. Among the suggestions that have been put forward to account for this, it has been proposed

that happy people have some specifically distorted perceptions. They have an unrealistically positive view of themselves, an exaggerated view of their control over events, and are unrealistically optimistic. In contrast, depressed people are claimed to see things more realistically (Taylor & Brown, 1988)!

There is a related explanation with a kinder face. Happy people tend to "look on the bright side", and this may even be a general human characteristic. Matlin (1979) proposed the existence of the "Pollyanna Effect": some individuals are predisposed to process pleasant information more accurately and efficiently than less pleasant information. Working with paired but otherwise unstructured word lists, subjects tended to list pleasant before unpleasant words. This work has been extended to explore the relationship with self-reported happiness (Matlin & Gawron, 1979). Subjects who rated themselves as happy or optimistic gave themselves positive ratings on personality characteristics, recalled pleasant more frequently than unpleasant words, and supplied more free associations to pleasant than to unpleasant words.

But, which characteristics of personality associate most closely with happiness? Trait theorists, Eysenck (1953) in particular, consider that human personality can be represented along separate bipolar dimensions of which extraversion/introversion and emotional stability/instability (neuroticism) are the most well understood. The influence of both of these dimensions has been well covered in the literature because, in the development of new scales for assessing subjective well-being, workers have often tested the scales alongside those which measure personality traits.

Extraversion/introversion

Extraversion has been almost universally linked with both positive affect and satisfaction with life. Argyle and Martin (1991) have obtained high correlations between self-reported happiness and the Eysenck measures of extraversion. Costa, McCrae and Norris (1981) in a series of longitudinal studies found the association between extraversion and happiness to be so strong that it could even act as a predictor of happiness 17 years later in geriatric subjects. Headey, Glowacki, Hilstrom and Wearing (1985) carried out another longitudinal study in Australia over a four-year period and found that extraverts appeared to experience more positive life events, and that the association was strongest for young people especially in their friendships and work. Headey and Wearing (1991) have subsequently reported that extraversion is related to another personality trait, openness to experience. Comparing the two traits over periods of two years, both are significantly related to life satisfaction, but the effect of openness to experience is marginally less than that for positive affect.

One explanation for these findings is that extraverts are typically both sociable and impulsive (Eysenck & Rachman, 1965), and Tolor (1978) has shown that it is the element of sociability which is most closely associated with happiness. One of the major sources of happiness comes from positive interactions with other people. By definition, the extravert is

one who seeks the company of others and is therefore much more likely than the introvert to enter into the relationships that make for greater happiness. For example:

> Given a free choice, extraverts favour social and physical activities. In so doing they may make more social contacts than others. But social and physical activities are intrinsically pleasurable, to extraverts, and may be sufficient in themselves to explain the link. Extraverts are more positive in their body language - they look happy - and this may attract others to establish rewarding social relationships. They are also more vocal; they are cheerful and talk about pleasant things and are generous with their compliments. Do they do this in order to establish positive relationships with others or just to have fun through positive and enjoyable experiences? (Argyle, 1987).

In summary, the association of extraversion with reported happiness, especially positive affect and satisfaction with life, seems to be empirically well-founded, but the underlying explanation remains obscure.

Emotional stability/instability

Emotional instability is not good for well-being. The association between emotional instability, (neuroticism), and negative affect was first reported by Costa and McCrae (1980). This was confirmed by Kammann, Farry and Herbisson (1984) who, for a sample of some 100 New Zealand adults, reported a negative correlation between neuroticism and subjective well-being, both in the sense of happiness and in satisfaction with life. Furnham and Brewin (1990) administered the Eysenck Personality Questionnaire and the Oxford Happiness Inventory (Argyle, Martin & Crossland, 1989) to a similar number of subjects ranging in age from 17 to 49 and found that the correlation with happiness was positive for extraversion and negative for neuroticism. Clinically it is accepted that evidence of neuroticism is a reliable indicator of psychological distress, in particular depression. Okun and George (1984), using a sample of 500 adult men questioned at two year intervals, found that present neuroticism was a good indicator of later psychological distress, in fact a better one than physician ratings. By definition, depressed or anxious people can hardly be considered happy (Argyle, 1987), so in any consideration of positive happiness one should concentrate on the influence of emotional stability rather than instability.

There is considerable evidence, reviewed by Larsen and Diener (1987) to support the contention that emotional intensity, the amplitude of the reaction to emotional stimuli, is an additional and enduring aspect of personality that is stable over a wide range of emotion-generating incidents in everyday life. This personal characteristic can be considered as a single bipolar dimension. At one extreme are those who experience their emotions relatively mildly with little fluctuation; at the other extreme are those who are emotionally reactive and emotionally variable. The more reactive individuals will experience stronger emotional

responses irrespective of the specific emotional stimulus. Larsen and Diener (1987) term this dimension "affect intensity".

There is empirical evidence for this identification (Larsen, Diener & Emmons, 1986; Diener, Larsen, Levine & Emmons, 1985). Positive and negative affect intensities are strongly correlated, that is, subjects who reacted strongly to positive emotional events also reacted strongly to negative events. Those who reacted most strongly to extreme life situations, also reacted most strongly to moderate and mild events. Yet there was little difference in the self-reported frequencies of emotional events in lives of any of the subjects, whether they reacted strongly or not. There does therefore seem to be justification for considering affect intensity as, if not a distinct personality trait, at least a style of behaviour or temperament.

What bearing does this have on subjective well-being? Larsen and Diener (1987) found that people high in affect intensity were more inclined to report symptoms such as nervousness, irritability and headaches which are generally considered to be indicative of psychosomatic distress. In normal populations, people who exhibit these symptoms do not score highly on measures of psychological well-being. Yet for those high in affect intensity it was shown that measures of affect intensity correlated neither positively nor negatively with the traditional measures of subjective well-being such as reported happiness and life satisfaction. This is a surprising observation. It would seem to imply that people high in affect intensity display symptoms generally assumed to be associated with unhappiness, yet they cannot be shown to be unhappy by the available measures of well-being. This finding needs further examination, but if confirmed it would imply that the emotional dimension of personality does have some bearing on well-being in that high affect intensity compensates for the factors which lead to unhappiness in normal people.

COGNITIVE VARIABLES

Whereas early work tended to concentrate on affective variables and their relationships with extroversion and neuroticism, it had long been suggested that perceptual processes - the way individuals evaluate their circumstances - might also contribute to subjective well-being and happiness. Jahoda (1958) identified the importance of positive attitudes toward the self, a sense of personal growth and self-actualisation, an adequate perception of reality, and feelings of environmental mastery. A similar set of perceptions was proposed by Arkoff (1968), who identified (self) insight, identity, acceptance and esteem as components of a self-regard dimension. Veenhoven (1984) described happiness as "the degree to which an individual's overall evaluation of his life-as-a-whole concludes positively ... It is an essentially experiential phenomenon which cannot be identified with particular external conditions or with a way of life (p38)". Headey and Wearing (1992) considered that "Human beings construct their world to arrive at a psychologically consistent set of perceptions - an equilibrium state - which supports or bolsters a sense of well-being" (p7). It is not therefore

surprising that since the mid 1980s much more attention has been paid to the relationships between well-being and some perceptual (cognitive) variables, and the most frequently studied are discussed below.

Self-esteem

Self-esteem (self-satisfaction, self-regard or self-respect) can be defined as the extent to which the self is interpreted positively, and was recognised as an individual personality difference by Coopersmith (1967) who observed that children with high self-esteem tended to be those who were the more competent and were in turn esteemed more highly by others. In fact, most "normal" individuals tend to evaluate themselves favourably. Brown (1986) demonstrated that irrespective of whether subjects had low, moderate or high levels of measured self-esteem, they still made more positive attributions to themselves than to their friends or "average persons". It may be that self-esteem has survival value, through its influence on adaptation to stress. Martin, Kuiper, Olinger and Dance (1993) reported that those with a positive self-concept evaluated stressful situations more positively and experienced more positive than negative affect in relation to both positive and negative life outcomes. On the other hand, depressed people tended to evaluate themselves negatively and to under-estimate the quality of their performance of particular tasks (Campbell, 1981). These and other studies have reported a strong association between self-esteem and psychological well-being (for example, Brown & Mankowski, 1993; Diener, 1984; Maslow, 1970; Myers, 1992). Deiner (1984) found that among a variety of life domains, self-satisfaction had the greatest correlation with overall life-satisfaction and Furnham and Cheng (2000), in a study of the effects of various personality traits and self-esteem upon well-being, concluded that self-esteem was the most dominant and powerful predictor of happiness[1].

Control

People differ in the extent to which they believe they can control events, and this behaviour was structured by Rotter (1966) along a bipolar dimension of internal/external "locus of control". Individuals who exhibit an internal locus of control tend to perceive life events as being due to their own actions, and therefore under their personal control, whereas those who believe that that life events are beyond personal control and/or due to chance are considered to have an external locus of control. An internal locus of control may have a substantial survival value, in so far that such a belief makes the world appear more predictable and controllable, yet Rotter's concept of control may be an over-simplification. While one may believe that control can be exercised over circumstances in which the self is

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[1] *However, the widely reported association between self-esteem and well-being may be a specific characteristic of westernised societies with their great emphasis on the primacy of the individual. This might not be applicable to collectivist cultures that value the family above that of the individual, or in which it would be considered inappropriate to say good things about one's self. Deiner and Diener (1995) found that among Indian women the correlation between self-esteem and life satisfaction was virtually zero.*

directly involved, it would be unreasonable to suggest that an individual could believe that he could have much influence upon broader societal circumstances to which he cannot make a significant personal contribution. In a classic study, Langer and Rodin (1976) and Rodin and Langer (1977) demonstrated the beneficial effects of a belief in control among the inmates of a residential care home in Connecticut. Half of the residents were informed that they would be given more choice and responsibility, actually in several very small ways, for example choosing what they saw on television and when. The remaining residents were given no such information and their arrangements continued to be made by the care staff. When the home was revisited 18 months later, the residents who believed they were able to exercise control were rated by the staff as more active, vigorous and sociable; physicians considered they were more healthy; and their mortality rate was halved in comparison with the control group!

The main application of the control concept has been in studies of objective and subjective health and as a mediating variable in mitigating the effects of stress at work. However, there is also evidence that the existence of an internal locus of control has a positive influence on subjective well being (Grob, 2000; Veenhoven, 1984). Andrews and Withey (1976) found that among various social indicators, a sense of personal control was the most powerful predictor of subjective well being, and Myers (1992) concluded that "having a strong sense of controlling one's life is a more dependable predictor of well-being than any of the objective conditions of life we have considered".

Goal-Fullfilment

It is widely accepted in the psychological literature that human behaviour is largely purposive and that individual actions are predominantly goal directed. A classic example of this thinking is Maslow's (1970) hierarachy of needs, rising from the basic biological requirements necessary to maintain life, to the complex individual psychological needs for personal fulfillment and self-actualisation. Individuals aspire to the progressive satisfaction of these needs, although the needs at any one level must be at least partially satisfied before the higher level needs become important determinants of action. It is only when basic needs have been satisfied that the individual will aspire to intellectual and aesthetic activites. Many studies (for example Brunstein, 1993; Campbell, 1972; Diener, 1984; Omodei & Wearing, 1993) have identified significant positive relationships between goal-directed behaviour and psychological well-being.

However, the existence of aspirations alone may not fully account for the relationship between purposive behaviour and well-being. Michalos (1980, 1986) has suggested that well-being can better be explained by the gap or "discrepancy" between an individual's aspirations and the extent to which he considers these aspirations have actually been fulfilled; the existence of high but unachievable aspirations is not a recipe for greater happiness. There is evidence that the evaluative basis by which individuals measure the

gap is relative rather absolute, and that comparisons are made with both previous personal experience and with the perceived performance of "average people". The latter comparison was consistent with the already mentioned work of Runciman (1966) who studied the extent to which British workers were satisfied with their incomes. He found that manual workers whose earnings were in the top third of all incomes were more satisfied with their pay than non-manual workers paid the same amount. This suggests that the manual workers were comparing themselves with other less well-paid manual workers, rather than with non-manual workers who were earning more. Carp and Carp (1982) reported similar findings among US workers in Wisconsin; comparisons with "typical Americans" provided better predictions of pay satisfaction, than objective pay levels. Nevertheless, there are limits to the extent to which relative evaluations can supersede objective ones; as Diener (1984) has observed, it is not the case that "if everyone has a pain, mine doesn't hurt!"

A similar but broader concept that involves elements of both the existence of goals and their achievement has been proposed by Battista and Almond (1973) and termed "meaning in life". Working from a variety of philosophical, literary and autobiographical sources, these workers proposed "that when an individual states that his life is meaningful, he implies: (1) that he is positively committed to some concept of the meaning of life; (2) that this concept of the meaning of life provides him with some framework or goal from which to view his life; (3) that he perceives his life as related to or fulfilling this concept of life; (4) that he experiences this fulfillment as feeling of integration, relatedness, or significance." From these propositions there was developed a test instrument, The Life Regard Index, which comprised sub-scales to measure "framework" items (those relating to the existence of beliefs and goals) and measures of achievement "fulfillment", and which was validated against other measures of self-actualisation and life satisfaction. The main application of this scale is in testing the degree to which individuals' experience of meaning in life corresponds to alternative philosophical positions, for example the religious, existential or humanisitic. However, it is mentioned here because of its potential relevance to examining possible predictors of psychological well-being that relate more to the existence of particular belief systems than to objective circumstances.

Dispositional Optimism

Optimism is a state of positive expectation; the tendency to expect the best in all things. "Optimists expect things to go their way, and generally believe that good rather than bad things will happen to them" (Scheier & Carver, 1985). Several studies, (for example Marshall & Lang, 1990; Seligman, 1992), have reported a strong association between a positive approach to life and subjective well-being. The reason for this may be that the positive expectations of the optimist serve to direct subsequent behaviour into those channels most likely to lead to favourable outcomes (Staats & Stassen, 1985). Optimism can have beneficial effects on physical as well as psychological well-being. In a longitudinal study,

Scheier and Carver (1985), assessed the effect of dispostional optimism on the appearance of physical symptoms, such as dizziness, blurred vision, muscle soreness and fatigue, among undergraduates in the run up to a stressful examination period. Students who exhibited greater optimism at the beginning of the experiment developed fewer symptoms that those who were pessimistic. Similarly, Gains and Carver, (1984) demonstrated that the incidence of post-natal depression was inversely related to the degree of optimism exhibited by expectant mothers three months before their confinement. Therefore, in addition to encouraging behaviours most likely to have a positive outcome, optimism can also militate against adverse effects occurring during periods of stress.

IN CONCLUSION

The above treatment of the most frequently mentioned correlates of well-being may suggest that the nature of well-being can be explained fairly simply. This is not necessarily the case. Many of the relationships discussed have been studied in isolation and, as has been seen, different workers hold different views of the relative importance of each of the variables. This may be due to the use of different scales for assessing the individual independent variables and to the different criteria used to measure well-being. Well-being has been variously assessed by measures of positive affect, global satisfaction with life, the absence of depression, and by purpose designed scales such as the Oxford Happiness Inventory (Argyle, Martin, & Crossland, 1989) and Ryff's Scale of Psychological Well-being (Ryff, 1989). Particular uncertainties are (a) whether the dependent variables represent separate personal characteristics; (b) the degree to which they are intercorrelated; and (c) whether the various measures of well-being are measuring the same underlying quality. Under these circumstances, it is not yet possible to describe the structure of psychological well-being or the predominant aspects of personality that are associated with it, with any degree of confidence.

ABOUT THIS STUDY

Because of these theoretical and practical uncertainties, this study has taken an unusual course, largely influenced by personal interests. Rather than adopt a theory-driven approach, it was first decided empirically to examine the relationships between self-reported happiness and some individual differences in personality associated with activities that are usually considered to be sources of well-being, viz. leisure (Chapter 2), and religious activities and work (Chapter 3). In the course of these studies, it became clear that some of the conventional views of the associations between extraversion, neuroticism and happiness might usefully be modified. Chapter 4 includes a study of happy introverts, and another that suggests that emotional stability - neuroticism in reverse - may be a better predictor of happiness than extraversion. In all these studies, the Oxford Happiness Inventory (OHI) was used to measure happiness. Extensive experience with the OHI

suggested that the instrument might be made easier to use in questionnaires. Chapter 5 describes a revised scale, The Oxford Happiness Questionnaire, and its psychometric properties. In the course of establishing these properties, evidence was obtained to suggest that the form of happiness that the new instrument measured was probably uni-dimensional, rather than multi-dimensional as had previously been found for the OHI. Each of the ten studies that comprise the study is intended to be complete in itself, and all have either been published or accepted for publication in the psychological literature. Another contribution, an invited paper reviewing the relevance of social psychology to the study of implicit religion is reported in Appendix A 1.■

2 ASPECTS OF LEISURE

2.1 Positive moods derived from leisure and their relationship to happiness and personality

2.2 Uses of the Internet and their Relationships with Individual Differences in Personality

2.3 Individual differences in leisure satisfactions: An investigation into four theories of leisure motivation

2.1 POSITIVE MOODS DERIVED FROM LEISURE AND THEIR RELATIONSHIP TO HAPPINESS AND PERSONALITY

A comparative study has been made of the positive moods generated by four common leisure activities: sport/exercise, music, church and watching TV soaps. Some 275 participants whose ages ranged from 18 to 82 were invited to indicate the intensity of their personal, positive feelings for the items of four measures designed to be representative of each of the activities. It was found that each activity was a significant source of positive moods. Factor analysis of the measures showed that they each contained a strong social component, as well as a factor characteristic of each activity. Using the Oxford Happiness Inventory (OHI) as a measure of happiness, only sport/exercise appeared to result in increased happiness, and the reasons for this are explained in terms of the several components of the OHI. The associations of each of the activities with the Eysenck personality traits as measured by the Eysenck Personality Questionnaire (EPQ) were also examined and the most frequent association is with extraversion. Church membership is atypical, in that church members exhibit significantly lower scores for psychoticism (tough mindedness) and higher lie-scale scores (social conformity).

INTRODUCTION

Leisure activities are major sources of happiness. They are of special interest because their selection is a matter of individual choice and they are more under personal control than many other sources of satisfaction. Leisure activities are voluntarily undertaken, therefore it is to be expected that individuals participate in them for enjoyment, even when the activities are physically punishing like boxing and marathon running, and that underlying this enjoyment are the positive moods or emotions (affect) which the activities generate. Recent research has found that there is more than one kind of positive emotion and that different types of leisure can produce different positive affects. Some leisure activities are relaxing and their satisfactions are associated with states of low arousal: others are pursued for the excitement they provide and are associated with states of high arousal. Examples of the latter are parachuting and scuba diving (Zuckerman, 1979). In another study, Argyle and Crossland (1987) demonstrated that the positive emotions accompanying a number of pleasant life situations could be classified by the dimensions of absorption, potency, altruism and spirituality.

All these emotions have in common their positivity and the rewards they bring. In an earlier study, we asked members of various leisure groups to report on their emotional state at the end of a typical meeting. There was a high level of joy after sport, music and church, though not as much as after dancing (Argyle, 1996). Theories of leisure suggest the common processes which may be behind these leisure activities. According to theories of social motivation, they all satisfy social needs, albeit somewhat different ones. Church has been found to be a major source of social satisfaction because of the especially cohesive character of church groups (Beit-Hallahmi & Argyle, 1997). It was also reported to be the greatest source of social support in the survey of leisure groups reported above. Sport provides social satisfaction from belonging to clubs and teams, and from the close personal interaction involved in most active games. Music is typically performed by members of co-operating groups for the pleasure of an audience, and so provides a double social satisfaction. TV is often watched by groups of family or friends together, and the characters in soap operas may become imaginary friends (Horton & Wohl, 1956).

Bandura (1977) argued that enjoyment of leisure activity comes from people doing what they are, or think they are, good at, and as a result do it more. There may, therefore, be another common source of positive emotion; the satisfaction resulting from the self-efficacy of those who can perform successfully. Self-efficacy can predict whether individuals will continue to engage in various forms of exercise (McAuley, 1992). We have found that those who consider they have higher abilities at specific activities enjoy them more, and this applies to a variety of activities other than sport and exercise (Hills, Argyle & Reeves, 2000).

In addition to producing temporary states of joy, leisure is a major source of happiness. Many studies, for example Headey and Wearing (1992), have found strong positive

correlations between life satisfaction and leisure satisfaction. Other studies using experimental and quasi-experimental designs have demonstrated the causal influence of leisure on life satisfaction and happiness (Argyle, 1996). The effects of sport and exercise have been well studied. Initially they produce a state of reduced tiredness, more energy, and less tension, anger and depression (Steptoe & Bolton, 1988). Further effort can lead to a state akin to drug induced euphoria (Steinberg & Sykes, 1985). In a number of studies participants have been persuaded to undertake periods of serious exercise, which have been found to reduce depression and anxiety, and enhance self-esteem and body image (Biddle & Mutrie, 1991). Church activities produce deeper emotions, often accompanied by feelings of great joy, sometimes excitement, and they have a strong prosocial component (Beit-Hallahmi & Argyle, 1997). They are an important source of well-being, especially for the elderly, mainly due to the high level of social support found in church groups. Church members may also experience a close relationship with God, and believe that they are being looked after and that all things will be well (Ellison, 1993). Musical activities produce states very similar to church-going but with extra satisfactions deriving from the meeting of challenges and successful achievement (Hills & Argyle, 1998a). TV has been found to produce a state which watchers describe as drowsy and passive, and yet cheerful and sociable at the same time (Kubey & Csikszentmihalyi, 1990). There is some evidence that heavy TV watchers are less happy than others - maybe they have nothing more enjoyable to do - although we have found that frequent soap watchers were happier than others, perhaps because of their 'imaginary friends' (Lu & Argyle, 1993).

Happiness may not be a unitary concept. As with positive emotions, there may, for example, be high and low arousal varieties. An analysis of the items in the Oxford Happiness Inventory suggested the presence of several distinct factors. We have also reported that the different emotional states induced by membership of musical and church groups affect some of OHI factors, although in that study, neither of these activities appeared to have a significant effect on the total happiness scores (Hills & Argyle, 1998a).

Given the wide variety of possible and available leisure activities, personal choice determines which ones are selected. Such choices might be influenced by individual personality differences, and these differences could also affect the degree of happiness which is experienced. Several studies have examined the associations between specific leisure activities and particular personality traits. In a study of 50 leisure activities Kirkcaldy and Furnham (1991) found that the activities could be divided into different groups, including those which they labelled as combative, creative and competitive. There were some small but significant positive correlations. Combative pursuits were associated with psychoticism, and the largest correlate of competitiveness was extraversion. The association between sport and extraversion is particularly strong for team sports (Eysenck, Nias & Cox, 1982), explained by the traditional association between extraversion, arousal and sociability; younger people seeking social contacts may consider that these are best provided by team games. There was an even stronger association between extraversion

and high profile sports like ice-hockey, sprint running and bob-sleigh racing. A possible explanation is that extraverts are low in cortical arousal and, in compensation, seek activities providing the maximum opportunity for excitement (Eysenck, 1967).

The personality correlates of church-going, or religiosity, have been examined in several studies. For a substantial but narrowly based sample - student members of the Cambridge Christian Union - religious practice was associated with lower extraversion scores among men, but not women (Francis, 1992). A Polish study found that for the inhabitants of one particular town, both men and women involved in religious activity were 'highly introverted' (Chlewinski, 1984). In contrast, a substantial study with a wider sample of undergraduates in Australia, Canada, and the UK and US, was not able to detect any significant relationships between religiosity and extraversion or neuroticism (Francis, Lewis, Brown & Philipchalk, 1995) and similar results have been independently reported for a US sample of adult women (Maltby, 1995). The results concerning psychoticism are less ambiguous. A study of over 300 men and women aged between 17 to 73 living in a US Southern Baptist town found that low scores on the Eysenck measure of psychoticism were fundamental to a personal orientation towards religion (Maltby, Talley, Cooper & Leslie, 1995). Carter, Kay and Francis (1996) reached a similar conclusion with an adult sample of committed Christians in the UK. However, it must be observed that all of these results have been obtained with respondents who were religiously oriented, although we have obtained similar results (Argyle & Hills, 2000) for a sample population which contained both members and non-members of churches. A positive association between religiosity and the Eysenck lie scale scores, which are usually interpreted as a measure of social conformity, has been reported several times and this has also been found for a more broadly based US sample (Lewis & Maltby, 1995).

The personality correlates of other leisure activities, particularly those of interest to this study, music and TV-watching, have not received a great deal of prior attention. Nias (1977) found that an interest in listening to music was associated with neuroticism. A study by Dyce and O'Connor (1994) found that professional members of rock and country bands tend to be more extraverted and neurotic relative to the population norms of university students. Wills (1984) found that professional popular musicians showed greater neuroticism and psychoticism scores, irrespective of their instrumental preference. Performance anxiety has been related to neuroticism, although the levels of anxiety experienced by amateur performers were less than those of undergraduate music students (Steptoe & Fidler, 1987). Psychoticism has been positively linked to a liking for hard rock music and dissonant rather than consonant harmonies (Rawlings, Hodge, Sherr & Dempsey, 1995).

The main concern of studies of TV-watching has been to discover whether personality differences mediate any effects of violent programmes on young people. In a study of male undergraduates, it was found that those scoring high on neuroticism tended to avoid comedy and action/adventure programmes, whereas those scoring high on psychoticism

expressed a strong preference for violent horror films (Weaver, 1991). However, it has been shown (Lu & Argyle, 1993) that among women, increased levels of happiness and extraversion distinguished regular watchers of TV soaps from irregular watchers who nevertheless watched a lot of TV in general.

The purpose of the present study is to explore some of the above issues in a comparative examination across four representative leisure activities. For sport/exercise, church and music, comparisons were made between members and non-members of the appropriate leisure groups. For watching TV-soaps or sitcoms the criterion of comparison was whether or not respondents said that they were regular viewers of such programmes. The aspects to be given particular attention are (a) the positive states arising from leisure, (b) relationships with happiness, and (c) the influence of individual differences in personality. The study will be constructed around the following hypotheses.

Positive emotions

1. For the four selected activities, members of corresponding leisure groups will report higher levels of positive affect than non-members.
2. Leisure activities will produce different kinds of positive emotions.
3. There will be common elements among the positive states produced by different leisure activities, and we expect these to include the satisfactions derived from social interaction and relationships, and from achievement.

Happiness

4. Those who participate in leisure activities will be happier than those who do not.
5. Happiness will have a number of separate dimensions.
6. Participation in different leisure activities will affect different aspects of happiness.

Personality

7. Different leisure activities will be associated with particular personality traits and we expect extraversion to be important for those activities which involve social activity.

METHOD

Participants

A panel of 275 individuals was built up from residents of Oxfordshire and their friends and acquaintances. This was largely done by personal contact with members of leisure groups including churches and musical organisations, particularly amateur choirs. Ages ranged from 18 to 82 with a mean of 40.6 ± 16.8 years. Some 40% of those taking part were men. Seventy-six participants belonged to musical groups, 127 to churches, and 111 to sports clubs. One hundred and nineteen respondents reported that they were regular

watchers of TV soaps or sit-coms. The sample was mainly professional, 66% were graduates, and 55% were living with a partner.

Measures

Levels of positive affect for sport, music, church membership and watching TV-soaps, were measured by different, specifically constructed scales made up of various 6-point items. The scales for sport and music had nine items, church membership and watching TV had respectively ten and seven items [Questionnaire C, pp 166-167]. The items of each scale are listed in Table 2.12. Respondents were asked to 'indicate the intensity of your positive feelings' for each of the items. All the scales demonstrated high reliabilities with Cronbach αs ranging from .87 to .96. Happiness was measured by the latest revision of the 29-item Oxford Happiness Inventory (OHI) [Questionnaire A, pp 161-163]. The scale was shown to possess a high degree of reliability, Cronbach's $\alpha = .90$, $N = 267$. The split-half reliability was also high with a Spearman-Brown coefficient of .87. Various workers have reported test-retest reliabilities of up to .81 over 4 months (see Argyle, Martin & Lu, 1995). This latter finding would suggest that the OHI is an appropriate measure of happiness for the present study in so far as it appears to measure a lasting property of persons rather than temporary moods. Extraversion, neuroticism, psychoticism and lie-scale scores were obtained using the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975) [Questionnaire B, pp163-166].

RESULTS

Sample characteristics

Among those taking part in our study, biserial correlation indicated no significant gender associations for membership of musical groups, churches, sports clubs or watching TV-soaps. Older respondents were more likely to belong to musical groups, $r = .15$, $p < .05$ or churches, $r = .46$, $p < .001$. Younger respondents were more likely to belong to sports clubs, $r = -.16$, $p < .01$, or watch TV soaps, $r = -.20$, $p < .001$. Similarly, there were no significant gender differences in the reported affect intensities for any of the activities. Church affect was positively related to age, $r = .36$, $p < .001$, but negative correlations applied to the remaining activities: music, $r = -.17$, $p < .01$, sport, $r = -.12$, $p < .05$, watching TV-soaps, $r = -.32$, $p < .001$. That is, younger people reported greater affect levels for these three activities. Respondents living with a partner were more likely to be members of music groups, $r = .16$, $p < .01$, or churches, $r = .38$, $p < .001$, but there were no such significant correlations with membership of sports clubs or watching TV-soaps. There was a weakly significant positive association between respondents who were in employment, and church affect, $r = .15$, $p = < .05$, and such individuals also reported a significantly lower affect for watching TV-soaps, $r = .18$, $p < .01$.

Positive emotions

Table 2.11 compares the mean affect intensities with respect to participation versus non-participation in specified leisure activities, for example members of sports clubs or musical groups, against non-members. The mean affect intensities spanned a considerable range being greatest for sport and least for religious activities. As would be expected, group members generally report greater levels of affect for specific activities than do non-members, and the differences in the means (independent samples t-test) were all significant at the < .001 probability level.

Table 2.11 Affect levels for leisure activities

	Mean affect intensity		
Activity	Participants	Non-participants	*t*
Sports	4.48	3.82	-6.30***
TV	3.95	3.07	-7.73***
Music	3.54	2.97	-5.25***
Church	3.31	2.57	-5.19***

*** $p < .001$

The scales for each activity were factor analysed, using principal components extraction and Varimax (orthogonal) rotation, restricting the examinations to the scores of those who stated that they took part in each activity (Table 2.12). Sport provided three factors with Eigen values > 1: sociability, well-being, and achievement/excitement. Music afforded two factors: the first included 'uplift' and well-being, the second contained all the sociability items. Church provided two factors, the first included all the social and well-being items, the second comprised two mystical items, timelessness and feelings of warmth and light, along with quieting of the mind. Watching soaps comprised two factors: entertainment and companionship, the latter including a parasocial element - 'enjoying the company of the characters in the story'.

To test for the existence of elements common to all activities, some identical items were included in each of the different scales, and they were compared by correlation. Joy appeared in all four scales, and all possible combinations were significant, the majority at probability levels of < .001. Similar results were obtained for excitement (three scales), positive feelings about life (three scales) and positive feelings towards others (four scales). There are therefore clear indications that each of the activities creates positive moods which contain some similar elements. In the factor analyses reported above, each activity demonstrated a social factor and it is of particular interest that, with the exception of music, the joy item always appeared within the social factor. These results indicate a similarity among the activities in that they each provide opportunities for, and the enjoyment of, social contact.

Happiness

Table 2.13 presents the mean OHI scores for participants and non-participants and compares their differences (independent samples t-test). With the exception of membership of music societies, participants report marginally greater levels of happiness than non-participants for each of the activities but only for membership of sports clubs is the difference significant, $p < .001$.

Table 2.12 Factor analysis of church, music, sport and TV-soaps scales

	Church		Music
Factor 1	Enjoying company of others present	Factor 1	Feeling uplifted
	Being united with other people		Joy/elation
	Feeling loved		Excitement
	Feeling supported and helped		Bodily well-being
	Joy/elation		
	Positive feelings about life	Factor 2	Enjoying company of others present
	Being at peace with God		Taking part in a shared performance
			Timelessness
Factor 2	Timelessness		Entertainment
	Quieting of the mind		
	Being bathed in warmth and light		
	Sport		**TV-soaps**
Factor 1	Positive feelings towards others	Factor 1	Entertainment
	Positive feelings about life		Being amused
	Enjoyable interaction with others		Feeling relaxed
	Joy/elation		Distraction from worries
Factor 2	Bodily well-being	Factor 2	Enjoying companionship of others watching
	Positive body image		Identifying with characters
	Self-esteem		Joy/elation
Factor 3	Achievement		
	Excitement		

Table 2.13 Mean OHI scores for leisure activities

	Mean OHI values		
Activity	Participants	Non-participants	*t*
Sports	44.0	40.0	-3.58***
TV	41.9	41.4	-1.54
Church	41.8	41.5	-0.23
Music	40.9	41.9	0.79

*** $p < .001$

The OHI scores of all respondents were factor analysed using principal components extraction and Varimax rotation. Seven orthogonal factors with Eigen values > 1 were extracted and Table 2.14 identifies the individual OHI items which comprise each factor. The results are consistent with an earlier analysis conducted on a smaller sample (Argyle & Lu, 1990a). Three OHI items loaded almost equally on two different factors and have been

Table 2.14 Factor analysis of the OHI

Factor	Item	Item label	Identification	Variance explained
Factor 1	A07	good influence on events	Satisfaction with life	28.1%
	A04	in control		
	A03	satisfied with life		
	A20	done things wanted		
	A10	make decisions easily		
	A23	cheerful effect on others		
Factor 2	A21	organise time	Efficacy	7.1%
	A12	wake up rested		
	A15	mentally alert		
	A11	easy to get started		
	A13	feel energetic		
	A25	committed and involved (bis)		
	A10	make decisions easily (bis)		
Factor 3	A09	interested in others	Sociability/empathy	4.9%
	A17	warm feelings for others		
	A25	committed and involved		
	A22	have fun with others		
	A19	joy and elation		
	A24	meaning and purpose		
Factor 4	A14	find beauty in things	Positive outlook	4.3%
	A26	world is good place		
	A05	rewarding life		
	A02	much to look forward to		
	A18	happy past		
	A08	life is good (bis)		
Factor 5	A16	feel healthy	Well-being	4.2%
	A01	feel happy		
	A08	life is good		
Factor 6	A29	find things amusing	Cheerfulness	4.0%
	A27	laugh a lot		
	A22	have fun with others (bis)		
Factor 7	A28	look attractive	Self-esteem	3.6%
	A06	pleased with self		
		Total variance explained = 56.3%		

included in both factors and marked by 'bis' in parenthesis on their second appearance. The seven factors have been interpreted as (1) satisfaction with life, (2) efficacy, (3) sociability/ empathy, (4) a positive outlook, (5) well-being, (6) cheerfulness, and (7) self-esteem. Together, these factors account for 56% of the total variance, of which Factor 1 accounts for 28%. It is worthy of note that the item for the experience of joy/elation loads on the sociability/empathy factor, whereas that for the feeling of happiness falls into the well-being category.

Table 2.15 Intercorrelations among OHI and its factors with leisure participation and mean affect

	OHI	Satisfaction with life	Efficacy	Sociability/ empathy	A positive outlook	Well-being	Cheer-fulness	Self-esteem
Participation in:								
Music	...	...	...	...	...	...	...	...
Church	...	...	...	...	.18**	...	-.21***	-.21**
Sport	.21***	...	...	.16**	...	.12*	.13***	...
TV-soaps	...	...	...	...	...	-.15**	...	...
Mean affect for:								
Music	.23***	...	...	.29***	.16**	...	.19***	...
Church	...	...	...	.19**	.17**	...	-.16*	-.12*
Sport	.35***	...	.14*	.25***	.19**	...	.19**	.15*
TV-soaps	...	...	...	.21***	...	...	.25***	...

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 2.16 Correlations among personality traits and participation and affect levels

	Activity			
Personality trait	Music	Church	Sports	TV
Membership				
Extraversion	...	...	.15*	...
Neuroticism	...	-.19***	...	.14*
Psychoticism	...	-.23***	...	...
Lie-scale	...	...	...	...
Affect levels				
Extraversion	.21***	...	.30***	.25***
Neuroticism	...	...	...	.25***
Psychoticism	...	-.21***	...	...
Lie-scale	...	.17**	...	-.16**

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 2.15 records the correlations between the full OHI and its component factor scores and participation/non-participation in the leisure activities as well as the corresponding mean affect levels. Only those coefficients which achieve a significance level of $p < .05$

have been included. Membership of musical groups has no significant associations, while church membership correlates positively with a positive outlook and negatively with cheerfulness and self-esteem. Membership of sports groups is the only activity which achieves significance on the full OHI. It also correlates positively with the sociability, well-being and cheerfulness factors. The only significant correlation for watching TV soaps is with well-being and its influence is negative.

For the mean affect levels the correlations are more numerous and more significant. There are positive and highly significant associations for music and sport on the full OHI scale. Among the OHI components the sociability and cheerfulness factors appear to be the most affected by leisure, closely followed by 'a positive outlook'. All the leisure affects load positively on sociability and cheerfulness with the exception of church affect, which gives rise to a negative relationship with cheerfulness. Sport loads positively on five of the seven OHI factors and is the only activity which has positive correlations with efficacy and self-esteem.

Personality

Table 2.16 presents the data for correlations between group membership and mean affect levels and the Eysenck traits of extraversion, neuroticism, psychoticism (tough mindedness) and the lie scale (social conformity). There were no significant correlations between membership of musical groups and the personality traits, although there was a highly significant relationship between extraversion and musical affect. Church members were low in neuroticism and psychoticism and the latter finding was paralleled by the result for mean affect level. The mean affect level also correlated with the lie-scale, indicating that church members are more likely to be socially conforming. Extraversion was weakly correlated with membership of sports clubs, although the correlation with mean affect was significant at the highest level. TV watchers tended to score more highly on neuroticism. These results were mirrored in the correlations for affect levels which reached higher levels of significance. Additionally there was a negative correlation with the lie scale, that is those who enjoy TV-soaps tend to be less socially conforming.

DISCUSSION

Each of the four leisure activities chosen for examination in this study has been found to be a source of positive affect for those who took part in it and this is consistent with hypothesis 1. Factor analysis of the measures used to examine the individual activities has shown that each activity has a factor peculiar to itself and these findings are as predicted by hypothesis 2. For example church membership has a 'mystical' factor including the experience of a sense of timelessness. Membership of sports clubs is associated with physical well-being and a positive body image, and the corresponding factor for watching TV-soaps, includes entertainment and relaxation. However, all the activities are similar in that they exhibit a social factor, which suggests that at least for the chosen leisure activities,

much of the pleasure they give comes from the social relationships that they foster, and this is in accord with hypothesis 3. This view is reinforced by the observation that a joy/elation item which was included in each of the four scales was associated with the social factor in every case, except for membership of musical groups.

Despite the very clear evidence that the leisure activities produced positive moods, it was not possible to show, except for membership of sports groups, that participants were significantly happier overall than non-participants, as was predicted by hypothesis 4. Perhaps the reason for this is that our means of estimating happiness, the OHI, is a very broad measure. Hypothesis 5 predicted that happiness would have a number of separate dimensions, and factor analysis of the items of the OHI demonstrated the presence of seven orthogonal factors, which have been detailed in Table 2.14. For an activity to make a significant difference to the OHI score it would need to load positively on a sufficient number of these factors. Participation in sport is the only activity which loads positively on three of the seven factors; and the only one to show a positive association with happiness. Church membership also loads on three factors but two of the loadings are negative; TV has a single negative loading and music does not load on any factor. Therefore it is not surprising that participation in these activities does not appear to influence the overall OHI happiness scores.

The results for the associations between mean affect levels for each of the activities and the OHI factors were more numerous and fewer were negative and this is consistent with hypothesis 6 which predicted that different leisure activities would affect different aspects of happiness. Both music and sport appeared to make highly significant contributions to aggregate happiness in this respect, although church and TV did not. All of the activities loaded significantly on the sociability factor of the OHI, which adds further confirmation to the essentially social nature of these leisure activities. Most of the activities were also associated with cheerfulness and a positive outlook. TV-soap watching correlated with only two of the seven OHI factors, sociability and cheerfulness, and church membership was negatively associated with cheerfulness and self-esteem. It might be argued that the fewer associations with the OHI factors for church going and TV-soap watching could be explained by the fact that these two activities are ones that may be practised in relative solitude.

Hypothesis 7 predicted that different leisure activities would be associated with particular personality traits and that extraversion would be associated with activities which involve social activity. The intercorrelations between membership of specific leisure groups and the Eysenck personality traits as measured by the EPQ supported this hypothesis in general, although none of the correlations for membership of music groups achieved significance. There was a correlation for membership of sports groups with extraversion, $p < .05$. Church membership demonstrates a specific personality profile, characterised by negative associations with neuroticism and psychoticism. This implies that church members are less

anxious than others and also less tough-minded. These characteristics are those that could be fostered by religious belief and practice. It has been claimed elsewhere (Maltby, Talley, Cooper & Leslie, 1995) that low levels of psychoticism (tough-mindedness) are the most characteristic feature of a religious disposition. The watching of TV-soaps is weakly associated with neuroticism.

These findings are consistent with the final hypothesis. The affect correlations are more numerous and generally at greater levels of significance. There are highly significant positive correlations between extraversion and affect levels for music, sports and TV. This is consistent with the finding that the social element is an important source of leisure satisfactions, because extraverts are more likely to engage in social activities, as predicted by hypothesis 7. For music and sports there are no other significant intercorrelations. The results for church affect mirror those for church membership and in addition there is a positive association with the lie-scale, which would suggest that those who feel most positively about church activities will be more inclined to be socially conforming. The watchers of TV-soaps score highly on both extraversion and neuroticism. The positive association with extraversion and the watching of TV-soaps, and the connection with neuroticism are consistent with other studies of TV watching (Lu & Argyle, 1993). These observations are somewhat confusing. The positive association with neuroticism would suggest that regular watchers of soaps inclined towards anxiety, and so might be less likely to seek external social relationships, yet watchers also report higher levels of extraversion, which is normally associated with higher levels of sociability. Perhaps the explanation of this apparent paradox is that the extraversion of TV-soap watchers is parasocial; that is, they may be more inclined to turn to TV for their (imaginary) social contacts, as suggested by Horton and Wohl (1956).■

2.2 USES OF THE INTERNET AND THEIR RELATIONSHIPS WITH INDIVIDUAL DIFFERENCES IN PERSONALITY

220 adult participants completed postal questionnaires to assess the frequency and location of their use of 16 different Internet services. They also completed a battery of scales covering various trait and cognitive aspects of personality. Internet use was wide spread and diverse. The relative popularities and frequencies of use of the different services were established, and it appears that individuals use the Internet most where it is readily and freely available. Gender and age significantly influenced patterns of use, but there were remarkably few significant associations with individual differences in personality when gender and age were controlled for. Exploratory factor analysis of the frequency of use data for individual services revealed the presence of four inter-correlated factors, which have been identified as Work, Social, Use-at-home, and Leisure. A consideration of the overt purposes for using individual services was not sufficient to identify the factors; it was also necessary to take into account the location at which services were accessed. It has been concluded that individuals' use of the Internet can be regarded, at least in part, as a form of displacement activity, engaged in when there is nothing else to do or when the task in hand is not especially attractive.

INTRODUCTION

The availability and use of the Internet has increased exponentially in recent years. Recent estimates suggest that there are some 480 million users globally, of whom just over half do not use English as their language of communication (Global Reach, 2001). In addition to having easy access to information on a great variety of topics, users can communicate with one another world-wide through text messages at little or no cost. This rapid expansion has become the subject of popular debate, particularly in the field of human relationships. There are two dissimilar points of view (Parks & Floyd, 1996). On one hand are those who consider that computer-mediated communication is a new technology that allows the formation of genuine personal relationships, free from the restrictions of age, occupation, proximity and physical appearance. In common with traditional friendships based on face to face interaction, these relationships can provide social support, social identity and a sense of belonging (Rheingold, 1993). On the other hand are those who argue that online relationships are shallow, illusory and sometimes exploitative and hostile (Stoll, 1995). Such interactions compete with, and are established at the expense of, traditional face to face social relationships. More immediate concerns often expressed in the media are the ready availability of sexual material, risks to the young, Internet addiction and claims that the Internet is a cause of depression and social isolation (McKenna & Bargh, 2000). It is also part of the popular view that intensive users of the Internet tend to be young males with limited social skills and little self-confidence (Griffiths, 1996)[2].

So far, the body of original research concerned with the Internet is small and early papers have tended to follow the topical concerns of the media. Morahan-Martin and Schumacher (2000) devised a 13-item scale to assess pathological Internet use, and administered it to some 280 US college students. Respondents who positively endorsed four or more items were categorised as pathologically addicted. According to this criterion, 8% of the sample was addicted to the Internet, and addicts were more likely to be male, socially disinhibited online and to report an increased sense of loneliness. However, it could be argued that the arbitrary criterion for addiction - positive responses to any four of 13 items - was set too low. Other research has reached different conclusions. Young and Rogers (1998) reported that the mean age of Internet addicts was over 30, and that the proportions of addicted men and women were about equal. Döring (1996) found no evidence of above average isolation or loneliness in a study of 350 young German Internet users most of whom were male. In considering these results it should be borne in mind that respondents are frequently self-selected by replying to invitations to participate placed on the Internet. Such invitations are more likely to be seen and responded to by intensive users, and this might produce a biased sample. Griffiths (1999) has argued that the Internet

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[2] *However, reports have recently appeared (see Uhlig, 2000) that 28 million people in the US and 2 million people in the UK have stopped using the Internet, and that teenagers' use has declined in particular.*

may be addictive for "an exceedingly tiny majority". But for the majority, intensive use is purely symptomatic, the Internet is merely "being used as a tool for engaging in other types of rewarding behaviour".

There are other important areas of psychological interest. The Internet has a variety of uses for both work and leisure. Examples are information gathering, exchanging e-mails, posting messages on electronic billboards and participation in interactive groups devoted to specific interests. Each of these channels may have different implications for positive and negative well-being. However, most workers have only assessed Internet use by the total time respondents spent online each week. Similarly, there are few studies of how Internet use is associated with individual differences in personality. Does the use of the Internet make people lonely or are lonely people more likely to use the Internet? Do those people who are anxious about establishing personal relationships prefer to engage in online friendships over which they feel they have more control? Few studies have addressed these issues.

Petrie and Gunn (1998) administered an Internet Use and Attitudes Scale (IUAS) to some 450 male and female users in the UK. Respondents also completed the introversion-extraversion scale from Eysenck's Personality Questionnaire (Eysenck & Eysenck, 1975) and the Beck Depression Inventory (Beck, Ward, Mendelson, Hock & Erbaugh, 1961) and were asked to classify themselves as addicts or non-addicts. There were no significant differences with respect to gender, age or mean IUAS scores between self-defined addicts and non-addicts. There were, however, highly significant relationships between the IUAS scores and extraversion (negatively) and self-reported depression (positively). From these results, the authors concluded that intensive users of the Internet are introverted and more likely to be suffering from depression.

Hamburger and Ben-Artzi (2000) examined whether the use of particular Internet services was associated with some individual personality traits. An Internet-Services Scale (ISS) was devised to assess the frequency of use of 12 different applications of the Internet. This was administered to 72 Israeli students along with the extraversion and neuroticism scales of the Eysenck Personality Inventory (Eysenck & Eysenck, 1964). Analysis of the ISS scale ratings revealed three separate factors: Social Services (membership of chat and discussion groups); Information Services (seeking information for work and study); and Leisure Services (random surfing and sex web-sites). There were several significant correlations between the personality traits and the use of different Internet services. For men, extraversion was positively associated with the use of Leisure Services and neuroticism was negatively related to the use of Information Services. The only significant associations for women, negatively with extraversion and positively with neuroticism, involved the use of Social Services. The authors explained the more frequent use of Social Services by the more introverted and neurotic women in terms of their greater desire for social support. In the anonymous environment of the Internet, such individuals would feel

secure enough to chat with other people in order to reduce their emotional loneliness. The greater use of leisure sites by extraverted men was attributed to their greater need for stimulation and arousal.

The above papers suggest that some aspects of using the Internet are directly or indirectly associated with personality. It is the aim of this paper to make a systematic study of the relationships among intensity of Internet use, Internet service preferences and several individual differences in personality and overall well-being. In particular:

To explore the associations between gender and age and frequency of Internet use.

To develop and characterise a scale of Internet Services Use appropriate to a wide range of UK users.

To investigate the extent to which the use of different Internet services is related to individual personality differences and psychological well-being.

METHOD

Participants

Two hundred and twenty participants (90 men, 130 women) were recruited from residents of Oxfordshire by personal contact with a variety of leisure groups, Oxford Brookes and Oxford Universities and advertisements in public places. Ages ranged from 19 to 84 with a mean of 44.2 (SD = 17.3) years. The respondents were mainly professional: 79% were graduates or undergraduates; 44% employed or self-employed and 20% retired. Most (63%) were living with a partner. No specific efforts were made to attract Internet users, although recipients of the questionnaires who did not use the Internet were positively encouraged to participate in the study nevertheless.

Measures

The Internet Use Scale (IUS) [Question A03, p 191] was compiled from a list of 16 different Internet services, including e-mail and these are listed in Table 2.21. Respondents were requested to indicate their frequency of use of each service on a five-point Likert scale, ranging from 1 ("never") to 5 ("a lot"). They were also asked where they used the Internet, (at home, at college/university, at work, or elsewhere) [question A01, p 191], and how many hours they spent on line each week [Question A02, p 191]. Loneliness was measured by an abridged version of the Social and Emotional Loneliness Scale for Adults (SELSA, DiTommaso & Spinner, 1993) [included in question C, p 192-193] is, a 37-item instrument with three sub-scales measuring romantic, family and social loneliness respectively. The abridged version (12 items) comprised four items from each of the sub-scales. Items were chosen to represent the different aspects of each sub-scale, giving priority to the items originally reported to load most highly on each sub-scale. Two of the four items representing each sub-scale were presented in a reversed form. The abridged scale demonstrated adequate reliability with Cronbach's $\alpha(219) = .80$. Higher scores

represented greater loneliness. These scales were supplemented by the extraversion, neuroticism and psychoticism sub-scales of the short-scale form of the revised Eysenck's Personality Questionnaire (Eysenck, Eysenck & Barrett, 1985) [included in question C, p 192-193], Rosenberg's Self-esteem Scale (SES, Rosenberg, 1989) [included in question C, p 192-193] and the Satisfaction with Life Scale (SWLS, Diener, Emmons, Larson & Griffin, 1985) [included in question C, p 192-193].

With the exception of the IUS, items in the original scales were reworded where necessary as single statements to which participants could respond on a 6-point Likert scale ranging from 1 ("strongly disagree") to 6 ("strongly agree"). Before administration, the individual items of these scales were combined and rearranged in random order to minimise contextual answering (Hills & Argyle, 1998a). In addition to demographic information, respondents were also asked to indicate their level of overall happiness on a ten-point scale. All scales were incorporated into a postal questionnaire which recipients were invited to complete and return anonymously.

RESULTS AND DISCUSSION

One hundred and eighty-three, 83% of all respondents, reported using the Internet, spending an average 7.9 hours a week on line. However this figure was inflated by a handful of heavy users at work; the median time spent on line by all users was 5.0 hours a week. Among users, participants spent most time on line at work, (M = 6.5 hours/week, N = 87) closely followed by users at college or university (M = 5.3 hours/week, N = 86). The greatest number of participants used the Internet at home, but spent less time on line (M = 2.8 hours/week, N = 138) than at work or in educational establishments. Relatively few participants used the Internet in other places, such as public libraries and Internet shops/cafés (M = 0.7 hours/week, N = 22). A significant proportion of those who used the Internet at work spent more than 25 hours a week on line, and it seems reasonable to assume that these high levels of use were work related. Similar considerations could apply to those who study or work in educational establishments, many of which use the Internet as a teaching aid or as a means of disseminating general information. The explanation for the more limited use at home or from public places is almost certainly economic; for these applications, the user pays. In these circumstances, those who are able to do so might well prefer to use the Internet for personal purposes where the service is freely available, at work or in an educational establishment. It would therefore be unsafe to assume that all of the use reported at work, or college/university is work or educationally related.

Use of the Internet was not associated with gender and negatively associated with age, $r(220) = -.55$, $p < .001$, that is, older participants were less likely to be users. Among users, time spent on line was weakly associated with both gender, $r(183) = .23$, $p < .01$, and age, $r(183) = -.16$, $p < .05$, that is, men used the Internet more than women and older people used it less than younger. The explanation for the observed age differences could be that

some older people are less willing to become accustomed to the Internet. Similarly, a fair proportion of older participants were retired people who might not find access as easy as when they were working.

The popularity and frequencies of use of different services are reported in Table 2.21[3]. The most popular services were e-mail to friends, used by almost everyone, and consulting sources of general information, closely followed by e-mails for work and gathering work-related information. Chat groups and on line gaming were the least well used. On average, participants reported using nine different services. It can therefore be concluded that use of the Internet is widespread among adults and that their use is not especially selective.

Table 2.21 Popularity and frequency of use of Internet services

Service	No. of users	Mean frequency of use [a]
e-mail (friends)	178	3.99 ± 1.07
information (general)	170	3.27 ± 1.07
e-mail (work)	160	3.83 ± 1.42
information (work)	128	2.83 ± 1.46
information (studies)	126	2.80 ± 1.47
addresses	114	2.04 ± 1.04
surfing	113	2.10 ± 1.08
shopping	109	1.98 ± 0.98
downloading	108	1.89 ± 0.93
news	103	2.10 ± 1.24
banking	71	1.87 ± 1.25
bill-boards	50	1.48 ± 0.98
mailing lists	48	1.50 ± 0.98
adult	41	1.32 ± 0.71
chat	31	1.25 ± 0.62
games (on line)	23	1.17 ± 0.51

[a] Scale: 1=never, 2=rarely, 3=sometimes, 4=frequently, 5=a lot.

The first order correlations between the frequency of use data for individual Internet services and the trait and cognitive personality variables were calculated. Of the possible 144 correlations, 25 were significant, although modest in size, $r \leq .31$. Of these, however, 16 were positive associations with psychoticism; psychoticism was related to the frequency of use of every service. This unexpected finding was examined further. There are some conceptual uncertainties about the implications of higher psychoticism scores among non-clinical subjects. Eysenck and Eysenck (1975) characterised the psychotic individual as one who is "tough minded", and identified (1976) egocentricity, a lack of empathy and impulsivity among its associated sub-traits. These characteristics could be relevant to the "social disinhibition" that Morahan-Martin and Schumacher (2000) reported to be a feature of the more intensive, male users of the Internet. However, it is known that men tend to return higher psychoticism scores on the Eysenck Personality Questionnaire than women and that

psychoticism scores decrease with increasing age (Eysenck, Eysenck & Barrett, 1985). It was also shown above that men are more frequent users of the Internet than women and that older people use the Internet less than younger people. It was therefore of interest to examine the partial correlations between the individual services and the personality variables controlling for gender and age. Under these circumstances, none of the associations with psychoticism was significant. It can therefore be concluded that the zero-order associations with psychoticism initially found were attributable to demographic differences, and not to any associations between Internet use and individual differences in personality. Similarly it was also possible to test propositions that have been made about women's more frequent use of the social services provided by the Internet, for example chat groups, and the association of this use with increased neuroticism (Hamburger & Ben-Artzi, 2000). In the current study men appeared to use chat groups more than women, $r = .25$, $p < .001$, and among women (N = 104) the use of chat groups was not significantly associated with neuroticism.

Despite the disappearance of the zero-order correlations with psychoticism, there remained a minority (21) of significant partial correlations when the effects of age and gender were controlled for, but all were weak, ranging between pr = -.25 to +.25; that is no significant correlation explained more than 7% of the associated total variance. There were no significant associations between use of any individual services and self-esteem, nor with the aggregate scores of social and emotional loneliness scale. Eight of the associations were with satisfaction with life, all of which were negative. Otherwise there seemed to be no regular pattern in the data, and the remaining associations were small, scattered and equally divided between positive and negative correlations. It therefore appears that Internet use is associated with neither enhanced nor diminished self-esteem or social and emotional loneliness. Most of the significant associations with satisfaction with life were associated with work related Internet services, for example work e-mails, information for work, and the use of mailing lists and billboards. Perhaps the participants in this study take a negative view of these particular services, because they see them as an unwelcome part of work. In order to discover any higher order factors that might better explain the use of the Internet, the frequency of use data for individual services were factor analysed.

The IUS scores formed an internally consistent scale, with Cronbach $\alpha(182) = .84$ and a Spearman-Brown Split-half Coefficient of .83. An exploratory principal components analysis extracted four factors with Eigen values ≥ 1.0, which accounted for 56% of the total variance. The Kaiser-Meyer-Olken measure of sampling adequacy was .83, well above the value of .6 usually considered to be necessary for a good factor solution (Tabachnik & Fidell, 1996). These factors were separately rotated orthogonally (Varimax) and obliquely (Direct Oblimin). In each case, the items that comprised the rotated factors were very similar, although more items loaded on two or more factors in the Varimax solution. To allow

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[3] *All the analyses reported hereafter relate only to Internet users (N = 183)*

for the possibility of inter-correlation among factors, the solution provided by oblique rotation was preferred and is reported in Table 2.22, to which a factor correlation matrix is appended. Inter-factor correlations ranged from -.25 to .29 with a mean value of -.007. The factors have been tentatively identified, in order of their decreasing contribution to total variance, as Work, Social, Use-at-home and Leisure.

Table 2.22 Factor analysis of Internet use

Item	F_1	F_2	F_3	F_4
mailing lists	.79			
information (work)	.71			
bill boards	.60			.38
finding addresses	.58			
e-mail (work)	.55			
news	.48			
downloading	.44			.35
e-mail (friends)		.76		
information (general)		.68		
information (studies)		.66		
surfing		.64		
adult websites			-.75	
banking			-.65	
shopping			-.61	
chat				.71
games on line				.58
Initial Eigen values	4.90	1.71	1.26	1.1
Explained variance (%)	31%	11%	8%	7%
Interfactor correlations				
F_1	...	.29***	-.25**	.05
F_2		...	-.24**	.17*
F_3			...	-.06
F_4				...

* $p \leq .05$, ** $p \leq .01$
F_1 = Work, F_2 = Social, F_3 = Use-at- home, F_4=Leisure
Factor loadings < .35 not shown. ... not significant.

In arriving at this terminology, it was not sufficient solely to rely on the overt purposes of the different Internet services, although this approach worked adequately for the Work and Leisure factors. All of the activities appearing in the Work factor appear to be relevant to work. The activities in Leisure - chat groups and online games as primary loadings with substantial secondary loadings for bill-boards and downloading - are fully consistent with the leisure classification. However, this approach is not adequate for dealing with factors 2 and 3; in factor 2 for example, e-mail to friends does not sit easily with seeking information for studies or surfing. Perhaps the linking theme is not purpose, but a common location. Each of the items in factor 2 are activities that could be carried out easily in an educational/

academic environment, where pressures of time and supervision can be more relaxed than, say, at work. A similar argument can be applied to the items in factor 3.

Internet banking and shopping are usually represented as services available from home and are often advertised as "home-banking" and "home shopping" respectively. Also, adult material can best be viewed at home; institutional networks may block access to adult sites and most have sanctions for those discovered using them. Examining the correlations between the respective factor scores and the amounts of time participants stated that they were on line at work, college/university and home, provided corroboration for the location hypothesis. The greatest correlation with the work factor score, $r = .37$, $p < .001$, was time of Internet use at work. The greatest value for the social factor, $r = .36$, $p < .001$, was associated with time of use at college/university, and the greatest value for home-based services, $r = .-.28$, $p < .001$ was use at home. It is of interest that the favoured location for leisure services was home, $r = .25$, $p < .001$, followed by use at college/university, $r = .18$, $p < .05$ and that the value for leisure services accessed at work did not achieve significance.

Table 2.23 Inter-correlations of Internet factors and demographic, personality and other variables among Internet users

Variables	Factors			
	Work	Social	Home	Leisure
Gender[a]	.16*	...	-.36***	.29**
Age[b]	-.23***	-.53***	.21**	...
Time on line[b]	.45***	.16*	-.21**	.18*
Partial correlations[c]				
Extraversion	...	...	.17*	...
Neuroticism	...	...	...	...
Psychoticism	...	...	...	...
Self-esteem	...	...	...	...
Satisfaction with life	-.27***	...	...	...
SELSA	...	...	...	...
Family loneliness	.15*	...	...	...
Romantic loneliness	...	...	...	...
Social loneliness	.18*	...	...	...
Happiness	-.17*	...	...	...

[a] biserial, [b] bivariate,
[c] partial correlations controlling for gender and age.
* $p < .05$, ** $p < .01$, *** $p < .001$, ... not significant.

Table 2.23 shows the associations between the factor scores of the four IUS factors and the demographic, personality and other variables examined in this study. With respect to gender, men were greater users of work and leisure services, but more women reported using the home-based services. There was no significant gender association with use of the Internet for social purposes. Age was negatively associated with use at work and for social purposes, that is, younger people used these services more intensively, but older people were more likely to be home users. The substantial proportion of participants who were

retired could account for both of these observations. Time on line is associated with all four factors, most strongly with the Work factor, and weakly with the other factors, whose associations are all of similar magnitude. The negative association with home based services, suggests that those who use the Internet least are more likely to be home users. (It has already been suggested that cost is an important in determining the amount of Internet use). To allow for these and any other effects of gender and age, the associations between the factor scores and the personality and other variables were expressed as partial correlations controlling for the demographic variables. Few were significant and none was strong. There was a weak positive association of extraversion with the home based services, which might suggests that extraverts are more willing than introverts to access services from home. All four remaining significant associations involved the Work factor, which was associated with lower satisfaction with life and overall happiness. Although there was no significant correlation with the overall social and emotional loneliness scale, there were weak positive associations with the family and friends subscales, that is, the more intensive users of the Internet at work feel less content with their social relationships. However, in regression, only satisfaction with life was a significant predictor of the work factor score. The reason for this may be that for the majority of those using the Internet intensively at work, its use is non-voluntary, and could be seen as a mechanistic means of control that operates in social isolation, diminishes individual responsibility and is incapable of offering much personal satisfaction.

The above results clearly show that use of the Internet is widespread and diverse among a reasonably sized sample of adult and mostly professional participants. Factor analysis has shown that it is not sufficient to assume that the use of individual services is entirely purpose driven, and none of the uses of the Internet appears to be convincingly associated with any of a range of trait and cognitive personality variables. If neither purpose nor individual differences in personality can account for the wide and varied use of the Internet, what does? The answer may lie in the ubiquity of the Internet. Whatever the prime purpose for accessing the Internet, there is a variety of alternative uses that is instantly available, and Internet Service Providers and their sponsors make great efforts to entice Internet users to explore alternative sites. Therefore, for whatever reason the Internet is initially accessed, there is every inducement to end up doing something else that promises to be more interesting or pleasurable. In a study of leisure motivation, Pelletier, Vallerand, Green-Demers, Blais and Brière (1996) identified "doing something else" (displacement activity) as a valid leisure motivation, and also proposed the existence of "amotivation" to explain activities which appear to be undertaken without any sense of purpose or intent. People appear to be drawn into these activities helplessly and cannot explain why they do them. It is suggested that these ideas could account, at least in part, for the patterns of Internet use observed in this study. Many of the reported uses could be displacement activities, of which surfing is the prime but not only example. Individuals engage in these alternative activities

because they are readily available, attractively presented and appear to be more immediately interesting and gratifying than completing the work originally in hand.

CONCLUSIONS

Internet use was widespread (83%) among the adults who comprised the sample for this study, who averaged nearly eight hours on line each week. Use of the Internet was not associated with gender but older participants were slightly less likely to be users than younger participants. Among users, time spent on line was weakly associated with both gender and age; men used it more than women and younger more than older people.

Sending e-mails to friends was the most popular Internet service, used by almost everyone, closely followed by seeking general information, work e-mails and collecting work related information. Chat groups and on line gaming were the least popular activities. On average, participants each made use of nine different Internet services.

An examination of the zero-order correlations between the frequency of use of individual services and a battery of trait and cognitive personality variables revealed a relatively small proportion of significant associations. None was strong, and the most frequent relationship was with psychoticism. However, these associations disappeared when the effects of age and gender were partialled away. This result provides no support to the suggestion made elsewhere that frequent users of the Internet are socially disinhibited. Otherwise, the significant partial correlations were few, weak and scattered, and exhibited no recognisable pattern.

Exploratory factor analysis of the frequency of use data for individual services suggested the presence of four inter-correlated factors, which were identified as Work, Social, Use at home and Leisure. Although the analysis had good statistical properties, it was not possible convincingly to identify the individual factors by considering the overt purposes of the activities alone. It was also necessary to take account of location, that is, from what kind of environment the Internet was accessed. None of the four factors exhibited a strong association with any of the personality variables.

Given that it was not possible to account for the widespread and diverse use of the Internet by either individual differences in personality or the overt purposes for using individual services, it is suggested that a substantial proportion of Internet use is a form of displacement activity. For much of the time, individuals' use of the Internet can be considered as a form of leisure activity that is used to fill time or to avoid doing something that is seen to be less immediately rewarding. ■

2.3 INDIVIDUAL DIFFERENCES IN LEISURE SATISFACTIONS: AN INVESTIGATION INTO FOUR THEORIES OF LEISURE MOTIVATION

The applicability of several theories of leisure motivation to a range of 36 activities typically undertaken by younger people has been investigated. The theories were Csikzentmihalyi's theory of flow (theory 1), Bandura's theory of self-efficacy (theory 2), Apter's theory of telic and paratelic activity (theory 3) and a general theory of social motivation (theory 4). Participants were 183 young men and women in secondary and tertiary education who completed self-report questionnaires containing scales for the frequency, enjoyment, purpose, social satisfaction, skill, ability and challenge which they associated with activities they had personally experienced. The balance between skill and challenge implied by theory 1 was found to be characteristic of all activities, whether or not they could be expected to generate flow. The data collected in the study provided little support for theory 2. It was possible to distinguish telic and paratelic activities according to theory 3 and to show that the latter were more enjoyable and less purposive. Although theory 4 was not relevant to solitary activities, it was still the most generally applicable and even appeared to account for most of the enjoyment derived from highly purposive activities, which were not otherwise greatly enjoyed.

INTRODUCTION

Leisure may be conceptualised in different ways. Leisure has been defined as what people do when they are not working. Activities become leisure primarily because they are carried out in a period designated as free-time (Brightbill, 1960; Smigel, 1963). This approach may have its limitations in contemporary society when many are not in employment or have retired from productive activity. Some free-time activities may be relaxing or entertaining but are not so easily recognised as leisure. Watching TV, which is a popular free-time activity, may be a good example. Massimi and Carli (1988) found that viewers often reported high levels of boredom and apathy and low levels of intrinsic motivation. Kubey and Csikszentmihalyi (1990) suggest that viewing is similar to idling and daydreaming; undemanding activities which serve mainly to pass time in a drowsy fashion.

Alternative conceptualisations are more directed to the functional and subjective effects of leisure. Kaplan (1975) considered that the functions of leisure include self-determination and the encouragement of commitment, as well as providing opportunities for recreation, personal growth and service to others. Others have suggested that leisure activities have a formative effect on character (Riesman, Glazer & Denney, 1950) and personality (Bogardus, 1934). More recently several studies have identified positive correlations between the enjoyment of leisure and well-being for young adults (Haworth & Hill, 1992), over-stressed workers (Shephard, 1988) and in later life (Kelly, Steinkamp & Kelly, 1988).

But what motivates different individuals to engage in leisure activities? Crandall (1980) factor analysed a large number of self-reports and identified 17 empirical factors, which included achievement, altruism, creativity, self-actualisation and social contact as well as the avoidance of boredom. Neulinger (1981) and Deci and Ryan (1985) have identified the importance of perceived freedom in leisure and have distinguished extrinsic and intrinsic motivations. Intrinsic motivation - doing something entirely for the pleasure of doing it - was shown to be a major characteristics of activities which people define as leisure. Recently, Pelletier, Vallerand, Green-Demers, Blais and Brière (1996) have shown, using LISREL, that leisure motivation can be accounted for by three intrinsic factors - stimulation, accomplishment, and the acquisition of knowledge, three extrinsic factors - social development, the constructive use of free-time, and avoidance of doing something else, and a seventh factor 'amotivation' to account for activities which appear to be undertaken without any sense of purpose or intent. People appear to be drawn into these activities helplessly and do not seem able to able to explain why they do them.

These various studies throw little light on why individuals choose particular leisure activities from among the many that are available. However, there are several theories of general motivation, which may be relevant to leisure and these are discussed below.

Csikzentmihalyi's Theory of Flow

Csikzentmihalyi examined a variety of activities that appeared to be highly enjoyable and intrinsically motivated, such as artistic creativity, work which would be expected to provide great amounts of satisfaction such as composing music, teaching and surgery, and serious leisure activities like rock climbing, chess and dance. He concluded that the main component of enjoyment for such "autotelic" activities was the experience of an intensely rewarding state of deep absorption or "flow" (Csikzentmihalyi, 1988). Individuals experience optimal flow when their perceptions of what there is to do (challenge) and of their relevant capabilities (skills) are equally balanced. Further studies found that a balance of challenges and skills alone was not sufficient to predict the occurrence of flow (Massimini & Carli, 1986). For flow to appear it was necessary for the perceived challenges and skills to exceed a threshold value: when skill and challenge were both at a low level, even if equally balanced, the result was apathy not flow. The flow concept has been applied to the study of several kinds of leisure activities, and in the context of the present study, there are a number of highly skilled or challenging forms of leisure, some of them dangerous, for which this theory could provide a motivational explanation.

Bandura's Self-efficacy Theory

Bandura (1977) proposed that an important source of motivation for any particular activity is the belief that one is competent to perform it at a reasonable level. This competence was defined as "self-efficacy"; a form of environmental mastery based on a personal judgement of one's capabilities. Bandura considered that self-efficacy is generated by past success, vicarious experience of watching someone else, persuasion that "you can do it", or an aroused psychological state. These categories are not mutually exclusive and their relative importance is situation dependent. Self-efficacy influences motivation directly through enhanced commitment and persistence, and indirectly through its influence on goal setting; when self-efficacy is strong, people set themselves higher goals to which they become increasingly committed (Locke & Latham, 1990). Bandura has applied his theory to the treatment of a variety of phobic states and also to expectations of academic success. The theory has also been applied to training in the acquisition of motor skills, particularly those involved in physical activity and some demanding sports, such as diving, gymnastics and muscular endurance (Feltz, 1992) and to adherence to exercise regimes in preventive medicine (McAuley, Shaffer & Rudolph, 1995). There is a substantial amount of evidence that self-efficacy motivates people to believe in the possibility of their improved performance, but whether or not it predicts actual performance is less clear (Roberts, 1992). Similarly, as training progresses, immediate past performance becomes a better predictor of success than self-efficacy (Feltz & Mugno, 1983). Self-efficacy theory is of interest in our study because of its connections with sport and exercise, but it could equally apply to other kinds of leisure which involve personal beliefs about competence.

Apter's Reversal Theory

The idea of psychological homeostasis has often been applied to the explanation of motivation, but there are some behaviours which cannot be explained in this way. They include paradoxical or gratuitous actions which are not apparently necessary for survival nor related to any immediate biological need, of which leisure activities such as entertainment, hobbies and sport are examples. In considering such activities, Apter (1982) distinguished two alternative and reversible motivational states, the "telic" and the "paratelic". The telic state was associated with serious activities directed towards some long-term goal, and the paratelic with activities that were immediate and playful. Both states can be sources of enjoyment, although the nature of the enjoyment is different in each case. In the telic mode enjoyment comes from the anticipation of reaching the eventual goal, whereas in the paratelic state enjoyment is derived from the activity itself and the pleasure and excitement that the activity induces. The theory could allow the categorisation of leisure activities as telic or paratelic, and perhaps explain the intrinsic satisfactions provided by the playful or fun-seeking ones.

Social motivation

Everyday observations indicate that many leisure activities are undertaken in order to make social contacts. Much leisure is enjoyed in the company of other people; indeed, some forms of leisure cannot be pursued alone. Friends spend most of their time together in joint leisure activities, and a wide variety of leisure groups provide social support, "closer than other friendships" for some, and produce high levels of joy at their meetings (Argyle & Lu, 1990b; Hills & Argyle, 1998b). The desire for social contact may be one of the main motivations for leisure. Individuals may seek different specific satisfactions from their leisure, and different individuals may even find different satisfactions in the same activity, for example fun, romance, informed advice or sympathy. Nevertheless, it is possible to recognise some more generic categories of social interaction and relationships. For example (a) close personal relationships as found in churches and voluntary work groups, (b) working together as in sports teams and hobby groups engaged in joint tasks, (c) physical contact as found in dancing and some sports, (d) status and dominance for leaders of leisure groups, (e) public performance, as in the case of musical groups (Hills & Argyle, 1998a) and (f) altruism in voluntary and charity work (Argyle, 1996).

Some leisure activities that appear to be solitary may have a social component. Viewers of TV soap operas and sitcoms may come to believe that they know the characters personally, the latter becoming imaginary friends - the parasocial theory of TV watching (Livingstone, 1988). Church members may relate closely to other church members, but may also feel a personal relationship with God (Kirkpatrick, 1992; Hills & Argyle, 1998b). Gardeners, collectors and other hobbyists who pursue their hobby alone may belong to a

club that meets occasionally, and receive a journal with personal news of others who share their interests. These people too may enjoy a social component in their leisure.

The aim of this study is to examine to what extent the different theories account for the motivations reported for a representative range of leisure activities commonly engaged in by younger people. The study has been focused on younger people because there is a great variety of activities at school or university from which choices can be made. We anticipate that each of the theories will apply to some activities but that no single theory will be universally applicable. In particular:

Csikzentmihalyi's theory will be tested by examining the relationship between skill and challenge; when both are high, there should be greater enjoyment.

Bandura's theory will be tested by exploring the extent to which the feeling that one is good at something influences other aspects of leisure behaviour, such as enjoyment and frequency of performance.

If Apter's theory is applicable, it should be possible to divide leisure activities into two separate groups corresponding to the telic and paratelic states and to distinguish their characteristic features. Paratelic activities should be more enjoyable.

For social motivation we would expect activities, which have a marked social component to be found more enjoyable than others, and performed more frequently. There could be increased enjoyment and a sense of participation in those solitary activities which have a parasocial dimension.

METHOD

Participants

One hundred and eighty-three sixth-formers and first and second year university students, most of whom were psychology students, took part in the study. The mean age of the participants was 19.2 ± 3.1 years and 63% of the participants were male.

Measures

A broad list of 36 common leisure activities was constructed, including some specifically designed to tap the hypothesised motivational roots of leisure [p 190]. The individual activities are listed in Table 2.32. Participants were asked to make seven ratings for each of the activities they had personally experienced in the previous 12 months. The first was for frequency ("on about how many days did you engage in this activity during the last year"). The remaining ratings were made on 5-point Likert scales and covered enjoyment ("how much did you enjoy it?"), purpose ("did you do this mainly for fun, or for some serious purpose, for example self-improvement or physical fitness"), social satisfaction ("how much satisfaction did you get from social relationships with other people in this activity"), skill ("how much skill did the activity require"), ability ("how good do you think you are at this activity") and challenge ("how challenging, demanding or difficult was this activity").

In the pilot exercise for the present study, the ability question was expected to provide a measure of the skill required for each activity. We found that respondents gave themselves high ability ratings for most activities including those that demand little skill, such as listening to radio and watching TV. Respondents were probably rating their capacity to do these things, rather than reporting the amount of skill required. Separate items for ability and skill were therefore included in the final questionnaire.

Design

The investigations were carried out treating the scores for enjoyment and frequency as dependent variables influenced by the purpose, social satisfaction, skill, ability and challenge scores as independent variables. The collected data were condensed for analysis in three ways:

Mean scores were calculated for each of the independent variables averaged over all activities for each participant. These data were used for establishing the effects of gender and age, and the overall associations among the variables.

Activity means were obtained for each of the 36 activities, for each variable, averaged over all subjects. These data were primarily used to group the activities by cluster analysis and for comparing specific activities.

Cluster means were computed for each subject, for each variable, averaged over all the activities contained within a cluster. These data were used to characterise and compare clusters.

RESULTS

Data characteristics

A preliminary examination of the mean scores revealed some gender and age differences. Men report taking part in leisure activities more frequently, $t = -4.43$, $p < .001$, and rate their activities as more skilful, $t = -5.65$, $p < .001$, and challenging, $t = -2.06$, $p < .05$. Enjoyment and social satisfaction appear to be unaffected by age, but the correlations with frequency, purpose, skill and challenge, were all significant and negative. This implies that the leisure activities of older participants are, or are felt to be, less demanding. To correct for these effects, the mean scores data were further examined by partial correlation controlling for gender and age (Table 2.31). The table reveals a complex set of interactions among the variables, some of which are relevant to theories under examination. Frequency is positively associated with enjoyment and with ability, the feeling that one is good at something, and this is consistent with Bandura's self-efficacy theory. Enjoyment correlates positively with both social satisfaction and ability and negatively with purpose, suggesting that the more purposeful activities are felt to be the least enjoyable. This observation may be relevant to the distinction between Apter's telic and paratelic activities. There are several moderate correlations among the independent variables, the largest of which ($pr = .69$, p

< .001) is between skill and challenge, which may have some bearing on Csikzentmihalyi's theory of flow. The social variable is associated with enjoyment and with all the other remaining dependent variables with the exception of purpose and this gives support to the importance of social relations in many leisure activities.

To allow more detailed examination, the activity means of the independent variables in the form of Z-scores were subjected to cluster analysis. Several different methods of cluster formation were explored, all of which gave broadly similar results. The 6-cluster solution provided by the Ward method gave an intuitively compelling grouping of the activities into reasonably sized clusters. Cluster membership, cluster means and the Pearson correlations between frequency and enjoyment are reported in Table 2.32 for each cluster. The effect of frequency might not be uniform across all activities, since for some activities frequency could be externally constrained; the opportunities for taking holidays, travelling, eating out and visiting the theatre are far fewer than for listening to the radio or watching TV. To allow for this constraint, the associations between enjoyment and the dependent variables are expressed as partial correlation coefficients, controlling for frequency.

Table 2.31 Intercorrelations among variable means, controlling for gender and age

Variable	1	2	3	4	5	6	7
1. Frequency	...	.22**	-.07	.04	.17*	.24**	-.02
2. Enjoyment		...	-.28***	.37***	.04	.41***	-.03
3. Purpose			...	-.04	.33***	-.10	.44***
4. Social				...	.21**	.31***	.18*
5. Skill					...	.13	.69***
6. Ability						...	-.01
7. Challenge							...

$p < .05$, ** $p < .01$, *** $p < .001$.

Table 2.32 reveals that some features are common to most clusters. Frequency and enjoyment are significantly and positively related for all clusters with the exception of the political and religious Cluster 6. Purpose is negatively associated with enjoyment throughout and this association is statistically significant for four of the clusters. Ability is positively associated with enjoyment for each cluster and all the partial correlation coefficients are significant at the $p < .001$ level. There is little evidence for any relationship between challenge and enjoyment, with the exception of cluster 6 where the relationship is positive and significant at the $p < .01$ level.

Cluster 1 contains four demanding activities including active and dangerous sports and musical performance, which are characterised by the highest scores for challenge and skill. The reported levels of enjoyment and purpose are also high; that for enjoyment is second among all clusters. Cluster 2 is the largest cluster and contains ten activities. All include a strong social component, and participants returned the highest scores for enjoyment and

social satisfaction for this cluster. Compared with others, these activities are low in purpose, challenge and skill. Cluster 3 comprises mainly solitary activities including hobbies. These are not rated highly for social satisfaction and the correlation between social and enjoyment barely reaches the $p < .05$ significance level. This cluster contains the highest correlations between enjoyment, and skill and ability.

Table 2.32 Cluster characteristics and correlations with enjoyment within clusters

Statistic	Frequency[a]	Enjoyment	Purpose	Social	Skill	Ability	Challenge
Cluster 1 (active sports, dangerous sports, fishing, musical performance)							
M	102	4.18	2.34	3.56	3.67	3.36	3.80
N	172	172	172	172	172	172	172
pr (enjoy)	.20**	-	-.04	.43***	.27***	.32***	.10
Cluster 2 (dancing, eating out, family activities, parties, pubs, holidays/travel, leisure groups, social life with friends, theatre/cinema, watching sport)							
M	64	4.36	1.48	4.00	1.97	3.68	1.97
N	183	183	183	183	183	183	181
pr (enjoy)	.23**	-	-.39***	.45***	-.06	.35***	-.11
Cluster 3 (computer games, craftwork, hobbies, painting/drawing, swimming)							
M	50	3.69	1.98	2.23	3.26	3.33	3.07
N	175	175	175	174	174	174	174
pr (enjoy)	.24**	-	-.17*	.14	.39***	.48***	.14
Cluster 4 (DIY, evening classes, gardening, meditation, exercise, serious reading, sewing)							
M	103	2.87	3.87	2.01	3.35	3.12	3.59
N	178	178	178	176	177	177	176
pr (enjoy)	.18*	-	-.29***	.46***	.11	.34***	.07
Cluster 5 (light reading, listening to music, radio, relaxing, serious walking, TV)							
M	210	4.00	1.80	2.29	1.72	3.68	1.73
N	183	183	183	182	180	179	178
pr (enjoy)	.28***	-	-.13	.10	.08	.31***	.03
Cluster 6 (political activities, raising money for charities, religious activities, voluntary work)							
M	60	2.94	4.00	2.97	2.48	2.83	3.14
N	133	133	132	132	127	124	124
pr (enjoy)	-.09	-	-.22*	.55***	.32***	.45***	27**

[a] The correlation values in the Frequency column are Pearson correlation coefficients.
$p < .05$, ** $p < .01$, *** $p < .001$.

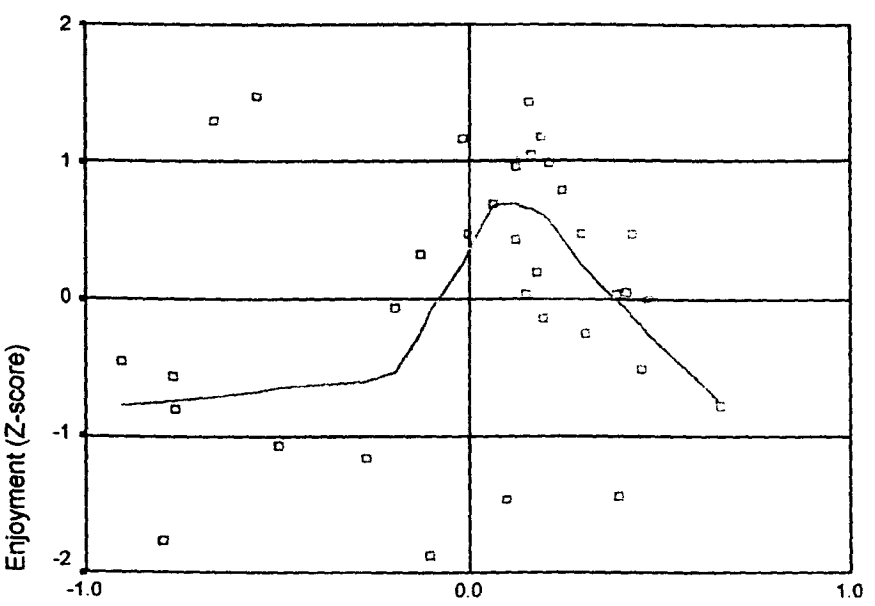
Cluster 4 contains an assortment of goal-directed activities including evening classes, physical exercise and serious reading, and it is not surprising that this cluster is accorded the second highest mean score for purpose. Although the scores for skill and challenge are well above average, neither is significantly associated with enjoyment, probably because this cluster of activities is reported to be the least enjoyable. Cluster 5 is made up of several relaxing activities, for example light reading and watching TV, and these are the activities which are engaged in most frequently, 210 days each year on average. Respondents say

that these activities, along with those of Cluster 2, are the ones they are most good at, although this could be interpreted as the ones they found most easy or requiring least effort. The ratings for skill, purpose, social and challenge were all low and none was significantly associated with enjoyment. Cluster 6, which comprises political, religious, charitable and voluntary activities, ranks first among the clusters for purpose and last but one for enjoyment. The other independent variables each take mid-range values. Each of the independent variables associates significantly with enjoyment, and social and ability have the highest correlations with enjoyment of any of the clusters.

Csikzentmihalyi's Theory

This theory proposes that the motivation for some leisure activities, particularly those that are intensely absorbing, is the experience of an extremely satisfying and enjoyable state of flow. Flow is greatest when the challenge presented by the activity is in balance with the level of skill possessed by the participant. To discover to what extent our data matched the theory, the individual activity means for enjoyment were plotted against the difference between the corresponding scores for skill and challenge. The Lowess technique, LOcally WEighted Regression Scatterplot Smoothing (Cleveland, 1979), an iterative, weighted least-squares method, was used to fit the best representative line to the points of the scatter diagram (Figure 2.31).

Figure 2.31 Lowess plot of enjoyment against skill minus challenge



The line was curvilinear and showed these features.

1. When the difference term was negative (challenge greater than skill), enjoyment was low and relatively stable to changes in the value of the

difference term. The activities involved mainly belonged to clusters 4 and 5 and included serious walking, physical exercise and charitable and voluntary activities.

2. Nearer the zero point (challenge equal to skill) there was a sharp rise in reported enjoyment which reached its highest values when the difference term became positive (skill just greater than challenge). There was a concentration of activities around the peak in the curve, most of which were either highly social (cluster 2), for example going to parties and pubs, or relaxing (cluster 5), such as TV, radio and watching sport.
3. With further increases in the difference term (skill greater than challenge) enjoyment declined. The activities in this phase were mainly from our cluster 3 and included computer games, hobbies, craft work, and painting and drawing. As the difference term reached its terminal value (skill much greater than challenge) the enjoyment scores fell back to the same level as when challenge was much greater than skill.

The pattern of these results is fully in accord with Csikzentmihalyi's theory with respect to the interaction between skill and challenge. Enjoyment is greatest when skill and challenge are in balance and least when either predominates. However, there are some surprises, both in activities which the theory would predict to be the most enjoyable in terms of flow and in the activities which appear as outliers in our results.

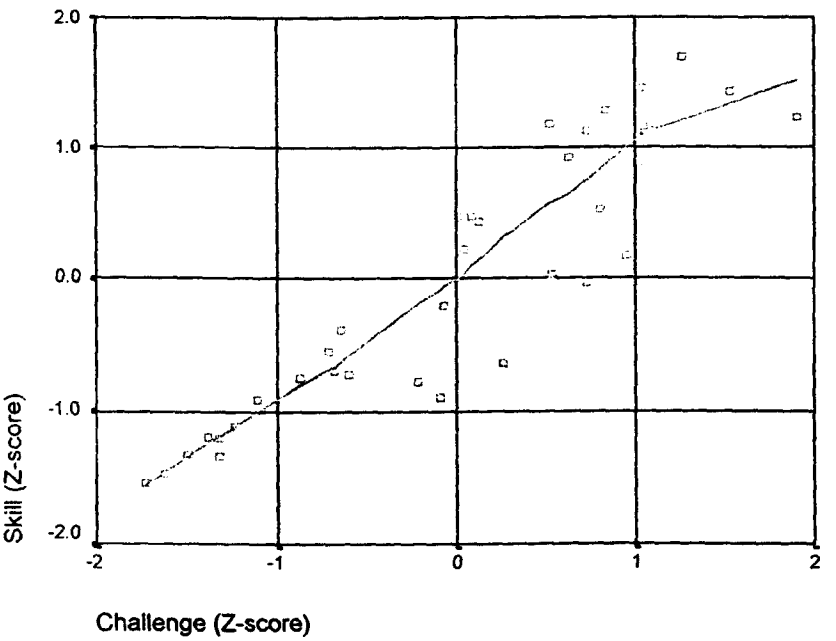
According to the theory, the most absorbing activities would be among the most enjoyable. Our results suggest that the most enjoyable activities are those that are social or relaxing, whereas the absorbing activities from cluster 3 like hobbies, crafts and computer games, are less enjoyable and characterised by a mild excess of skills over challenge. (The concentration of highly enjoyable social activities around the peak of the enjoyment curve could even have been responsible for the appearance of the peak. To check that the shape of the curve was not an artefact, the curve was replotted omitting the activities in social cluster 2. The shape of the curve hardly changed.)

Among the outliers, an extreme case is dangerous sport, for which respondents report challenge greatly to exceed skill, yet it proved to be one of the most enjoyable activities included in our study. Religious activity is another outlier. This activity is almost identical to dangerous sport in the reported difference between challenge and skill, yet was felt to be much less enjoyable. Skill and challenge are reported to be more or less equal for active sport, going to the cinema, serious reading and attending evening classes. The first two are reported to be highly enjoyable, the last two are not.

The divergencies from the theory could be explained by activity-specific considerations. For example the extreme enjoyment reported for dangerous sports such as bunjee jumping, could be due to the "buzz" derived from undertaking an activity which comprised pure

challenge to which no skill could be relevant. However most of the deviations are for activities in our clusters 4 and 6 which are characterised by high scores for purpose and relatively low enjoyment. To minimise the extent of confounding with these and other independent variables, the skill and challenge means for each activity were plotted against one another (Figure 2.32).

Figure 2.32 Lowess plot of skill against challenge



The figure shows that individual activities were distributed around a virtually linear Lowess plot passing through the origin. For our sample of common leisure activities, skill and challenge were always in balance whether or not they would be expected to induce flow. The figure also explains the distribution of the activities with respect to enjoyment. The activities respondents reported to be the most enjoyable, those involving relaxation or social relations, occur in the lower left quadrant which is characterised by low means for both skill and challenge. However, all of the absorbing activities which would be expected to induce flow, such as hobbies, crafts and painting and drawing occur in the upper right quadrant and are characterised by high scores for skill and challenge. This result does not support the finding (Massimini & Carli, 1986) that activities which are low in skill and challenge induce apathy. The two activities that are seen to demand the highest skill and challenge are dangerous sports and musical performance, whereas the least demanding in these respects is watching television. The latter observation parallels the results of Kubey and Csikszentmihalyi (1990) who found that TV watching was the activity most consistently identified with relaxation and was seen to demand only minimal effort from its participants. The authors concluded that TV-watchers were often in a state somewhere between being awake and being asleep.

The observation that the skill and challenge scores are about equal for all of the activities examined in this study may seem to conflict with the conclusions from Figure 2.21 which are based on there being numerical differences between the scores. In fact, these two conclusions are not contradictory, as can be seen by considering the relative magnitudes of the scores and their differences. The overall mean score for skill is 2.66, for challenge 2.73, but the corresponding figure for the difference between them is only -.07. In other words, figure 2.21 is based on the relatively small differences between the two much larger and almost equal numbers that are the basis of Figure 2.22.

Bandura's Theory

The theory states that believing that one is good at something is an important motivation for doing it; "you can do it if you have enough confidence". This suggests that the theory might best apply to activities normally seen as difficult or requiring great effort. The leisure activities included in our study are intended to be ones that are commonly engaged in and there are few that are so demanding. We would not expect this theory to be universally applicable, but it could apply to activities that are seen to demand above average skills, such as active sports and musical performance. Our ability variable, "how good are you at the activity?" should approximate to self-efficacy and we have assumed that a high personal motivation would result in greater enjoyment or more frequent performance. The individual activity means were divided into two equal groups of low and high skill respectively. The partial correlations of ability with enjoyment for both groups were then calculated, controlling for the effects of challenge, social and purpose. There was a strong association between ability and enjoyment for the low skill group, pr = .86, $p < .001$. However, for the high skill activities to which the theory would be expected to apply most strongly, the association with ability did not achieve significance. The partial correlations between ability and enjoyment, controlling for the effects of the other independent variables, were also calculated for some individual activities. Of particular interest was a comparison of the values for active sport, pr = .27, $p < .01$, with watching sport, pr = .42, $p < .001$, and of performing music, pr = .08 (ns), with listening to music, pr = .27, $p < .01$. The result for active sport is in line with the theory, but that for performing music is not. It was anticipated that the theory would apply to both activities because each requires training to acquire relevant skills. The finding that the correlations between ability and enjoyment were larger for the passive than for the active forms of the activities is most surprising.

Apter's Theory

The collected data are not appropriate for testing the main tenets of Apter's theory with respect to states of high and low arousal and the postulated reversals between them. However, they are suited to the identification of telic activities (TAs) and paratelic activities (PTAs) among the activities, and to their characterisation in terms of the other reported variables. By definition TAs are highly purposeful. The ten most purposeful activities in our

data set of activity means, arranged in order of descending rank were: (1) serious reading for study, (2) collecting money for charities, (3) political activities, (4) religious activities, (5) voluntary work, (6) DIY, (7) gardening, (8) evening classes, (9) meditation and (10) physical exercise. Most of these activities fall within our clusters 4 and 6. They include some altruistic pursuits and in every instance, the activity is directed to a goal that is not immediate. The ten least purposeful activities arranged in descending order of rank were: (36) computer games, (35) theatre and cinema (34) parties, (33) pubs, (32) listening to music, (31) social life with friends, (30) fishing, (29) eating out, (28) holidays and travel, and (27) watching sport. Most of these activities comprise our cluster 2, and their purpose would appear to be immediate gratification with particular emphasis on social relationships.

To determine to what extent TAs and PTAs differed with respect to other variables, the means of the 15 most and least purposeful activities were compared by independent samples *t*-tests (Table 2.33). Although PTAs are engaged in more frequently, the difference in the frequency means was not significant, and it has already been observed that the frequency variable may be externally constrained. TAs are reported to be substantially less enjoyable than PTAs and the difference is highly significant, $p < .001$. Respondents consider that they are better at PTAs and although the difference in means is not substantial, it is significant at a similar level. TAs are considered to be 50% more challenging than PTAs, $p < .001$, and are reported to require some 50% more skill, $p < .01$. PTAs are seen to be more socially satisfying than TAs, but the difference in means only just achieves significance, $p < .05$. Given the highly social nature of the activities which comprise our sample of PTAs this was not expected, and suggests that highly purposeful activities which are either altruistic or directed towards some distant goal of self-improvement might, to some extent, still be socially motivated.

Table 2.33 Characteristics of telic and paratelic sctivities

	Least purposeful		Most purposeful		
Variable	mean	SD	mean	SD	*t*
Frequency	99.8	98.0	60.2	57.1	1.3
Enjoyment	4.2	0.4	3.2	0.5	6.0***
Ability	3.5	0.4	3.1	0.3	4.1***
Challenge	2.2	0.9	3.3	0.4	-4.2***
Skill	2.2	0.8	3.1	0.7	-3.5**
Social	3.3	1.0	2.6	0.7	2.4*
Purpose	1.4	0.2	3.5	0.7	-11.3***

$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Social Motivation

None of the theories so far considered has included social motivation. In other studies we have found that leisure activities are an important source of positive moods and that they

are often mediated by the opportunities they provide for the enjoyment of social relationships. In the present study, Table 2.31 provided evidence of several significant associations involving social satisfaction, and the correlations reported between social satisfaction and enjoyment were highly significant and substantial for several clusters. Simultaneous-entry multiple regression was used to estimate the predictive strength (β) of the cluster means of each independent variables for enjoyment in each cluster (Table 2.34). The social variable is among the main predictors of enjoyment, together with purpose and ability. Challenge is not a significant predictor of enjoyment in any of the clusters and skill is only significant for cluster 3, which is mainly made up of hobbies. Social is not a significant predictor in cluster 3 either nor in cluster 5 which includes relaxing activities which are predominantly solitary. Otherwise social is a significant predictor in each of the four remaining clusters, and these four clusters account for 27 of the 36 activities included in the study. The predictive effect of social is greatest in cluster 6, which contains the majority of the purposeful activities. These were not seen to be particularly enjoyable by the respondents, which implies that the social aspects of these activities are responsible for most of the reported enjoyment.

Table 2.34 Independent Variables as Predictors of Enjoyment

	Independent Variable βs				
Data Set	Purpose	Social	Skill	Ability	Challenge
Cluster 1	-0.11	0.35***	0.09	0.28***	0.05
Cluster 2	-0.28***	0.32***	0.05	0.23***	0.02
Cluster 3	-0.24***	-0.03	0.26***	0.41***	0.07
Cluster 4	-0.30***	0.28***	-0.02	0.33***	0.12
Cluster 5	-0.09	0.10	0.13	0.31***	-0.05
Cluster 6	-0.27***	0.46***	0.08	0.15***	0.08

*** $p < .001$.

DISCUSSION

There are several theories which might explain how leisure is motivated and it was the aim of the study to test how far they applied to a wide range of leisure activities commonly engaged in by young people. The focus of attention was on individual choices of activities, so the study is based on the analysis of variables chosen to be theoretically relevant, which participants scored for each of the activities. The first step was to see if the activities could be partitioned into groups using the variables intended to assess the theories. Cluster analysis provided an intuitively satisfactory 6-cluster solution and each cluster appeared to be theoretically homogeneous. The groups of activities in these clusters can be described as active/demanding, social, relaxing, hobbies, serious/solitary and serious/social.

Enjoyment and frequency of participation were treated as dependent variables. The correlation between them was significant though not strong, $r = .22$, $p < .01$. In general,

enjoyment was more closely associated with the independent variables than was frequency. The probable reason for this is that frequency of participation is only partly under individual control; for example holidays and travel depend on the available opportunities, their cost, and on other people. Subsequent analyses were therefore mainly based on the interactions of the independent variables with enjoyment.

Csikszentmihalyi proposed that the deep satisfaction obtained from challenging activities arises from the state of flow produced when challenge and skill are both high and equally matched. The activities with highest scores on these two variables were dangerous sports and musical performance, and the lowest was TV watching. It was confirmed by graphical analysis that enjoyment was greatest when skill and challenge were similar in strength, although the activities for which this was the case were as much social or relaxing as challenging. Activities like hobbies, painting, drawing and computer games, which we anticipated would fit the theory best, proved less enjoyable. Although these activities were associated with high levels of both skill and challenge, respondents rated the skill involved as greater than the challenge. Further graphical analysis found that the plot of challenge against skill approximated to a straight line passing through the origin. In other words, for the range of activities studied, challenge and skill are always about equal. From this we conclude that people are selective in their leisure, and choose those activities for which they feel they already have the skills to deal with the level of challenge involved. Dangerous sports are anomalous. Some demand great skill (mountaineering), others do not (bunjee jumping). Perhaps their special appeal, and the intense enjoyment they appear to induce, is based on the desire for self-mastery or the conquest of fear.

Using reported enjoyment as a measure of motivation, the link between ability, or self-efficacy, and motivation predicted by Bandura's theory appeared to be greater for unskilled activities to which the theory would be least expected to apply. However, the extensive literature associated with the theory makes scant mention of enjoyment. Manderlink and Harackiewicz (1984) tested some goal-setting aspects of the theory with enjoyable word games. Bram and Feltz (1995) hypothesised that encouragement in the form of statistical feedback on performance would lead to greater enjoyment, satisfaction and persistence for young baseball players. In the former instance, the results were not fully in accord with the theory and in the latter, the hypotheses were not supported. Elsewhere the theory has been found useful in explaining the motivation to persevere with successive stages of training for highly demanding physical activities, but it has not been applied to the ultimate satisfactions derived from practising such activities at the high levels of expertise demanded in, for example, gymnastics. These satisfactions could be equally highly specialised and may only be sought by individuals who are excessively competitive or are seeking to demonstrate their self-mastery in extremely demanding situations. Such people will be few in number and we would not expect to find many of them among our respondents, who appear to favour enjoyable leisure activities which are not too demanding. Under these circumstances, the

apparent non-applicability of Bandura's theory to the activities included in the present study is not surprising.

Apter's theory suggests that activities are either telic (goal-directed) or paratelic (pursued just for the enjoyment of doing them). The second group would correspond to the purest form of leisure, and the theory offers some explanation of these. When we divided activities into the most and least purposeful, it was found that the paratelic ones were rated as being more enjoyable, more social, less challenging and needing less skill, which supports the theory. An important feature of paratelic activities is their social nature, and this is central to our fourth theory.

We have found in other studies that leisure activities often involve friends and meet various social needs (Argyle & Lu, 1990b, Argyle & Lu, 1995). In the present study we found that social motivation correlated with enjoyment overall, and within four of the six clusters. The exceptions were the hobbies cluster 3 and the relaxation cluster 5, both of which are predominantly solitary. Otherwise, the social variable was a statistically significant predictor of enjoyment for 27 of the 36 activities examined. Surprisingly, the social variable was the strongest predictor in the serious leisure cluster 6, which included religion and voluntary work, activities which were reported to be among the least enjoyable. We had expected to find a parasocial effect for TV watching and reading novels, but this was not substantiated by the results.

Acknowledgements. We should like to record our thanks to Tina Cartwright of the University of Bath, Elizabeth Dawson of Blackwell's Oxford, Andrew Reeke, Director of Studies, Radley College and David Wickens, Leader of the Enigma Youth Group, Abingdon, for facilitating the distribution and completion of questionnaires. ■

3 ASPECTS OF RELIGION

3.1 Religious experiences and their relationships with happiness and personality

3.2 Musical and religious experiences and their relationship to happiness

3.3 The influence of religiosity upon attitudes to work

3.1 RELIGIOUS EXPERIENCES AND THEIR RELATIONSHIPS WITH HAPPINESS AND PERSONALITY

Three hundred and sixty-four adults, of whom 46% were church members, participated in a study of mystical/religious experiences. They also completed measures of happiness, some trait, cognitive and other personality variables, and items intended to form an improved measure of religious affect. Church members reported twice as many experiences as non-members and their experiences were predominantly mild. This lends support to Pratt's (1920) prediction that the religious experiences of ordinary church people would be commonplace and mild rather that intense. However, the ratios of mild to intense experiences were similar for church members and non-members and it was not possible to show that greater happiness was associated with the mild experiences of church people, as Pratt also predicted. Analysis of the new measure showed that religious affect comprises immanent, social and transcendent factors. The immanent and social factors relate most closely to church membership, whereas the transcendent factor is associated with mystical experiences. There were few associations between church membership or mystical experiences and the personality variables, and those that were significant were weak. The participants' neuroticism and psychoticism scores provided no support for James' (1902) suggestion that some form of psychological distress is associated with mystical experience.

INTRODUCTION

Exceptionally devout individuals of many faiths have reported ecstatic experiences. William James (1902) studied the experiences of the medieval Christian mystics and other famous religious individuals and concluded that they were induced by some kind of psychological disharmony. Spilka and McIntosh (1995) reported that many who have such experiences were previously in some form of distress such as depression, fear, dread, feelings of sin or a crisis of meaning. But there may be other forms of religious experience. Pratt was the first to draw attention to a milder type that was neither ecstatic nor extreme, and was more characteristic of the experiences of ordinary religious people. These experiences were often vague and difficult to articulate and he proposed that they originated from a region of consciousness that he described as "the feeling background". He also proposed that "mild mystics" would not be mentally disturbed and would be happier than those who had not undergone such experiences: "The two classes... [of religious experience]... might be called the mild and extreme type. The former is commonplace and easily overlooked, and is never carried to extremes. The other type is usually so striking in its intensity and in its effects that it attracts notice and is regularly regarded as a sign either of supernatural visitation or of a pathological condition." (Pratt, 1920. p. 339).

Subsequent work has provided empirical support for the widespread occurrence of mystical experiences. Greeley (1975) asked a US national sample (N = 1467) "Have you ever felt as though you were very close to a powerful spiritual force that seemed to lift you out of yourself?", to which 35% of the respondents gave a positive reply. Such events were relatively infrequent; 18% of the sample had only experienced them once or twice and 12% several times. Only 5% claimed that they had experienced the events often. The Bradburn (1969) subjective well-being scale was also administered and religious experience was found to correlate positively with positive affect (r = .34) and negatively with negative affect (r = -.34).

The work was extended (Hay & Morrisey, 1978: Hay, 1979) to the UK (N = 1865) and to Australia (Hay, 1990). In addition to the Greeley question, respondents were asked "Have you ever been aware of or influenced by a presence or power, whether you call it God or not, which is different from your everyday self?" The results were similar to those of Greeley, with 36% responding positively to the British question and 30% to the Greeley version, although the positive relationship between the experiences and well-being was weaker for the British sample. Hay (1982) also found that the experiences were mostly of short duration: 51% said that they lasted for a few seconds to 10 minutes, 23% up to a day, 9% up to a month and 6% up to a year or longer.

Neither of the above survey questions implies a specifically religious interpretation. The studies were carried out with large samples intended to be representative of the populations of Australia, the UK and the US. If extrapolation is valid, then the events have been

experienced at one time or another by about one-third of the corresponding populations. This is probably greater than the proportion of active, frequent and regular adherents to religious groups in the same populations. In a more general study of religious consciousness, Wuthnow (1978) asked a randomly selected sample of US citizens, (N ~ 1000), living in and around San Francisco, to identify the sources of their mystical experiences: 82% identified the beauty of nature, 50% contact with something holy or sacred, and 39% a feeling of harmony with the universe. Greeley (1975) explored the situations that appeared to act as triggers for mystical experience and found that the most influential was listening to music (49%), closely followed by prayer (48%) and the beauties of nature (45%). There were other religious stimuli in addition to prayer, such as attending church services (41%), listening to a sermon (40%) and reading the Bible (31%). Nevertheless, not all the reported stimuli were ostensibly religious, for example reading a poem or novel (21%), childbirth (20%) and sexual activity (18%). There is also contemporary evidence of an increasing mystical tendency in some groups of people. For example, some scientists, who would be expected to adopt a rational way of thinking, appear to be able to accommodate to mystical forms of expression. Ghose (1998) quotes the biologist Ludwig von Bertalanffy who described "peak experiences of great unity and liberation from ego boundary: in moments of scientific discovery I have an intuitive insight into a grand design". Some caution may therefore be necessary in interpreting accounts of mild mystical events exclusively in religious terms.

Nevertheless, a connection between mystical and religious experiences is widely accepted. Jung (1938) considered that the numinous (Otto, 1917), an awareness of something outside the self which transcends space and time, is the immediate source of a religious attitude. Subsequent studies allowed further distinctions to be made between the transcendent and religious elements in mystical experience. Hood (1975) constructed a 32-item, self-report scale derived from a list of the features considered by Stace (1960) to be important and universal features of mystical experience in all traditions. Factor analysis of this scale produced two factors. One factor, general mysticism, contained immanent items that related to a relationship between the Divine and the self, such as subjectivity, ego loss and the experience of unity with God. The other factor, religious interpretation, contained transcendent items such as awe and awareness of an ultimate reality outside of the self. Subsequent reanalysis of Hood's Mysticism Scale (Caird, 1988) distinguished two sub-factors in religious interpretation, respectively described as religious insight and a sense of the holy.

There are however other possible components of mystical experience that are not represented in Hood's scale. Anthropologists have emphasised the social element in mystical experience, and Turner (1969) has drawn attention to communitas, the feelings of love, equality and fusion with others, experienced by participants in the liminal state of some primitive rituals. Similarly, Pahnke (1966) used the psychedelic drug, psilocybin, to induce

mystical experiences in a group of theological students. After a period of six months and in comparison with a control group, the test group reported significant positive changes in their attitude towards others. In addition, a variety of sensory features may accompany mystical experience. Greeley found that those who reported mystical experiences commonly described them as "a sensation of warmth or fire", or "being bathed in light", and that this was the strongest predictor of positive affect. Hardy (1979) also reported the experience of light and visions among a substantial minority (18%) of his participants.

Against this background, the intention of this study is to conduct an empirical examination of the mystical experiences of ordinary people and to characterise such experiences in terms of their correlates with personality and happiness. Particular aims are:

1. *To explore the incidence and intensity of mystical experiences and their relationships with religious orientation.* Evidence that mild experiences were more frequent than intense experiences, and that church members experienced mild events more often than non-members, would provide support for Pratt's theory of mild religious experience.
2. *To devise a new religious affect scale* that may allow the better identification of the factors that characterise mild and intense experiences for those who have a religious background. It would be particularly useful to discover the extent to which social and sensory elements contribute to religious affect.
3. *To examine any relationships between mystical experience and self-reported happiness.* Pratt's theory would suggest that greater happiness would be associated with the mild experiences of religious people.
4. *To investigate any associations between church membership, mystical experiences and several individual differences in personality.* If mental distress is a precursor of religious experiences, then experiencers might demonstrate higher scores for neuroticism and psychoticism than non-experiencers.

There is some terminological crossover in the literature of the various terms used to describe mystical experiences. To assist semantic clarity, the following definitions (after Smith, 1998) will be adopted in the present study. Mystical will refer to any awareness or experience of a being, power or force that is independent of the self, irrespective of the way the being, power or force is perceived or interpreted. This definition subsumes religious experiences, which are treated as the mystical experiences of religious people or mystical experiences that are otherwise given a religious interpretation. Immanent will refer to any aspect of mystical awareness or experience that is at least partly identifiable with some reality within the world such as the self or man. Transcendent will refer to any aspect of mystical awareness or experience that reaches beyond, and is viewed as distinct from, any finite realities such as the self, man or world order.

METHOD

Participants

Three hundred and sixty-four participants (127 men, 237 women) were recruited from residents of Oxfordshire by personal contact with a variety of church and leisure groups, Oxford Brookes and Oxford Universities, and by advertisements in public places. Ages ranged from 18 to 83 with a mean of 41.8 (SD = 17.2) years. The respondents were mainly professional; 68% were graduates or mature students, 47% were in full or part-time employment and 19% retired. Most (60%) were living with a partner. One hundred and sixty-seven (46%) were church members. Participants were not asked to identify their denominational affiliations, but we would expect the majority of church members to belong to Anglican churches with a central tradition of worship.

Measures and Procedure

Religious affect was measured by a specially constructed scale of 25 6-point items. The scale included some of the items from Hood's (1975) Mystical Experience Scale supplemented with items intended to assess possible transcendent, immanent, social and sensory components. Respondents were asked to rate "the intensity of their personal feeling" for each of the items [g1-25, pp 171-172] that are listed in Table 3.12. The scale demonstrated high internal consistency with a Cronbach α of .96 (N = 169); the split-half reliability was also satisfactory with a Spearman-Brown coefficient of .95. Happiness was measured by the Oxford Happiness Inventory (OHI; Argyle, Martin & Lu, 1995) modified to contain a balanced number of positive and negatively phrased items. This 29-item scale [included in 001-226, pp 177-181] demonstrates high reliability over time, and good validity against friends' ratings. Extraversion, neuroticism, psychoticism and lie-scale scores were obtained using the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975) [included in 001-226, pp 177-181]. Other scales were the Preference for Solitude Scale (Burger, 1995) [included in 001-226, pp 177-181], Rosenberg's Self-esteem Scale (Rosenberg, 1989) [included in 001-226, pp 177-181], the Empathic Tendency Scale (Mehrabian & Epstein, 1972) [included in 001-226, pp 177-181], the Life Orientation Test - a measure of dispositional optimism, (Scheier & Carver, 1985) [included in 001-226, pp 177-181] and the Life Regard Index - a measure of both purpose in life as represented by the existence of a set of life goals and of the extent to which an individual feels that he has fulfilled them (Battista & Almond, 1973) [included in 001-226, pp 177-181]. Affiliative Tendency was measured by appropriate items taken from the Jackson Personality Research Form (Jackson, 1984) [included in 001-226, pp 177-181]. To ensure uniformity of presentation, items in the original scales were reworded as single statements to which participants could respond on a uniform 6-point Likert scale ranging from "strongly agree" to "strongly disagree". Participants were also asked "Have you ever been aware of or influenced by a

presence or power, whether you call it God or not, which is different from your everyday self?". Other questions covered the frequency, duration and intensity of reported mystical experiences.

The questionnaire was administered in two parts some 12 months apart. Two hundred and thirty-one responses were received for the first, which contained the religious affect scale, and 273 for the second, which contained the questions on the frequency and intensity of mystical experiences. Both questionnaires included all the remaining scales. One hundred and forty participants completed both questionnaires.

RESULTS AND DISCUSSION

Incidence and Intensity of Mystical Experiences

Table 3.11 reports the incidence, intensity, frequency and duration of mystical experiences for church members and non-members.

Table 3.11 Prevalence and intensity of mystical experiences

Variable	Church members	Non-members	Total
Incidence of experience (N = 254)			
Yes	89 (75%)	52 (38%)	141 (56%)
No	29 (25%)	84 (62%)	113 (44%)
	118(100%)	136 (100%)	254 (100%)
Intensity of experience (N = 138)			
Mild	19	20	39
Quite strong	44 (76%)	16 (71%)	60 (72%)
Fairly intense	15	11	26
Extremely intense	9 (24%)	4 (29%)	13 (28%)
	87 (100%)	51 (100%)	138 (100%)
Frequency of experience (N = 141)			
Once or twice	31	24	55
Several times	31	24	55
More often	27	4	31
Duration of experience (N = 138)			
Up to 10 minutes	50	32	82
Up to a day	16	12	28
Up to a month	6	0	6
Longer	15	7	22

Overall, 56% of respondents report a mystical experience and the incidence of experiences is higher among church members (75%) than non-members (38%); χ^2 (1, N = 254) = 35.4, $p < .0001$. The overall figures are substantially greater than others have found, which may be due to the high proportion of church members in our sample. However, the proportion of non-members reporting mystical experiences is similar to that recorded for large national samples, for example, 35% by Greeley (1975). Mystical experiences can be facilitated by a variety of relatively mild techniques and disciplines including meditation

(Haynes, Herbert, Reber & Orme-Johnson, 1977), hypnosis (Aaronson, 1968) and exposure to special environments (Hood, 1995). It has also been reported (Greeley, 1975) that a number of the more powerful "triggers" of mystical experiences are religious, for example, church services, prayer, bible reading, sermons and being alone in church. A reasonable explanation for the greater frequency of mystical experiences among church members could be that they more often engage in activities, or find themselves in environments, that are conducive to mystical experience. It may also be that they are more inclined to recognise and accept mystical experiences as a result of their knowledge of similar events through sacred writings and religious teaching.

When the intensity of experience data were aggregated above and below the centre of the measure, 72% of the reported experiences tended towards "mild" and 28% towards "intense", that is mild experiences outnumber intense experiences by about three to one. This finding is consistent with Pratt's (1920) proposition that the experiences of ordinary religious people would be characteristically mild, rather than intense. However, there is little difference in the relative intensities of experiences reported by church members (76% mild) and non-members (71% mild); the corresponding χ^2 value does not achieve significance. It would therefore appear that although church members report the majority of mild experiences, a high ratio of mild to intense experiences is not characteristic of church membership.

Mystical experiences are relatively infrequent. Only 22% of participants had experienced mystical events more than several times in their lives. But it interesting to note that church members account for virtually all reports of more frequent experiences. Mystical experiences are also quite short; most last for up to 10 minutes and 80% of all experiences do not last longer than a day. Longer experiences are almost equally distributed between church members (17%) and non-members (14%). The picture that emerges from the above comparisons is one of qualitative uniformity in the nature of mystical events experienced by church members and non-members. The main difference is in quantity; church members have twice as many experiences as non-members.

Factor Analysis of the Religious Affect Scale

The scores for the items comprising the religious affect scale were factor analysed using principal components extraction followed by Varimax (orthogonal) rotation. A three-factor solution was accepted since this afforded interpretable factors. To ensure maximum relevance to religious affect, analysis was restricted to those who were either members of churches, or non-members who reported a spiritual experience (N=124). Every item of the scale loaded on one or other of the three factors and five items loaded on more than one factor when a cut-off value of 0.45 was applied. The value of the Kaiser-Meyer-Olkin measure of sampling adequacy was .92, well above the value of .6 usually considered to be

the minimum for a good factor analysis (Tabachnick & Fidell, 1996), and the three factors accounted for 63% of the of the total variance. The results are summarised in Table 3.12.

Table 3.12 Factor analysis of the religious affect scale

Item	Item label	F_1[a]	F_2	F_3
G19	contact with God	.82		
G25	being at peace with God	.80		
G12	feeling supported and helped	.74		
G11	feeling uplifted	.72		
G13	feeling loved	.72	.46	
G14	feeling "at home"	.72		
G03	refreshment	.68		
G07	obtaining guidance	.66		
G09	joy/elation	.65		
G05	positive feeling about life	.65		
G20	calmness	.62		.48
G16	excitement	.59		
G04	quieting of the mind	.57		.52
G18	enjoying company of others present		.81	
G22	being united with other people		.78	
G23	being part of a family		.75	
G06	opportunities to help others		.61	
G02	taking part in a shared performance		.61	
G17	enjoying familiar practices		.57	
G15	experiencing a unifying vision	.49	.49	
G01	timelessness			.78
G08	loss of sense of self			.66
G21	bodily well-being			.56
G24	being bathed in warmth and light		.49	.56
G10	glimpsing another world			.54
Cronbach's α		.95	.95	.79
Variance explained		49.6%	7.0%	6.1%

All factor loadings ≥ .45 are shown
[a] Factor labels: F_1, immanent; F_2, social; F_3; transcendent

Factor 1 included all the immanent items, for example "contact with God" and "being at peace with God", along with items related to the emotional response thereto, "feeling loved" and "feeling supported and helped". The "joy/elation" item which is usually considered to be the principal dimension of happiness Izzard, 1977) appears in this factor as do positive feelings about life" and "feeling uplifted". Factor 2 was almost entirely comprised of socially related items such as "being part of a family" and "opportunities to help others" which could be related to the caring, supportive and co-operative aspects of membership of a religious group. Factor 3 comprised three transcendent items and two sensory items. The clear separation of the factors might suggest that Factors 1 and 2 would be most characteristic of church membership and Factor 3 of mystical experiences. This was neatly confirmed by a comparison of factor mean scores (independent samples t-tests). The means of Factors 1,

t(122) = -2.28, $p < .05$, and 2, t(122) = -2.56, $p < .05$) were significantly higher for church members than for non-members. The only factor that was significantly different, t(122) = -2.64, $p < .01$, in comparisons of those who reported a mystical experience with those who did not was Factor 3, the transcendent factor.

Step-wise discriminant analysis was used to explore whether there were any differences in the individual affect items which might best predict church membership, and the incidence and intensity of mystical experience. There were differences and these are summarised in Table 3.13

Table 3.13 Religious affect items associated with church membership and the incidence and intensity of mystical experience

Item	Wilks λ	Signif.
Church membership	(N = 175)	
Being part of a family	.78	< .001
At peace with God	.73	< .001
Bodily well-being	.68	< .001
Refreshment	.66	< .001
Warmth and light	.63	< .001
Incidence of mystical experience	(N = 175)	
Refreshment	.88	< .001
Glimpsing another world	.84	< .001
Positive feeling about life	.82	< .001
Intensity of mystical experience	(N = 78)	
Warmth and light	.95	.053

The affect items which distinguish members and non-members of churches were "being part of a family" and "being at peace with God", which are both immanent items, and three sensory items. These are consistent with the comforting and supportive aspects of church membership and the resultant sense of well-being. On the other hand, the distinguishing characteristics of mystical experiences include the transcendent "glimpsing another world". The single item that distinguished intense from mild events was the experience of "warmth and light", although this particular analysis is unsatisfactory in that the associated probability, $p = .053$, does not quite reach the .05 significance level. Nevertheless, the idea that it is a physical sensation that distinguishes mild from intense experiences is particularly interesting and consistent with the results of Greeley's 1975 survey. He found that those who reported mystical experiences often described them as a sensation of warmth of fire or being bathed in light, and the that the latter was the strongest predictor of positive effect. These results suggest that there are real differences in the affects associated with church membership and with mild and intense spiritual experiences.

Relationships with Happiness

The mean happiness scores of church members versus non-members, of experiencers versus non-experiencers and of those whose experiences were intense versus those whose

experiences were mild, were compared by independent t-tests. There were no significant differences. Similar results were obtained in a comparison of musical and religious experiences (Hills & Argyle, 1998b). Although both were shown to generate positive moods, it was not found possible to demonstrate that either was associated with increased happiness. In a comparison of a large number of different leisure activities engaged in by younger people, it has also been reported that religious activities were among the least enjoyable (Hills, Argyle & Reeves, 2000). The relationships between happiness and religious affect and the factor means of its three component factors were compared by bivariate correlations. There was no significant relationship between happiness and overall religious affect, but there was a modest and significant association, $r(82) = .25$, $p < .05$, between happiness and the immanent Factor 1. This factor includes all of the items with a specifically religious connotation, such as "being at peace with God", and all but one of the items that reflect well-being. The close association between these items suggests that immanence and well-being are associated. This is consistent with Pratt's prediction that (mild) religious experiences would be associated with greater happiness. Robbins and Francis (1996) have reported a positive relationship between religiosity and happiness. Using a different scale for the measurement of happiness, Lewis, Lanigan, Joseph and de Folkert (1997) found no such association and suggested that the relationship might be scale dependent. When the relationship between Factor 1 and happiness was examined by partial correlation controlling for the effects of church membership, the value and significance of the above correlation hardly changed. There are two possible explanations for this surprising observation. The first is that church membership and a personal awareness of the immanent are different and unrelated qualities. The second is that some items in the religious affect scale, the experience of "joy/elation" is a good example, overlap with items in the OHI and that participants respond to these items similarly. The second explanation seems more plausible, in which case the association between Factor 1 and happiness is more apparent than real.

Relationships with Personality

The final aim was to examine any associations among church membership, mystical experiences and individual differences in personality, paying special attention to differences that would indicate the pre-existence of mental distress among church members and those who reported mystical experiences. The mean scores for some trait, cognitive and other personality variables were compared by independent t-tests. The absolute differences in the means were small and not all were significant. The results for the variables with significant differences are summarised in Table 3.14.

Religious experiences have long been associated with solitude, probably because James based his seminal study of the religious temperament on the solitary experience of

individuals. And, in a large national sample, Hay and Morisey (1978) found that 61% of their participants' experiences occurred when they were alone.

Table 3.14 Associations of church membership and incidence and intensity of mystic experiences with some individual personality differences

	Church membership		Mystical experience		Experience Intensity	
Variable[a]	Yes	No	Yes	No	Mild	Intense
Neuroticism	73.7 ± 21.5	79.9 ± 20.7	78.8 ± 73.7	73.7 ± 22.4	79.0 ± 19.7	77.1± 1.2
	$t(264) = -2.41^{*}$		$t(256) = 1.92$		$t(139) = 0.52$	
Psychoticism	50.1 ± 9.2	53.6 ± 9.5	52.0 ± 9.6	52.6 ± 9.6	51.1 ± 8.7	54.6± 1.2
	$t(263) = -2.76^{**}$		$t(254) = -0.49$		$t(138) = -1.98^{*}$	
Lie-scale	76.5 ± 16.1	70.5 ± 13.7	73.6 ± 15.2	72.4 ± 15.6	73.9 ± 14.8	72.8± 6.6
	$t(263) = -3.30^{***}$		$t(255) = 0.66$		$t(139) = 0.38$	
Life regard	119.4 ± 23.2	126.3 ± 19.7	125.5 ± 20.9	119.1 ± 22.1	124.7 ± 21.0	127.8±18.4
	$t(259) = -2.50^{*}$		$t(251) = 2.14^{*}$		$t(139) = -0.82$	
Empathy	142.5 ± 16.5	139.5 ± 14.2	143.6 ± 13.4	138.1 ± 17.8	142.7 ± 14.0	146.2±12.1
	$t(259) = 1.54$		$t(251) = 2.84^{**}$		$t(136) = -1.40$	

[a] All differences for extraversion, life orientation, self-esteem, affiliative tendency and preference for solitude were non-significant
$p = < .05$, ** $p < .01$, *** $p < .001$.

An important negative finding in the present study was that mystical experiences are not associated with a personal preference for solitude. That is, an individual's liking for being alone does not predetermine the apparently solitary nature of most religious experiences. This finding is supported by the observation that extraversion, primarily a measure of gregariousness in the EPQ (Hills & Argyle, 2001), also has no significant influence on church membership, or the incidence and intensity of mystical experiences.

There were small but significant differences in neuroticism, psychoticism and the lie-scale scores of church members and non-members. Members appear to be significantly less neurotic (more stable or less anxious) than non-members, and less psychotic (more tender-minded). The largest and most significant difference, $p < .001$, was in the lie-scale scores, which are usually interpreted as an indicator of social conformity, with church members appearing to be more socially conforming. This is not surprising given the substantial element of moral teaching often included in religious instruction. The lower psychoticism of church members relative to non-members has been reported before (Hills & Argyle, 1998a), and Maltby, Talley, Cooper, and Leslie (1995) considered that a low level of psychoticism is the most characteristic feature of a religious disposition. However, none of these differences achieved significance in parallel comparisons of experiencers and non-experiencers, although there was a small difference in psychoticism for those whose experiences were respectively mild and intense, with intense experiencers returning higher scores. On

balance, these results provide little support for the argument that psychological distress is a precursor of mystical experiences.

There were marginally significant differences in the Life Regard Index, which is a measure of both the existence of individual personal goals and the extent to which those goals have been fulfilled. Church members returned lower and experiencers returned higher scores. However an analysis of variance of life regard versus church membership and religious experience did not reach significance ($F(3, 249) = 2.59$, n.s.) so these small differences can be disregarded. A more significant difference was in empathetic tendency for which experiencers scored more highly than non-experiencers. This could suggest that mystical experiences would be more likely to happen to those who are emotionally open, which would be consistent with Pratt's view that religious experiences originated in "the feeling background".

The correlations of the personality variables with religious affect and its constituent factors were also examined (Table 3.15).

Table 3.15 Correlations between religious affect and its factors with some personality characteristics

Variable	Religious affect	F_1[a]	F_2	F_3
Extraversion	.04	.03	.23*	.15
Neuroticism	-.05	-.11	-.26*	.04
Psychoticism	-.24**	-.23*	-.06	.08
Lie-scale	.33***	.10	.24*	.35***
Solitude	-.10	-.00	-.31**	.03
Life orientation	.05	.20	.22*	-.07
Affiliation	.15	.11	.27*	.09
Life regard	.10	.23*	.18	-.14
Empathy	.00	-.02	.05	-.03
Self-esteem	.00	.10	.24*	-.04

[a] Factor labels: F_1, immanent; F_2, social, F_3; transcendent
* $p = < .05$, ** $p < .01$, *** $p < .001$

The correlations of religious affect with psychoticism (negatively) and the lie-scale (positively) were both of reasonable magnitude and significant at the $p < .01$ level. It has already been noted (Table 3.14) that both of these trait variables are also associated with church membership, and it was of interest to establish if there were any changes when church membership was controlled for through partial correlation. Under these conditions, the association of psychoticism and religious affect was no longer significant, suggesting that the negative association with psychoticism relates more closely to church membership than to religious affect. In contrast, the partial correlation with the lie-scale scores increased, $pr(74) = .41$, $p < .001$, which indicates that social conformity is primarily related to religious affect rather than to church membership. No other personality variable was significantly associated with religious affect.

Psychoticism and the Life Regard Index were the only variables to be associated with the immanent factor, Factor 1. When the effect of church membership was controlled for, the association with psychoticism became non-significant and the association with life regard became marginally greater, $pr = .28$, $p < .05$. These observations are consistent with the conclusions drawn above for religious affect. More personality variables correlated significantly with Factor 2 than with any of the other factors of religious affect. This is not surprising since this factor deals with social aspects that would be especially apparent to church members. When the effect of church membership was partialled out, most of these associations became non-significant, but preference for solitude (negatively) and affiliative tendency remained virtually unchanged. The negative association of preference for solitude with the social factor was to be expected; those who like being alone are unlikely to attach much importance to social activity. These two personal characteristics would therefore appear to be primarily related to a personal sociable disposition, although it is again surprising that the association with extraversion no longer achieved significance when the effect of church membership was controlled. The lie scale was the only variable to be associated with the transcendent factor. The association, $r(82) = .35$, $p < .001$, was the largest noted and its strength was little changed when church membership was taken into account. There seems to be no plausible explanation for this finding.

CONCLUSIONS

This study has shown that mystical experiences are relatively common, that most are mild, and that church members report twice as many as non-members. This is consistent with Pratt's prediction that the religious experiences of ordinary church people would be commonplace and mild rather than intense. However, the ratio of mild to intense experiences is similar for church members and non-members and it has not been possible to demonstrate an association between experiences and greater happiness as Pratt also predicted. Analysis of a newly developed measure has shown that religious affect comprises immanent, social and transcendent factors. The immanent and social factors are most closely related to church membership, whereas the transcendent factor is associated with mystical experiences. Few associations could be detected between church membership or the incidence or intensity of mystical experiences and a battery of personality variables, and those that were significant were weak. No evidence has been found to support the suggestion that some form of psychological distress is a precursor of mystical experience. ■

3.2 MUSICAL AND RELIGIOUS EXPERIENCES AND THEIR RELATIONSHIP TO HAPPINESS

Some 230 adults, many of whom were members of musical groups or churches or both, completed scales devised to describe the intensity of their emotional feelings for musical and church activities. Membership of both kinds of group was associated with enhanced scale scores and there were correlations between the corresponding scales, showing that the two kinds of experience are quite similar. There were also differences: musical experiences were more intense for most items, including those that have traditionally been used to assess the mystical aspects of religious experience. Factor analyses of the two sets of items, augmented with further musical and religious items, found that while social and mystical factors appeared in both, the religious items also produced a transcendental factor, whereas the musical items produced a factor related to challenge and performance. The relationships between the intensity scores and overall happiness as measured by the Oxford Happiness Inventory (OHI) were weak, although there were correlations between the social factor of the OHI and the social factors of the musical and religious items. This suggests that it is the social aspect of these activities which generates well-being. The transcendental religious factor had a small but negative correlation with happiness.

INTRODUCTION

There are some clear similarities between musical and religious experience. Both can evoke a powerful and fairly intense emotional response which is generally highly positive. Both have elements which are private to the individual, and occur in a social context such as a public act of worship or musical performance. Music and religion are also associated in practice. It has been found that music is the most common "trigger" of religious experiences (Greeley, 1975). Music plays an important part in church services and even music which is not intended for religious purposes is frequently structured according to liturgical conventions and performed and experienced in quasi-religious terms.

Both experiences possess mystical and transcendental elements which are difficult to communicate. The positive emotions arising from music are often described in religious language. Franz Schubert described the music of Mozart in these terms: "Thus beautiful impressions remain in the soul, which are soothing to our existence, and which neither time nor events can efface. In the darkness of our life they throw a light, bright and beautiful future, which fills us with fervent hope. O Mozart! Immortal Mozart! How many, yea, innumerable impressions of a brighter and better world have you imprinted on our souls" (Booth-Davies, 1978). In a psychological examination of the nature of music, subjects were asked to describe their experiences of particular compositions. One of them described Beethoven's "Pastoral" Sonata as "The joyful uplifting of the oppressed soul that feels released from depths of anguish through faith in a kind, heavenly Father" (Valentine, 1962).

Religion has permeated all cultures since prehistoric times. It would be pretentious and wrong to try to explain away such a complex and personal phenomenon in human, contemporary, western terms. Nevertheless, it is legitimate to consider the extent to which religion and music have similar and dissimilar social elements. Merriam (1964) identifies the following functions of music: emotional expression, aesthetic enjoyment, entertainment, communication, symbolic representation, physical response, enforcing conformity to social norms, validation of social institutions and religious rituals, and contributions to the continuity and stability of culture and to the integration of society. Many of these functions can also be ascribed to religion when it is considered as a social institution. Gaston (1968) suggested a shorter list of "fundamental considerations" including "music is derived from the tender emotions", "music is a source of gratification" and "the potency of music is greatest in the group". In so far as these latter elements are personal and relate to pleasure and sociability, it might be reasonable to expect that musical satisfactions would be more immediate and commonplace than religious ones. Given the broad dissemination of music throughout all cultures it would be also reasonable to expect that the opportunities for deriving satisfaction from music would also be more frequent than for religion. And it has been reported that it is the frequency rather than the intensity of pleasant events and

activities that has the greater effect on the level of subjective well-being (Diener, Sandvik & Pavot, 1991).

In a survey of religious experiences, Hay (1982) found that intense religious events usually take place in private, are experienced by at least 34% of the population, and are usually of short duration. Few respondents had experienced such events more than once or twice. Most research on religious experience from William James (1902) onwards has concentrated on intense experiences in solitude. However, Pratt (1920) drew attention to a form of religious experience which is not necessarily private and may be more common, the "mild" as opposed to the "extreme" type. With the rise of Pentecostal and other charismatic churches it is evident that many people experience powerful emotions in such services, which might be considered as belonging to the mild category, although intense enough for some to lose consciousness.

Research on religious experiences suggests the existence of a number of different components. Firstly there is a group of mystical elements such as a sense of timelessness, the loss of sense of self, and the feeling of a unifying vision - all things are one and part of a whole. These play an important part in Stace's list (1960) of the universal features of religious experience and in Hood's questionnaire (1975) based upon it. Second comes the transcendental element such as a feeling of direct contact with the holy, sacred and divine, and with a being who is much more powerful than the self. These elements are particularly prominent in Jewish or Christian religious experiences. Thirdly comes the experience of love, equality and community with others, termed communitas by Turner (1969). Lastly there are sensory images of warmth, light and fire. These were found by Greeley (1975) to be most strongly linked to subsequent happiness.

Music can produce a variety of emotions, including excitement, young romantic love - almost the sole theme of modern popular music - and even youthful rebellion. Classical music produces a wider range of feelings, but still with a core of fairly intense and positive emotions. A number of peculiar factors might be anticipated in musical experiences. We would expect feelings of pleasure, joy and entertainment to be particularly strong. There will be an aesthetic response to beautiful music, although what is considered beautiful will be subject to individual preferences. For serious performers and listeners there may also be a sense of challenge and achievement. Radocy (1988) considers that achievement is an important source of gratification and that music provides special opportunities for achievement free from the stress of competitive situations. Finally there will be a strong social component, since music is almost exclusively about performers making music co-operatively and with a common purpose, for the pleasure of others. Gaston (1968) observes that "music is nearly always an expression of good will, a reaching out to others, and is so interpreted. Music ... is a powerful expression of the interdependence of mankind, and ... an expression of the tender emotions."

Both religion and music have been found to produce positive moods, which in turn lead to enhanced happiness. Hay (1982) found that 61% of those reporting spontaneous religious experiences felt that they were "at peace or restored, happy/elated or uplifted/awe-struck", although in this and other studies it was found that those having these experiences had often been in a state of distress beforehand. Pahnke (1966) induced religious experiences by drugs and found that his subjects, theological students, were in a more positive mood of "joy, blessedness and peace" six months later. A survey found that the strongest effects of this kind were found for those who had reported classical mystical experiences, who felt "bathed in warmth and light" (Greeley, 1975). Research on the broader effects of religion on happiness has found that church attendance and the close social support within the church community are the most important factors (Halman, Heunks & DeMoor, 1987) and that many report that their closest friends are also church members (Kaldor, 1994). Kaldor also found, as did Ellison (1991), that happiness is related to feeling close to God and to holding beliefs that all will be well.

Music, for example extracts from Haydn trumpet concertos, has often been used in the laboratory as a means of positive mood induction (Clark, 1983). While this is successful, the effects are short-lived, lasting only 10-15 minutes. We are all familiar with the use of music to create positive moods, or more probably to alleviate anxiety and boredom, in aircraft and airport lounges. It has also been claimed that music can influence behaviour. Nafde (1974) found that appropriate music could improve productivity in simple industrial tasks. Milliman (1986) reported that customer behaviour in restaurants, for example purchases, time at table and departures before being served, could be favourably influenced by suitable background music. But several other studies suggest that such effects are specific to particular rhythms, tempi and modalities (Dorfman, 1986; Blood & Ferris, 1993) and that in some environments music has little or no effect (Wentworth, 1991).

Positive life events, of which those due to music and religion may be examples, correlate with happiness and can be regarded as important predictors of happiness. We have already cited the work of Diener, Sandvik and Pavot (1991) which showed that the frequency of these events is more strongly correlated with happiness than is their intensity. While research on positive life events has been mainly concerned with such things as the frequency of taking physical exercise, sexual activity, or of seeing friends (Argyle, 1996), we would expect that musical and religious experiences might also contribute.

The purposes of this study are (a) to extend the understanding of religious and musical experiences, and (b) to explore the relationship between the positive moods they may induce and happiness. Our hypotheses are that:

1. there are some basic similarities between musical and religious experiences;
2. musical and religious experiences exhibit a number of detailed differences (for example we would expect feelings of transcendence and *communitas* to feature

more in religious responses, and challenge and entertainment to be more associated with music); and,

3. both musical and religious experiences are associated with happiness.

METHOD

Subjects

A panel of 231 subjects was recruited from residents of South Oxfordshire and their friends and acquaintances. This was done by personal contact with a number of church and music groups, particularly amateur choirs. One hundred and twenty one belonged to churches, 71 to music groups, 54 to both and 68 to neither*. Ages ranged from 18 to 82, with a mean of 42.6 ± 16.2. Men made up 37% of the panel. The subjects were mainly professional people of whom 68% were graduates.

Measures

Happiness was measured by the latest revision of the Oxford Happiness Inventory (OHI) [Questionnaire A, *p* 161-163], a 29 item scale with the same format as the Beck Depression Inventory. The OHI has been found to have high reliability and satisfactory validity (Argyle, Martin & Lu, 1995). The religious experience scale consisted of 25 6-point items [Questionnaire G, pp 171-172], based on Hood's (1975) scale and augmented by additional items on relations with others, aspects of positive mood and transcendental experience. Respondents were invited to indicate the "strength of their personal feelings" for each of the items. The music scale was constructed according to a similar format, with 24 items [Questionnnaire F, *p* 171] including some specific to musical satisfactions and relations with others. For purposes of comparison, 11 of the items were common to the religion scale and included those relating to mystical experience. Both scales demonstrated high internal consistency, with Cronbach αs of .92 and .96 for musical and religious feelings respectively.

Design

Hypothesis 1 was tested by comparing the overall intensity of feelings reported on the religion and music scales by members and non-members of churches or music groups. The correlations between items common to both scales were also examined. Hypothesis 2 was tested by comparing the differences in means of items common to both scales. A qualitative picture of the differences in music and religious experiences was built up through factor analysis. Hypothesis 3 was examined by comparing the OHI scores and the intensity scores for music and religion. The fine structure of this relationship was examined by comparing the component factor scores for music and religion with the factor scores derived from the OHI.

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* *To minimise compliant responses, subjects were invited to skip the sections of the questionnaire dealing with music and church, if they had no interest in them. Therefore the above membership numbers are not additive.*

RESULTS

Hypothesis 1 states that there are some broad similarities between musical and religious experiences. This was first tested by a comparison of the mean item scores for the musical and religious scales for participants (members of musical and church groups) and non-participants respectively. The results are summarised in Table 3.21, which shows that membership of musical groups and churches results in enhanced mean item scores for the intensity of musical or religious feelings respectively. The differences in the means for participants and non-participants are highly significant for both scales. The hypothesis was further tested by comparing the correlations between the mean scores for the 11 items that were common to both scales (Table 3.22). All of the 11 correlations were positive, 10 statistically significant and 5 significant at the < .001 level. These results are consistent with the first hypothesis.

Table 3.21 Comparison of mean item scores for the musical and religious scales

Non-participants		Participants		
Mean	SD	Mean	SD	*t*
Musical scale				
2.91	0.76	3.55	0.67	-6.00***
Religious scale				
2.56	0.89	3.30	0.83	-5.16***

*** $p < .001$

Table 3.22 Correlations between common items of musical and religious experience scales (all subjects)

	Music scale		Religious scale		
Item	Mean	SD	Mean	SD	*r*
Being bathed in warmth and light	2.70	1.43	2.32	1.49	.55***
Bodily well-being	2.75	1.42	2.45	1.36	.44***
Enjoying company of others' present	3.08	1.33	2.97	1.34	.24**
Excitement	3.58	1.14	2.11	1.33	.19*
Feeling uplifted	4.16	0.89	3.41	1.35	.14
Glimpsing another world	2.79	1.50	2.69	1.52	.51***
Joy/elation	3.62	1.07	2.93	1.40	.20**
Loss of sense of self	2.64	1.49	2.34	1.41	.48***
Positive feelings about life	3.51	1.15	3.62	1.19	.21**
Taking part in a shared performance	2.60	1.75	2.89	1.38	.26**
Timelessness	2.72	1.52	2.59	1.51	.40***

$p < .05$, ** $p < .01$, *** $p < .001$

Hypothesis 2 anticipates that musical and religious experiences will exhibit a number of detailed differences. Musical and religious experiences differ in one important respect; it is to be expected that music will have a wider general appeal. Those who are not members of music groups can still derive, and report, enhanced feelings for music. On the other hand, those who are not members of church groups may have much less opportunity to experience increased levels of religious feeling. For this reason comparisons were restricted to subjects (N = 54) who were members of both musical groups and churches. The results for such a comparison of the means scores for items common to both scales are presented in Table 3.23. Subjects scored 9 of the 11 items more highly on the musical than on the religious scale. Religious feelings were greater for "enjoying the company of others present" and for "positive feelings about life". The differences were significant for 6 items, the largest differences being for "excitement", "taking part in a shared performance" and "loss of sense of self".

Table 3.23 Differences in means for common items of musical and religious experience scales (members of both musical groups and churches)

	Music scale		Religious scale		
Item	Mean	SD	Mean	SD	*t*
Being bathed in warmth and light	2.65	1.43	2.61	1.56	0.23
Bodily well-being	2.89	1.41	2.57	1.46	1.76
Enjoying company of others' present	3.43	1.16	3.48	1.11	-0.32
Excitement	3.52	1.27	2.57	1.41	4.80***
Feeling uplifted	4.30	0.86	3.91	1.00	2.54*
Glimpsing another world	3.13	1.53	3.00	1.57	0.60
Joy/elation	3.79	1.04	3.30	1.29	2.79**
Loss of sense of self	3.02	1.39	2.41	1.47	3.62***
Positive feelings about life	3.62	1.10	3.91	0.95	-2.09*
Taking part in a shared performance	4.02	1.00	3.20	1.35	3.88***
Timelessness	2.63	1.50	2.59	1.53	0.20

$p < .05$, ** $p < .01$, *** $p < .001$

Comparisons were next extended to the full scales by means of factor analysis using principal components extraction and Varimax (orthogonal) rotation. Each analysis was restricted to participant subjects only (church members, N = 121; music group members, N = 71). Because of the restriction this imposed on the amount of usable data, the Kaiser-Meyer-Olkin measure of sampling adequacy was calculated for each analysis. The values of this index were .91 and .76 respectively, in excess of the value of .6 usually considered to

be the minimum value for a good factor analysis (Tabachnick & Fidell, 1996). The results are shown in Table 3.24 for factors with Eigen values ≥ 1.

Table 3.24 Factor components of the scales for musical and religious experience (participants only)

Musical experience			Religious experience		
Factor (variance explained)	Item	Item label	Factor (variance explained)	Item	Item label
Factor 1	F03	being bathed in warmth and light	Factor 1	G19	contact with God
(33.6%)	F04	bodily well-being	*(47.6%)*	G25	being at peace with God
	F09	feeling uplifted		G13	feeling loved
	F08	excitement		G12	feeling supported and helped
	F16	mental well-being		G14	feeling "at home"
	F01	achievement		G07	obtaining guidance
	F13	joy/elation		G03	refreshment
				G11	feeling uplifted
				G20	calmness
				G05	positive feeling about life
Factor 2	F24	timelessness	Factor 2	G18	enjoying company
(9.6%)	F11	glimpsing another world	(7.7%)		of others present
	F22	self-discipline		G22	being united with other people
	F14	loss of sense of self		G23	being part of a family
	F12	identification with performers		G06	opportunities to help others
	G02	taking part in a shared perforomance		G15	experience of a unifying vision
Factor 3	F06	enjoying company	Factor 3	G21	bodily well-being
(8.0%)		of others present	(6.1%)	G16	excitement
	F10	getting the best out of one's self	(6.1%)	G24	being bathed in warmth and light
	F05	challenge		G17	enjoying familiar practices
	F23	taking part in a shared performance		G09	joy/elation
	F18	positive feelings about life			
Factor 4	F21	reminders of happy occasions	Factor 4	G01	timelessness
(7.0%)	F07	entertainment	(4.2%)	G08	loss of sense of self
	F20	relaxation/calmness		G04	quieting of the mind
	F19	recognising the familiar		G10	glimpsing another world
Factor 5	F02	appreciating a good performance			
(5.4%)	F17	pleasure in musical structures			
	F15	mental stimulation			
Total variance explained = 63.5%			Total variance explained = 65.7%		

The music scale provided a 5-factor solution, in which one can discern a well-being factor (factor 1), a social factor (factor 3), an entertainment factor (factor 4) and an intellectual factor specific to music (factor 5). Factor 2 includes all the mystical items with the exception of "being bathed in warmth and light". The religious experience scale provides 4 factors. Factor 1 includes all the items which have a specifically religious connotation, including the transcendental items. Factor 2 is mainly social, factor 3 includes well-being items and factor 4 includes many of the mystical items again with the exception of "being

bathed in warmth and light". The factor analyses show that musical and religious experience have a majority of components which are not common, and this is consistent with the second hypothesis.

Nevertheless, the results also display some similarities between the two scales. Cross-correlations, not reported here, suggested two strong associations significant at the < .001 probability level. These are between music factor 1 and religious experience factor 3, the joy and well-being items, and between music factor 2 and religious experience factor 4, the mystical items. To form a view on the balance of similarities and differences, another factor analysis not reported here, was conducted on the combined items from both scales. There were eight factors, of which all but one included only musical or religious items. Even most of the similarly worded items were separated into their respective musical or religious factors. This suggests that in reporting the intensity of their feelings, subjects pay more attention to the context of the items than to their wording. The sole factor that contained items from both scales included "timelessness", "glimpsing another world", "being bathed in warmth and light" and "loss of sense of self. This is strongly suggestive of a mystical thread joining musical and religious experiences.

Hypothesis 3 predicts that both musical and religious experiences are associated with happiness. There were no significant associations between happiness according to the OHI and membership of either musical or church groups. Correlations were also examined between happiness and the mean item scores for the intensity of musical and religious experiences. There was a small but significant correlation, $r = .15$, $p < .05$, between the OHI and musical experience but the corresponding correlation with religious experience did not reach significance. We have already noted that a high proportion of subjects are members of both choirs and churches and this might introduce a confounding effect. To overcome this, partial correlation coefficients were calculated controlling for both church and music group membership. Under these conditions, the intensity of neither musical nor religious experience was significantly related to happiness.

These negative results could be explained by the nature of the OHI, which is a broad and eclectic measure of happiness covering many different domains. Musical and religious experiences may be quite specialised. It would be quite possible for them to make significant contributions to some specific domains of the OHI which, nevertheless, would be too limited to have any significant effect on the overall happiness scores. To explore this possibility the OHI item scores were factor analysed using the same method and criteria as previously described for the musical and religious experience scales (N = 221). Seven factors were found, which is consistent with earlier findings (see Argyle et al. 1995). From looking at the items comprising each factor we have labelled the factors as: (1) satisfaction with life, (2) efficacy, (3) sociability, (4) positive outlook, (5) physical well-being, (6) cheerfulness and (7) self-esteem. The numerical factor scores for the OHI were then cross-correlated with similar scores derived from the musical and religious experience scales

(Table 3.25). Seven significant inter-factor correlations were found of which 6 were positive; 3 involved musical and 3 religious factors. Four of the significant inter-correlations were associated with the sociability factor of the OHI. All the positive interactions were explained by combinations of sociability, satisfaction with life, or well-being. These results support the hypothesis that in detail, if not in general, musical and religious experiences are positively associated with happiness.

Table 3.25 Significant cross-correlations between OHI and musical and religious experience factor scores

Paired factor scores	*r*
Satisfaction with life (OHI 1) / well-being (Rel 3)	.20*
Sociability (OHI 3) / well-being (M 1)	.25*
Sociability (OHI 3) / social (Mus 3)	.31**
Sociability (OHI 3) / social (Rel 2)	.21*
Sociability (OHI 3) / well-being (Rel 3)6	.28*
Positive outlook (OHI 4) / social (Mus 3)	.33**
Self-esteem (OHI 7) / transcendency (Mus 2)	-..30*

*$p < .05$, ** $p < .01$

DISCUSSION

The first hypothesis was that there would be basic similarities between musical and religious experiences. We found that members of musical groups, such as choirs, or of churches, reported greater intensities of experience for 11 items which were common to both scales and could apply to either type of activity. In addition there were significant correlations, half of which reached the < .001 probability level, between the scores for 10 of the 11 items; for example, subjects who reported "being bathed in warmth and light" on musical occasions also felt this way on religious ones. We can therefore conclude that musical and religious experiences are basically similar, a conclusion which is particularly robust given that the evidence is exclusively based on responses to scale items such as "glimpsing another world", and "loss of sense of self" which have previously only been used to study religious experience.

Despite the similarity between musical and religious experiences it would be surprising if they had no distinguishing features, and our second hypothesis was that there would be some detailed differences between them. A potential difficulty in such an exploration is that the experiences under examination differ in one important practical aspect. Subjects might experience quite high levels of affect for music, as listeners, irrespective of whether or not they were members of a performing group. It is much less likely that non-church members would have an equivalent interest in, or opportunity for, religious experiences. To overcome this problem and to obtain a valid comparison, the exploration of differences was restricted to subjects who were members of both a church and a musical group. It was found that such subjects reported greater intensities of musical experience for 9 of the 11 scale items, the

differences being significant for 6 items. The largest difference was for "taking part in a shared performance", which is understandable, although this element is also present in ritualistic worship. Higher scores were also recorded for "joy/elation", "excitement", "feeling uplifted" and "loss of sense of self". However, "positive feelings about life" scored more highly on the religious scale.

These results are counter-intuitive. How can they be explained? The reason may lie in the relative frequency and corporate nature of musical activities. Members of choirs meet regularly for rehearsals and invest personal effort in achieving a good performance. In the case of the sub-set of subjects used in this part of the study, members of both a church and a musical group, it is likely that many will be members of church choirs. Church choirs may rehearse at least once a week and "perform" equally frequently as well as making special efforts for religious festivals. We therefore suggest that the higher scores for musical experience can be accounted for by the much greater frequency and tangibility of musical experiences relative to religious ones.

The differences in musical and religious experiences were further examined by factor analysis. For this part of the study analyses were restricted to participants only and included additional scale items considered to be relevant to musical and religious activities respectively. The former provided a 5-factor and the latter 4-factor solution. Both solutions included a well-being factor and a social factor. There were also specific factors relating either to religion: for example, "at peace with God", or to music: "challenge" and "appreciating a good performance". The additional music factor was related to entertainment. Both solutions included a similar factor comprising most of the mystical items common to both scales and these two factors were strongly correlated, $p < .001$. This is of particular interest and was further examined by means of a factor analysis of the combined items from both scales, which provided 8 factors. The only factor to include items from both scales was made up of the mystical items, which is strong evidence for the existence of a common mystical element in religious and musical experiences.

Since both of the activities considered here are largely voluntary, it would be reasonable to assume that individuals participate in the anticipation of deriving some satisfaction from them. Musical and religious activities should therefore be positively associated with happiness in accordance with our third hypothesis. This hypothesis could not convincingly be demonstrated from our data. Partial correlations, controlling for church and music group membership, between scores on the OHI and the mean item scores for musical and religious experiences, although positive, did not achieve significance. This finding is inconsistent with previous published research showing that music can produce positive moods and that religious experience leads to enhanced well-being for longer periods.

The reason could be that whereas the OHI is deliberately designed to be a broad and inclusive measure of happiness, the contributions made by participation in musical and religious activities, although possibly intense, are too specialised to make a significant

difference to overall happiness. This possibility was further examined. Factor analysis of the OHI revealed seven different domains. The corresponding factor scores were cross-correlated with the factor scores for musical and religious experience. Three significant correlations were found for musical activity and four for religious activity and six of the seven were positive. Therefore in detail, if not in general, participation in musical and religious activities does contribute to happiness.

All the positive and significant correlations arose from combinations of sociability and well-being factors, from which it can be concluded that the contribution which both activities make to happiness is mediated, in common with many other leisure activities (Hills, Argyle, & Reeves, 2000), through the opportunities for social contacts that they provide. This is consistent with previous research on the relation between religion and happiness which has found that it is church membership and participation which have the greatest effects, especially for the old (Beit-Hallahmi & Argyle, 1997). It has not been found possible to demonstrate any contribution to overall happiness from those factors which are most characteristic of musical and religious experience: for example good performance and challenge in the case of music and the specifically God-related items in the case of religious activities. This is an issue which deserves further research attention. ■

3.3 THE INFLUENCE OF RELIGIOSITY UPON ATTITUDES TOWARDS WORK

Some 240 adults participated in a study of beliefs that might comprise a Contemporary Work Ethic (CWE), and also completed measures of religiosity, happiness and some personality variables. Religiosity and the CWE were strongly associated and endorsed more by older people, although the association was not accounted for by age. The CWE contained traditional (Protestant) work ethic beliefs about work, religion, leisure and self-reliance, but not asceticism, morality, or attitudes towards wealth. A new judgemental factor was identified which was not related to traditional views of work and religion. As expected religious individuals strongly endorsed the religious factor, but they also endorsed every other factor of the CWE with the exception of judgementalism. Differences between older and younger participants were apparent for religion, work and leisure but not self-reliance or judgmentalism. Cross-comparisons were made between each of the CWE factors and the ideological, consequential, ritual and experiential aspects of religiosity. The ideological aspect of religiosity related to the work ethic more strongly than the consequential, ritual and experiential.

INTRODUCTION

This paper describes an empirical evaluation of the individual attitudes and personality traits that might underlie a contemporary work ethic (CWE) and how these might relate to religious beliefs. Work can be a major source of life satisfaction. In addition to generating the material means to sustain existence, it provides a structure for life, the status and recognition that enhance self-esteem, and intrinsic satisfaction from the exercise of personal skills. Work can also be a source of happiness, because it is generally a social activity providing companionship and allowing new friendships to be made. Changes in the nature of work over the last century have accelerated sharply in recent years, because of globalisation and the replacement of people with microprocessors in the work environment. Manufacturing industry has declined in the West and is now much less labour intensive, requiring a small number of highly skilled people rather than great numbers of relatively unskilled workers as in the past. Many of these are now redundant and have not found alternative employment. At the same time the service industries have grown and have introduced new work patterns, which are often more demanding and less permanent than previously. People can and do move jobs frequently, and redundancy and early retirement are common. These changes could have influenced people's attitudes to work.

Work Satisfactions

Headey, Holstrom and Wearing (1985) modelled the sources of well-being and found work to rank third among five satisfaction domains, above standard of living and health, and immediately below satisfaction with marriage and sex. Warr (1982) asked whether people would go on working if it became financially unnecessary; 66% of men and 63% of women would do so. Whitehorn (1984) found that nearly 45% of a UK sample "quite enjoyed" their work, 36% said their work was "interesting and rewarding" and 4% of men and 3% of women considered work to be the most important part of their lives. The importance of work as a major source of satisfaction can be seen even more powerfully in the distress caused by involuntary unemployment or when people are forced to cease work prematurely because of age or ill health (Benin & Nierstedt, 1985).

Several writers (Shepherdson, 1984; Shimmin, 1966; Warr, 1987) have considered the psychology of work and its benefits. From an examination of other studies, Fagin and Little (1984) identified seven functions of work, which may be summarised as (a) providing a source of self-identity and social status, (b) the facilitation of interpersonal relationships outside the family, (c) regular purposeful activity, (d) opportunities to develop skills and creativity, (e) a predictable temporal framework of work, rest and refreshment within which people can be productive and happy, (f) a sense of purpose which assists the development and achievement of life goals, often in co-operation with others and (g) a source of income which, at the best, assures the individual of independence and a free choice of leisure away from work. However, not all forms of employment demonstrate all these beneficial functions;

some kinds of work are tedious and frustrating and work is often cited as a cause of stress and depression.

Extrinsic factors that influence job satisfaction, such as pay, working conditions and opportunities for promotion have been extensively studied and the results reviewed by Cook, Hepworth, Wall and Warr (1981). It would be surprising if satisfaction at work was not also associated in some way with individual differences in personality. Some people may be intrinsically predisposed to enjoy their work irrespective of its nature, while those who take a generally positive view of their life may be better able to choose or create satisfying job opportunities. This field has been studied less intensively; but research has been reported on the personality correlates of work satisfaction in specific occupations. Successful British business executives (Eysenck, 1967) and entrepreneurs (Lynn, 1969) tend to be stable introverts. Sales and marketing managers are most extraverted and personnel managers appear to be more subject to neuroticism than are finance or production managers (Blunt, 1978). Extraverts work better than introverts in noisy environments, and also seem to prefer them (Hockey, 1972); but in monotonous occupations, absenteeism was found to be more common among extraverts than introverts, and extraverts also reported minor physical ailments more often (Cooper & Payne, 1967). Furnham and Zacherl (1986) found small correlations between overall job satisfaction and the four Eysenckian personality traits. Extraversion and social conformity (the lie-scale) were positive correlates; neuroticism and psychoticism negative, but only extraversion achieved significance.

The Work Ethic

A concept that may be relevant to the individual values and attitudes associated with work is the (Protestant) work ethic proposed by the German sociologist Max Weber to explain the emergence of capitalism. In western Christendom, work had been seen as a fulfilment of a duty towards God and a means of salvation since the time of St. Benedict (b. c. 480). Weber (1905) conjectured that the work ethic originated in the Calvinist view that hard work, frugality, avoiding idleness, and the productive use of time and resources, signified an individual's election to eternal salvation. The Puritans of 17th century Europe developed these ideas to the extent that the responsible accumulation of material wealth through labour was regarded as a sign of God's favour and of personal religious fervour. According to Weber, these attitudes towards work explained the outstanding economic success of Protestant communities in the early stages of European capitalism. The Protestant work ethic has been criticised on a number of different grounds (Sprinzac, 1972; Green, 1973) and the argument that Calvinist/Protestant religious values provide a sufficient and exclusive explanation for the rise of capitalism has largely been abandoned.

The work ethic has, however, been reinterpreted in terms of the work-oriented values of groups of religious individuals. McClelland, Atkinson, Clark and Lowell (1953) proposed that a need for personal achievement was the driving force of the economic growth that took

place in early Protestant communities. In distinction to the prevailing Roman Catholicism, Protestantism was a "this worldly" religion which placed great emphasis on self-reliance in matters of personal salvation. In response, Protestant parents reared their children to depend less on the help of others and to accept personal responsibility for finding their own salvation. McClelland, Atkinson, Clark and Lowell (1953) proposed that individuals who had been socialised in this way during childhood would have a much greater need for achievement when adult. Given the contemporary economic changes taking place in Northwest Europe, such individuals would be more likely to become the entrepreneurs responsible for subsequent economic growth.

Whether or not the Protestant work ethic can used to explain the emergence of capitalism, the concept has subsequently been usefully applied in a number of research fields in the social sciences. The catalyst for its wider application was the dramatic change in the work and leisure expectations of younger people that took place during the 1960s. Hodgkinson (1969) proposed that as society had become more secular, a new leisure ethic had emerged. In seeking to examine these changes, occupational psychologists needed a reference point for traditional attitudes towards work, which the Protestant work ethic was seen to provide (Blood, 1969; Buchholz 1978; Wanous, 1974). Over the next decade, most of the components of the original Protestant work ethic were empirically established and operationalised as a set of individual personality differences specifically relevant to traditional work satisfactions. In addition to achievement motivation, these included a sense of personal control, a willingness to postpone gratification, and a belief in a just world. In addition to the leisure ethic, many other "ethics" have been postulated to provide better explanations of the motivations of particular groups of individuals. These include a welfare ethic for those whose income is mainly provided by social security payments (Furnham & Rose, 1987), and a "new" work ethic (Rosseel, 1985) which proposes that younger people wish to contribute to the goods and services they provide in a more personal way. Furnham (1990b) has provided a comprehensive account of the psychological aspects of the Protestant and alternative work ethics.

With the secularisation of society in recent decades, it may not be surprising that the original connotation between the ethics of work and religious values has been given little attention. Nevertheless, studies continue to suggest that a work ethic still provides a robust explanation for the behaviour of many individuals. Niles (1999) provided evidence that the Protestant work ethic remains alive and well among Anglo-Australians. Giorgi and Marsh (1990) reanalysed data from a 1981 European values' survey carried out in nine countries and found that a vocational work ethic was subscribed to more in predominantly Protestant countries like Denmark and the UK, than in Italy and Spain. It has even been argued (Oates, 1971) that for extreme workaholics, work itself has become a form of religion; faced with a future without apparent meaning or hope, workaholics turn to work to give their lives purpose and certainty.

Given the historical and contemporary linkages between work and religious values, it is of interest to examine any differences in the present attitudes towards work of religious and non-religious people. This is the objective of this study, whose aims are:

1. To identify any associations between the contemporary work ethic (CWE) and religious attitudes (religiosity).
2. To explore the extent to which these associations are affected by demographic variables and individual differences in personality including well-being.
3. To characterise the CWE and its relationships with the traditional work ethic and religiosity.
4. To discover if any specific aspects of religiosity are especially related to endorsement of the CWE.

METHOD

Participants

Two hundred and forty-four residents of Oxfordshire and their friends and acquaintances (101 men and 143 women) were recruited by personal contact with a variety of church and leisure groups, Oxford Brookes and Oxford Universities, and by advertisements in public places. Ages ranged from 18 to 85 (M = 45.9, SD = 17.3) years. The respondents were mainly professional; 76% were graduates, 47% were employed or self-employed and 21% retired. Most (64%) were living with a partner. Because of the nature of the study, efforts were made to ensure that the sample contained a reasonable number of religious people; over 40% of participants had attended religious services at least ten times during the previous year.

Measures

A variety of scales has been devised to measure the Protestant Work Ethic. Furnham (1990a) administered seven of these to a large number of subjects (N > 1000) and submitted the combined results (78 items) to factor analysis. Five factors emerged which were described as a) belief in hard work, b) feelings about the relative importance of work and leisure, c) religious and moral beliefs, d) self-reliance, and e) asceticism. The composite scale for the present study was constructed from four items from each factor, positive and negative wherever possible, selected to represent the range of different items that comprised each factor. Six further items were added to allow a better distinction between religious and moral beliefs, and for the representation of the wealth aspect as defined by Weber (1905), which did not feature in the original scales [included in section R, pp 185-186]. Reliability analysis indicated that four items had small corrected item-total correlations and these were discarded. The remaining 22-item scale demonstrated a modest internal consistency with a Cronbach α of .74 (N = 221); the corresponding Spearman-

Brown split-half coefficient was .72. The items in the composite scale are listed in Table 3.32. Higher scores indicate greater adherence to traditional work values.

Religiosity was measured by the Rohrbaugh and Jessor Religiosity scale (1975) [Section s1-8, pp 187-188]. This scale was chosen because it is not faith-specific and can be answered by both religious and non-religious people. The scale is designed to cover a) ideological, b) consequential, c) ritual and d) experiential religiosity, which are four of the dimensions of religiosity conceptualised by Glock (1959) as being common to most major faiths. Ideological religiosity is concerned with beliefs about the existence of a God and a life after death. Consequential religiosity is measured by questions concerning the probability of taking religious advice or teaching into consideration in dealing with personal problems. Ritual religiosity is measured by questions about the frequency of attending religious services and of personal prayer, and experiential religiosity by the experience of feelings of reverence or devotion and comfort and security in life. Higher scores indicate greater religiosity. These scales were supplemented by the Oxford Happiness Inventory (Argyle, Martin & Lu, 1995) [Section Q, pp 183-185], the extraversion, neuroticism and psychoticism sub-scales of the short-scale form of the revised Eysenck's Personality Questionnaire (Eysenck, Eysenck & Barrett, 1985) [included in Section R, pp185-186], Rosenberg's Self-esteem Scale (Rosenberg, 1989) [included in Section R, pp185-186] and the Satisfaction with Life scale (Diener, Emmons, Larson & Griffin, 1985) [included in Section R, pp185-186].

With the exception of the Oxford Happiness Inventory and the Religiosity Scale, items in the original scales were re-worded where necessary as single statements to which participants could respond on a 6-point Likert scale ranging from "strongly agree" to "strongly disagree". Before administration, the individual items of these scales were combined and rearranged in random order to minimise contextual answering. In addition to demographic information, respondents were also asked to indicate on a 10-point scale how satisfied they were with their work. All scales were incorporated into a postal questionnaire which recipients were invited to complete and return.

RESULT AND DISCUSSION

Relationships among the Variables

Table 3.31 presents the significant bivariate correlations of the principal variables with the work ethic and religiosity. There is a weak negative association between gender and religiosity which indicates that the women in our sample score more highly on the religiosity scale than men, and both the work ethic and religiosity appear to be subscribed to more by older people. The work ethic and religiosity are strongly intercorrelated, but this association is not accounted for by age; when the effect of age is partialled away, the strength of the association hardly changes, pr (217) = .48, $p < .001$. It would therefore appear that a positive endorsement of the work ethic is mainly associated with greater

religiosity. Happiness and extraversion are not significantly associated with either religiosity or the work ethic. There is a weak association between neuroticism and the work ethic. Both the work ethic and religiosity are negatively associated with psychoticism among the participants in this study. Self-esteem is negatively associated with the work ethic but not with religiosity, whereas satisfaction with life is positively associated with religiosity but not the work ethic. Satisfaction with work is positively and strongly associated with both the work ethic and religiosity, but when the effect of religiosity is partialled out, the association with the work becomes insignificant.

Table 3.31 Bivariate correlations among the principal variables

N	M	SD	Variable	Work ethic	Religiosity
244	0.41	0.49	Gender	...	-.14*
244	45.9	17.3	Age	.25***	.30***
221	70.0	12.2	Work ethic	...	.52***
243	23.1	9.5	Religiosity	.52***	...
239	70.0	10.3	Happiness	...	...
243	46.9	10.9	Extraversion	...	...
242	37.3	12.7	Neuroticism	.14*	...
239	27.4	6.2	Psychoticism	-.26***	-.35***
241	45.5	9.2	Self-esteem	-.22***	...
243	20.3	5.3	Satisfaction with life	...	.14*
241	4.4	3.1	Satisfaction with work	.41***	.85***

* $p < .05$, *** $p < .001$.

The above results indicate a strong, positive association between the work ethic and religiosity. Although older people subscribe to both the work ethic and religiosity more, it has been shown that the association is not accounted for by age. The observation that neither the work ethic nor religiosity is associated with happiness is consistent with other work (Hills & Argyle, 1998a) which found no significant association between membership of religious groups and overall happiness as measured by the OHI. The negative association between psychoticism and religiosity suggests that religious people are less tough-minded and more concerned for others than are non-religious people. A parallel relationship has already been reported between psychoticism and church membership (Hills & Argyle, 1998b) and Maltby, Talley, Cooper and Lesley (1995) consider that a low level of psychoticism is the most characteristic feature of a religious disposition.

Self-esteem has been found to be negatively related to the work ethic. In a student experiment, Merrens and Garrett (1975) found that high work ethic scorers persisted longer at a dull and boring task and were also more productive, so it might be argued that those in whom the work ethic is strongest will be content with tedious jobs that foster little self-esteem. The participants in the present study provide support for this argument. Those who endorsed the work ethic most had spent fewer years in full-time education, and years of education predicted self-esteem negatively in regression $\beta = -.20$, $p < .01$. These people

would be more likely to settle in humdrum jobs that provide less self-esteem. There is no relationship between satisfaction with life and belief in the work ethic, although satisfaction with life is weakly associated with religiosity. This latter observation is consistent with the work of Inglehart (1990) who found a similar relationship using data drawn from a Eurobarometer survey of some 160,000 residents in 14 different countries. Eighty-five percent of those who went to church once a week or more said that they were very satisfied with life compared with 75% of non-attenders. Satisfaction with work is positively related to both the work ethic and religiosity and the association with religiosity is particularly strong. However, when the effect of religiosity is controlled for, the association between work satisfaction and the work ethic disappears. The broad pattern that emerges from this analysis is that beliefs in the work ethic and religiosity are strongly associated, and that some of the strongest relationships with the work ethic can be explained in terms of an underlying effect of religiosity. It is therefore reasonable to suggest that religious beliefs and beliefs in a work ethic are reflections of the same or similar sets of personal values.

Components of the Composite Work Ethic (CWE) Scale

An exploratory factor analysis was carried out on the items that comprised the CWE scale. Principal components analysis extracted seven factors with Eigen values > 1. The value of the Kaiser-Meyer-Olkin measure of sampling adequacy was .76, comfortably above the value of .6 usually considered the minimum for a good factor analysis (Tabachnick & Fidell, 1996). After Varimax (orthogonal) rotation, four of the anticipated factors - in decreasing order of magnitude, religiosity, belief in hard work, leisure and self-reliance - could clearly be identified. Most of the remaining items clumped within a "judgemental" factor concerned with attitudes towards others. The sixth and seventh factors each contained only two items and were not interpreted. The data were reanalysed as a five-factor solution, which accounted for 53% of the total variance, and the results are shown in Table 3.32.

The measure of the CWE was designed to include items representing each of the traditional components of the Protestant work ethic: attitudes towards hard work, wealth and leisure, religious and moral beliefs, self-reliance and asceticism. Factor analysis clearly identified beliefs in the value of religion, hard work, leisure and self-reliance of which, in terms of the proportion of variance explained, religiosity was the most important. The analysis provided no discrete evidence for the existence of factors corresponding to wealth, asceticism and morality. The non-appearance of the wealth (thrift) and asceticism (frugality) factors may be due to feelings of relative affluence in the UK and among our participants in particular, the majority of whom was in professional employment. Lenski (1961) noted the departure of asceticism from the modern work ethic in the US some years ago. The result with respect to morality need not be taken at face value. Of the three items included to

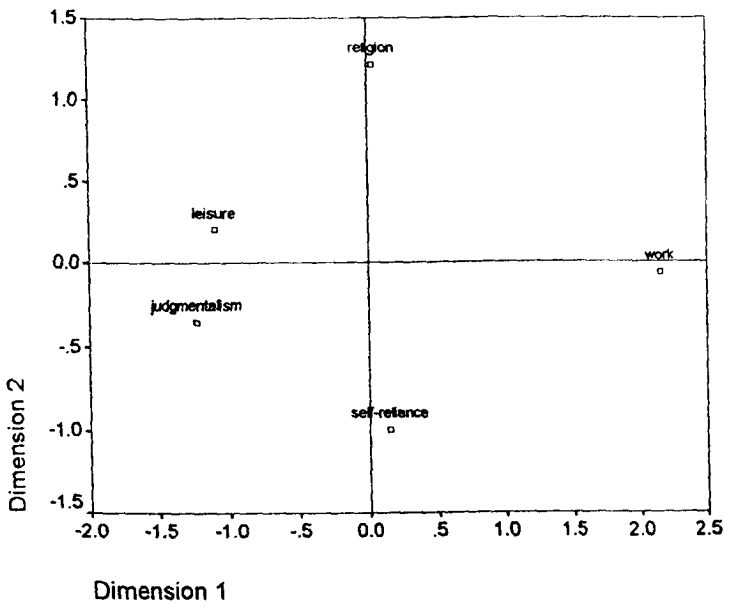
Table 3.32. Factor Analysis of the Contemporary Work Ethic Scale

M	*SD*	Item	F_1	F_2	F_3	F_4	F_5
3.74	1.92	The spirit of God lives within every man	.82				
3.46	1.80	There is some great plan for the affairs of men, the end of which no mortal eye can see	.80				
4.07	1.94	Once you die, that's all there is (-)	.76				
3.07	1.76	For young people to avoid sexual intercourse before marriage is old-fashioned and unnecessary (-)	.61				
4.29	1.17	Hard work is a good builder of character		.83			
4.20	1.24	Hard work is fulfilling of itself		.81			
3.67	1.29	Hard work still counts for more than all the clever ideas you read in newspapers		.63			
5.33	0.98	People who work hard deserve to be rewarded		.55			
4.54	1.23	Scrupulous honesty is the best way of gaining the respect of others		.50			
2.55	1.05	More leisure time is good for people (-)			.86		
2.51	1.190	The trend towards increased leisure is not a good thing			.78		
2.34	1.27	Society would have fewer problems if people had less leisure time			.64		
3.56	1.54	Success means having ample time to pursue leisure activities (-)			.53	.47	
3.86	1.43	A successful person earns an adequate income and can save for the future				.67	
2.14	1.31	To be superior a person must stand alone				.61	
3.00	1.41	Only those who depend on themselves get ahead in life				.51	
2.64	1.48	A self-made man is likely to be more ethical than the man born to wealth				.47	
3.26	1.45	One should avoid dependence on others wherever possible				.45	
3.59	1.61	The credit card is a ticket to careless spending					.66
1.83	1.24	Poverty comes from not wanting to do a proper job					.63
2.01	1.14	Most people who do not succeed in life are just plain lazy					.57
2.73	1.28	Most people spend too much time in unprofitable amusement					.48
		Eigen value	3.94	2.96	2.11	1.41	1.23
		Variance explained (%)	18	13	10	6	6

F_1 = Religiosity, F_2 = Hard work,, F_3 = Leisure, F_4 = Self-reliance, F_5 = Judgementalism.
(-) Items reversed in scoring. Factor loadings < .4 not shown.

measure (secular) morality, one about premarital sexual intercourse was subsumed in the religious factor. Another about the exploitation of other people for personal gain or pleasure, appeared to be regarded as a truism which was heavily and uniformly endorsed by everyone. It was therefore eliminated from the scale at an early stage because it contributed so little variance. However, the complete factor analysis included a new judgemental factor with all its items relating to evaluations of the ideas and attitudes of other people.

Figure 3.31 Multidimensional Scaling of CWE Factors



The spatial arrangement of the factors was examined by scaling in two dimensions of the aggregates of the scores of the original items appearing in each factor. The results presented in Figure 3.31 indicates that hard work and leisure are the extremes of one dimension and that religiosity and self-reliance are the extremes of the other. That orientations towards hard work and leisure should be opposed is not surprising, but the opposition of religiosity and self-reliance is less obvious. A possible explanation is that religious people regard their faith as an externally revealed truth rather than a considered position reached through the exercise of personal judgement and choice. This observation has been expressed more starkly by Brand (1981), who concluded that to be religious be unable or unwilling to think independently. The position of the judgemental factor does not conform to orthodox views. Although Christianity teaches its followers not to judge others, in practice religious groups often adopt judgemental positions, particularly with respect to the moral behaviours of their members and of others. Similarly, Golding and Middleton (1983) have noted that those who have achieved a measure of independence through employment

tend to regard some of those in receipt of welfare benefits as idle and dishonest. It could therefore be expected that judgementalism would occupy a position close to hard work and religiosity. This is not the case for the participants in the present study, for whom the judgemental component occupies a diametrically opposite position, close to leisure and self-reliance. This observation implies a contemporary shift away from traditional values, at least among the participants in this study, who appear to exercise their judgement independently of orthodox views about the value of work and religion.

Religiosity and Components of the Work Ethic

A strong association between the work ethic and religiosity has already been identified. Is this only because the CWE includes a religious element, or does religiosity affect the other components of the work ethic as well? There are also indications that the CWE and religiosity scores are influenced by gender and age. To explore these issues in detail, the aggregate mean scores for each component of the work ethic as identified above were compared by independent samples t-tests with respect to gender, age and religiosity. For these tests, participants' ages and religiosity scores were grouped into two categories above and below their respective means. A preliminary multivariate analysis of variance, not reported here, revealed no significant interactions among the categorical variables. Men, older people and those who scored highly on religiosity were marginally more judgemental, but none of the differences achieved significance and these results are not reported in the comparisons reported in Table 3.33.

Table 3.33 Differences in means of work ethic factors with respect to gender, age and religiosity

Factor	Gender				Age					Religiosity			
	Men		Women		Younger		Older			Low		High	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
Religion	13.0	5.5	15.3	5.8	12.8	5.7	15.9	5.5		10.0	4.1	18.8	3.3
	t(229) = -3.02**				t(229) = -4.21***					t(229) = -18.75***			
Hard Work	21.9	4.3	22.1	4.0	21.1	4.0	22.9	4.0		21.1	4.2	23.0	3.8
	t(236) = -0.23				t(236) = -3.46***					t(236) = -3.67***			
Leisure	10.7	3.5	11.1	3.8	10.1	3.4	11.8	3.7		10.1	3.4	11.8	3.7
	t(239) = -0.70				t(239) = -3.87***					t(239) = -3.60***			
Self-reliance	15.7	4.3	14.3	4.4	15.1	4.6	14.7	4.2		15.6	4.6	14.21	4.1
	t(240) = 2.28*				t(240) = 0.83					t(240) = 2.51*			

* $p < .05$, ** $p < .01$, *** $p < .001$.

Previous results indicate that women and older people endorse religiosity more highly. Therefore, the corresponding significant relationships of gender and age with the religious component of the work ethic reported in Table 3.33 were to be expected, as was the

extremely strong relationship with religiosity. Men appear to be slightly more self-reliant than women. The differences between older and younger people are highly significant for the work and leisure components. Older people score more highly on attitudes towards hard hard work and attribute less importance to leisure. (Leisure scores reversed in accordance with the traditional work ethic with its negative view of leisure). There was no significant difference in self-reliance between older and younger people. But the most important observation is that those who score high on religiosity, in addition to scoring highly on the religious component, exhibit significant and substantial differences for every other aspect of the work ethic identified in this study, except judgementalism for which the difference was not significant; they value hard work more, leisure less, and appear to be less self-reliant. Therefore the strong association between religiosity and the work ethic cannot be explained solely in terms of a religious element that is common to both; religious people conform to the traditional view of the work ethic in most other respects.

Religious components of the work ethic

Religiosity as measured by the Rohrbaugh and Jessor scale allows separate scores to be identified for ideological, consequential, ritual and experiential religiosity. These individual scores allow the broad conclusions identified above to be examined in detail. Separate stepwise multiple linear regressions were conducted for the overall CWE scale and its individual factors versus each of the components of religiosity, gender and age, and the results are reported in Table 3.34.

Table 3.34 Multiple regressions of CWE and its factors versus components of religiosity

Variables	R^2	R^2 change	β	*F*
CWE				
Ideological	.291	.291	.510***	
+Age	.317	.026	.163**	50.30***
Religion				
Ideological	.705	.705	.469***	
+Ritual	.762	.056	.249***	
+Consequential	.776	.014	.215***	
+Age	.781	.005	-.075*	200.65***
Work				
Ideological	.075	.075	.249**	
+Age	.106	.031	.177**	13.85***
Leisure				
Ideological	.084	.084	.259***	
+Age	.115	.031	-.179**	15.44***
Self-reliance				
Consequential	.059	.059	-.242***	14.92***
Judgementalism				
Experiential	.016	.016	.128*	3.99*

* $p < .05$, ** $p < .01$, *** $p < .001$.

Gender did not appear as a significant predictor in any of the regressions. Ideological religiosity and age were the only significant predictors of the overall CWE scores, and the ideological aspect was dominant. The regression coefficient for age was positive indicating, as would be expected from other results in this study, that the CWE was endorsed more by older than by younger participants. However, the much greater effect of ideological religiosity shows that participants' attitudes towards the work ethic are associated with fundamental beliefs, rather than with any other aspect of religiosity.

It was to be expected that the religious factor of the work ethic would be closely associated with the components of religiosity, and again the ideological component was the major predictor. The ritual and consequential βs were also significant, although accounting for only small proportions of the total variance in the religious factor. Age was the smallest significant factor. Experiential religiosity, which is concerned with feelings of comfort, security and religious reverence or devotion, was not a significant predictor. This is not surprising, Argyle and Hills (2000) have reported that mystical experiences - awareness of a supernatural presence - are not restricted to church members, although church members report them more often. Only the ideological factor and age make significant contributions to the work and leisure factors of the CWE, but these effects are small in magnitude.

The only significant predictor of the self-reliance factor of the work ethic is consequential religiosity, which measures the extent to individuals' actions are influenced by religious advice and teaching, and the corresponding β is negatively signed. This result is self-evident; it is reasonable to assume that those who are more self-reliant will be less likely to turn to external sources of help in personal matters. The relationship between judgementalism and experiential religiosity is very weak. It only just reaches significance, $p = .047$ and accounts for less than 2% of the total variance in the judgementalism factor. Perhaps it is more important to note that that none of the other components of religiosity reaches even this level of importance. This provides support for the unexpected position of judgementalism in the multidimensional scaling reported above, where it was shown to be diametrically opposed to the religious factor.

CONCLUSIONS

A strong association between the work ethic and religiosity has been identified. Although older people endorse both the work ethic and religiosity more highly than younger people, this association cannot be accounted for by age. Correlations between the work ethic and religiosity, and a variety of trait and cognitive variables show that many of the associations between the variables and the work ethic are mediated by religiosity. It can therefore be concluded either that religiosity and attitudes towards the work ethic represent similar sets of personal values, or that religiosity predisposes individuals to subscribe to the work ethic.

Factor analysis of the work ethic scale yielded factors relating to religion, work, leisure, self-reliance, and a new factor termed judgementalism, and of these the religion factor was

the most important. In this Contemporary Work Ethic (CWE), no evidence was found for the attitudes towards wealth, morality and asceticism that feature in the traditional work ethic. Scaling of the factors in two dimensions showed that attitudes towards work and leisure were the extremes of one dimension and that religion and self-reliance were the extremes of the other. Within these dimensions, the judgementalism factor occupied a position close to leisure and self-reliance and remote from religion and work. This has been taken as evidence that the CWE represents a shift away from traditional values; in making their judgements individuals no longer rely on orthodox views about religion and work.

The large contribution of the religious factor to the CWE could explain its strong association with religiosity, but comparisons of means showed this not to be so; religiosity significantly and strongly affected all the factors of the CWE with the exception of judgmentalism.

The scale used to measure religiosity can be deconstructed into ideological, consequential, ritual and experiential components, and the predictive power of each of these components for the overall CWE scores and for the scores of its constituent factors were established in a series of multiple linear regressions. The influence of the ideological component was dominant for the overall CWE, and the religious, work and leisure factors, and where other components made a significant contribution this was of no great magnitude. The only (negative) predictor of self-reliance was consequential religiosity. This observation was not surprising because consequential religiosity is a measure of the extent to which individuals rely on external (religious) guidance in managing their lives and dealing with their personal problems. Judgementalism was significantly predicted only by experiential religiosity, although the magnitude of the effect was vanishingly small. That judgementalism is not significantly predicted by any other factor of religiosity provides confirmatory evidence for the observation that judgementalism is not associated with orthodox views about work and leisure. ■

4 ASPECTS OF PERSONALITY

4.1 HAPPINESS, INTROVERSION-EXTRAVERSION AND HAPPY INTROVERTS

Some 270 mature participants completed the Oxford Happiness Inventory (OHI), the extraversion and neuroticism subscales of the Eysenck Personality Questionnaire and measures covering several cognitive and other aspects of individual personality. Extraversion was associated with happiness as is usually found, but the correlations of other personality differences, particularly those related to life satisfaction, were greater. These variables were substantially independent of extraversion but other variables such as empathic and affiliative tendencies were not. Extraversion is primarily a measure of sociability, and social relationships are a self-evident source of happiness. Nonetheless, a substantial minority of the participants could be classified as happy introverts. In terms of preference for solitude, relations with friends, and taking part in potentially introspective activities, the behaviours of happy introverts and happy extraverts were virtually identical. It is suggested that the mechanism by which introversion-extraversion affects happiness is different from that of the other variables, and might better be considered as an instrumental variable that mediates the ways individuals choose to achieve their own happiness.

INTRODUCTION

Subjective well-being, or happiness, is not necessarily a unitary construct. Diener (1984) has argued that subjective well-being has at least three components: positive affect, negative affect and cognitive variables such as satisfaction with life. Positive affect correlates strongly with extraversion and negative affect with neuroticism. Most measures of happiness also correlate positively with extraversion. A recent meta-analysis (DeNeve & Cooper, 1998) reported correlations between extraversion and several measures of subjective well-being between .17 and .27, although in studies with the Oxford Happiness Inventory (Argyle, Martin & Lu, 1995) happiness and extraversion are typically associated with correlation coefficients of about .45. For such reasons, extraversion has come to be regarded as the individual personality difference that is most strongly and positively allied with happiness. In a longitudinal study, Costa, McCrae and Norris (1980) reported that extraversion predicted positive affect 17 years later. More recently, Tellegen (1985) has put forward the complementary idea that happiness, or more specifically positive emotionality, forms the core of the trait of extraversion.

The main characteristic of the extravert is social activity, which can be a major source of happiness (Argyle & Lu, 1990a). Hills, Argyle and Reeves (2000) investigated some motivational factors that might lead young people to engage in a variety of leisure pursuits. As such activities are voluntary and not generally undertaken for material gain, it seems reasonable to assume that they are carried out for the satisfaction or happiness that they are expected to generate. The most widely applicable explanation for taking part in leisure activities was found to be the opportunity they created for social interaction, which provides further support for a link between happiness and the sociability that characterises the extravert.

However, these results are not fully consistent with personal observation. Most people can number among their friends and acquaintances those who appear to be happy without being particularly gregarious. The above results are also at variance with the ideas of those classical philosophers, for example Aristotle and Epicurus, who have given the greatest attention to human happiness. Their prescriptions for happiness involve withdrawal from many of the social aspects of life and living a quiet, peaceful existence in relative solitude. The same can be said of the ways of life commended by most religious systems. Their aim is to provide great personal happiness for believers, either in life or after death, and medieval anchorites and hermits believed that total isolation was the way to achieve it. Nevertheless, religious systems usually prescribe detailed codes of social behaviour that may include taking part in regular corporate worship. This can be a source of social support that may in turn enhance well-being (Hills & Argyle, 1998a). However, these codes are generally regarded as duties or obligations and not as the primary source of religious happiness; religious happiness comes from a personal relationship with the Divine. In this

context, it is noteworthy that the majority of those who report intense religious experiences say that these occur in solitude (Hay & Morisey, 1978).

As originally described by Jung (1928), introverts and extraverts differ in their primary orientations. The introvert's main concern is to establish autonomy and independence of other people, whereas the extravert looks towards and seeks the company of others. Jung envisaged introversion and extraversion as two alternative orientations, and expressed no opinion about which was the more desirable. However, Jung's typology was adopted by other workers beginning with Freud, who considered extravert behaviour to be a sign of maturity and introvert behaviour a sign of arrested development (Coan, 1994).

A higher-order factor corresponding to Jung's introversion-extraversion has been identified in most multidimensional personality inventories developed over the past 75 years. In consequence, much research has been devoted to identifying the individual traits and behaviours that form its component parts. From a consideration of the principal existing models of extraversion, Watson and Clark (1997a) have presented a schematic model of extraversion that comprises six independent traits and twelve associated sub-traits. Inevitably, later formulations contain many features that were not present in the original concept and successive formulations have not always been mutually consistent. Eysenck and Eysenck (1975) identified risk taking and a tendency towards unreliability as aspects of extraverted behaviour. These aspects do not feature in later models (Hogan, 1983, Tellegen, 1985) which instead emphasise social facility and influence, ambition and an orientation towards hard work and achievement. Nevertheless, all models include the traits of sociability, gregariousness and affiliative tendency, which are central to the present study.

Eysenck (1967) has explained the difference between introverts and extraverts in terms of cortical arousal. The extravert is not easily aroused and, in compensation, seeks stimulation in the company of many people. The extravert needs to have people to talk to, craves excitement and opportunities for physical activity, likes to laugh and be merry, and engages in many social interactions, which are a major source of happiness. In contrast, the introvert has a low arousal threshold and can function without the need for high levels of external stimulation. The introvert is usually represented as a quiet individual who is fond of books rather than people, does not like excitement and is distant except to intimate friends (Eysenck & Eysenck, 1975). The view that extraversion is a preferred state has come to be widely accepted among social psychologists. In consequence, introverts are sometimes represented as withdrawn, isolated or lacking social competence, rather than as individuals who seek independence and autonomy. Concentration on the link between extraversion and happiness could have led researchers to overlook states of happiness enjoyed by introverts that do not involve a great deal of social interplay.

This distinction relies on individual differences in the need for stimulation, but is stimulation the same as happiness? Introverts may not derive much satisfaction from

gregarious situations because they do not need the external stimulation provided by the presence of many people, but they could be no less open to other kinds of happiness. Whereas extraverts need many people around them, introverts may be more selective and focus on establishing individual affiliative relationships with a few special friends and experience higher levels of empathy with them. Introverts may have highly satisfying leisure activities that can be carried out in relative isolation. They may also enjoy an intense inner life, based on intellectual, musical or religious activities which give them much to think about without the need to rely on other people (Storr, 1988).

The broad aims of this study are to explore:

1. *The importance of extraversion relative to other variables associated with happiness.* Other correlates of happiness have been described which are related to cognitive style, for example goal-directed behaviour (Brunstein, 1993), optimism (Myers, 1992) and self-esteem (Brown, 1986) and these may be more important to introverts than to extraverts.
2. *The extent to which overall happiness can be accounted for by factors other than extraversion.* For example, the happiness of individuals who do not score highly on extraversion could be explained by other factors such as low neuroticism or greater satisfaction with life.
3. *The similarities and differences that may exist between the qualities of happiness demonstrated by those who are respectively high and low in extraversion.* Happy introverts might prefer quieter forms of social activity than extraverts, which involve fewer people and greater intimacy. They might also derive more enjoyment from solitary activities and have more satisfying inner lives than extraverts.

METHOD

Participants

Two hundred and seventy-two residents of Oxfordshire and their friends and acquaintances (94 men and 178 women) were recruited by personal contact with a variety of leisure groups, Oxford Brookes and Oxford Universities, and by advertisements in public places. Ages ranged from 18 to 83 (M = 44.4, SD = 17.4) years. The respondents were mainly professional; 68% were graduates or mature students, 47% were in full or part-time employment and 19% retired. Most (60%) were living with a partner.

Measures

Respondents were invited to complete and return a postal questionnaire constructed from a number of published scales that seemed relevant to this study. The scales were the Oxford Happiness Inventory (Argyle, Martin & Lu, 1995) [included in questions 001-226, pp 177-181] modified to contain a balanced number of positive and negatively phrased items,

the extraversion and neuroticism sub-scales of Eysenck's Personality Questionnaire (Eysenck & Eysenck, 1975) [included in questions 001-226, pp177-181], the Preference for Solitude Scale (Burger, 1995) [included in questions 001-226, pp177-181], Rosenberg's Self-esteem Scale (Rosenberg, 1989) [included in questions 001-226, pp177-181], the Empathic Tendency scale (Mehrabian & Epstein, 1972) [included in questions 001-226, pp177-181], the Life Orientation Test - a measure of dispositional optimism, (Scheier & Carver, 1985) [included in questions 001-226, pp177-181] and the Life Regard Index - a measure of both purpose in life as represented by the existence of a set of life goals and the extent to which an individual feels that he has fulfilled them (Battista & Almond, 1973) [included in questions 001-226, pp177-181]. Affiliative Tendency was measured by appropriate items taken from the Jackson Personality Research Form (Jackson, 1984) [included in questions 001-226, pp177-181]. To ensure uniformity of presentation, items in the original scales were reworded as single statements to which participants could respond on a uniform 6-point Likert scale ranging from "strongly agree" to "strongly disagree". Before administration, the individual items of all the scales were combined and rearranged in random order. It was not, therefore, considered necessary to retain any filler items included in the original scales.

Questions were also asked about the enjoyment of leisure activities in general and the degree of enjoyment obtained from activities carried out alone, such as collecting and gardening, and being alone with one's thoughts, for example while going for a walk in the country. Similarly, respondents were asked to indicate how many close friends they had, how often they met their closest friend, how often they met their closest friend with no other people present, and the extent to which they discussed personal feelings and problems with their closest friend and with members of their family. To explore the satisfactions derived from more introspective forms of leisure, questions were asked about participants' membership of and frequency of attendance at performing musical groups and churches, and the amounts of time spent listening to music, reading and watching TV.

Design

The entire data set, after the removal of three outlying cases with respect to the Oxford Happiness Inventory (OHI) or extraversion scores, was used for the preliminary characterisation of the data with respect to gender, age and the behaviour of the component scales. For comparing "happy" with "unhappy" individuals and extraverts and introverts, the data set was divided into two groups above and below the median values for the OHI and extraversion scores respectively. For more detailed analyses the above groups were further partitioned into four new groups: (1) happy extraverts, (2) happy introverts, (3) unhappy introverts, and (4) unhappy extraverts. To confirm that the differences in composition of these four groups were not due to chance, a multivariate analysis of variance (MANOVA) was conducted for all variables across all groups. The F-value associated with each of the

variables was significant at the $p < .001$ level. Subsequent analyses were based on intercomparisons of these groups paying particular attention to the differences and similarities between happy extraverts and happy introverts (groups 1 and 2), happy and unhappy introverts (groups 2 and 3) and happy and unhappy extraverts (groups 1 and 4).

RESULTS

Data characteristics

Independent t-tests indicated no significant gender effects with respect to OHI, extraversion, preference for solitude, affiliative tendency, life orientation or life regard. There were significant differences in the means for neuroticism, $t(269) = 3.24$, $p < .001$, empathic tendency, $t(264) = 5.06$, $p < .001$, and self-esteem, $t(269) = -.56$, $p < .05$. However, the magnitudes of the differences were not great. Women had higher neuroticism scores as is usually found (Eysenck & Eysenck, 1975). They also reported higher empathic tendency scores and lower self-esteem, and this too is consistent with previous reports (Mehrabian & Epstein, 1972; Rosenberg, 1989). Bivariate correlations indicated that there were no significant associations with age for OHI, life orientation, life regard or self-esteem. The associations, with preference for solitude, affiliative tendency, and empathic tendency were significant, but weak, $r < .25$. Older people appeared to have a greater preference for solitude and exhibited less affiliative tendency and empathy. The associations with the Eysenck traits were: extraversion, $r(267) = -.18$, $p < .01$, neuroticism, $r(269) = -.34$, $p < .001$, with older people returning lower scores for both as has previously been reported (Eysenck & Eysenck, 1975).

To confirm that the data were not atypical, a multiple regression of the extraversion and neuroticism scores on the OHI scores ($N = 265$) afforded the commonly observed relationship. OHI was positively related to extraversion, $\beta = 0.49$, and negatively related to neuroticism, $\beta = -0.52$. The two predictors accounted for 61% of the variability in the data, with neuroticism explaining 38% and extraversion 23%.

Scale responses

The partial correlations, controlling for gender and age, between happiness and the scale variables are reported in Table 4.11. All except empathic tendency were highly significant and substantial. Although the correlation with extraversion is higher than is usually found, $r(246) = .61$, $p < .001$, four other variables - life regard, self-esteem, life orientation and neuroticism - correlated more highly. The high correlation values may, in part, be explained by the nature of the OHI, which is designed to tap the principal domains of happiness. There may, therefore, be some content overlap among the happiness and life satisfaction scales.

Table 4.11 also includes partial correlations with happiness, controlling additionally for extraversion. The magnitude and significance of the stronger associations is little changed,

indicating that these variables are largely independent of extraversion. The positive association of affiliative tendency with happiness is greatly reduced and becomes non-significant when extraversion is controlled for, which implies that affiliative tendency is more associated with extraversion than with happiness. The weak negative relationship of empathic tendency with happiness is marginally greater and reaches significance, $p < .05$, when the effect of extraversion is controlled. This suggests that being emotionally affected by the (negative) experiences of others - the empathic tendency scale is largely constructed around stressful or irritating events - is not conducive to happiness. The result for preference for solitude is particularly relevant to this study. When the confounding effect of extraversion is removed, variations in preferences for solitude have no significant effect on reported happiness. These results suggest that while happiness is associated with extraversion and extraversion-related variables, the other variables examined in this study influence happiness independently.

Table 4.11 Partial correlations of happiness with the scale variables

	OHI[a]	OHI[b]
Life regard	.85***	.81***
Self-esteem	.78***	.70***
Life orientation	.75***	.69***
Neuroticism	-.67***	-.63***
Extraversion	.61***	–
Affiliative tendency	.51***	.06
Preference for solitude	-.18**	.19
Empathic tendency	-.03	-.15*

[a] controlling for gender and age.
[b] controlling for gender, age and extraversion.
* $p < .05$, ** $p < .01$, *** $p < .001$

Table 4.12 Factor analysis of score variables[a]

Measures	Factor 1	Factor 2
OHI	.88	
Self-esteem	.86	
Life regard	.85	
Neuroticism	-.84	
Life orientation	.84	
Affiliative tendency		.87
Extraversion		.77
Preference for solitude		-.72
Empathic tendency		.57
Proportion of total variance explained	49%	22%

[a] $N = 267$; factor loadings < .45 not shown

To discover which variables related more closely to happiness and extraversion respectively, the scale scores were factor analysed. Principal components extraction indicated the presence of two factors with Eigen values > 1 which together accounted for 71% of the total variance. and the factor loadings after Varimax (orthogonal) rotation are reported in Table 4.12. Happiness appears in the first factor where it is linked positively with self-esteem, life regard and life orientation, and negatively with neuroticism. Extraversion appears in the second factor together with affiliative tendency, preference for solitude and. empathy. These results suggest that for the participants in this study, happiness is primarily associated with goal-directed behaviour, an optimistic outlook and self-esteem, whereas extraversion relates most closely to a preference for solitude (negatively) and affiliative and empathic tendencies. It would appear that (low) neuroticism is more closely associated with happiness than is extraversion; that is, stability/freedom from anxiety is more important to individual happiness than is sociability.

The data set was then partitioned as set out in the Design section above. Table 4.13 summarises the distribution of happy and unhappy participants overall and in each of the partitioned groups, as well as the group mean Z-scores for happiness and extraversion. The two largest of the fully partitioned groups are happy extraverts and unhappy introverts which is consistent with the frequently reported positive relationship of happiness with extraversion. But because this relationship is not perfect - it would be surprising if it were - there is some divergence. Of the 133 participants who report happiness scores above the median value, 44 (33%) would appear to be introverts, and of the 133 who fall below the median happiness value 48 (36%) appear to be extraverts. It can also be observed from comparisons of happy extroverts and introverts, and of unhappy extraverts and introverts that changes in the happiness scores are relatively insensitive to quite large changes in introversion-extraversion. In the case of happy extraverts versus happy introverts, the changes in the extraversion standardised scores are five times greater than the corresponding change in happiness. This observation would not be compatible with the argument that extraversion was the salient predictor of happiness.

Table 4.13 Distribution of participants with respect to happiness and extraversion

Group	*N*	OHI[a]	Extraversion[a]
A Happy participants	133	0.82 ± 0.45	0.45 ± 0.96
B Unhappy participants	133	-0.82 ± 0.68	-0.48 ± 0.96
1 Happy extraverts	89	0.90 ± 0.47	0.90 ± 0.53
2 Happy introverts	44	0.65 ± 0.35	-0.48 ± 0.51
3 Unhappy introverts	85	-1.00 ± 0.73	-0.98 ± 0.71
4 Unhappy extraverts	48	-0.49 ± 0.43	0.54 ± 0.40

[a] Mean Z-scores

Table 4.14 compares the scale means for all happy and all unhappy individuals and for the four partitioned groups using independent t-tests (two tailed).

Table 4.14 Differences in scale mean scores and t-values for partitioned groups

	Means and deviations					
Scale	A. Happy	B. Unhappy	1. Happy extraverts	2. Happy introverts	3. Unhappy introverts	4. unhappy extraverts
N	123	133	89	44	85	48
Happiness	137.4 ± 8.9	104.8 ± 13.6	139.1 ± 9.4	134.1 ± 7.0	101.1 ± 14.6	111.3 ± 8.5
Extraversion	90.9 ± 13.9	76.2 ± 16.1	98.4 ± 8.9	75.3 ± 8.6	67.0 ± 12.0	92.5± 6.7
Neuroticism	65.7 ± 18.4	88.5 ± 17.9	65.3 ± 17.9	66.5 ± 19.4	87.6 ± 19.7	90.1 ± 14.4
Solitude	45.8 ± 7.8	47.8 ± 9.0	44.3 ± 8.4	49.0 ± 5.4	50.3 ± 8.4	43.3 ± 8.3
Life orientation	39.6 ± 4.8	30.4 ± 6.8	39.7 ± 4.8	39.2 ± 5.0	29.9 ± 7.3	31.3 ± 5.9
Affiliation	67.7 ± 10.3	59.0 ± 12.6	71.8 ± 8.0	59.4 ± 9.5	53.5 ± 11.0	68.8 ± 8.8
Life regard	137.4 ± 12.4	107.2 ± 18	137.8 ± 12.9	136.7 ± 11.4	104.9 ± 21.0	111.4 ± 13.7
Empathy	140.3 ± 15.7	140.3 ± 15.7	141.6 ± 15.9	137.7 ± 15.1	139.9 ± 15.0	46.0 ± 14.9
Self-esteem	51.2 ± 5.4	39.2 ± 8.2	51.4 ± 5.4	50.8 ± 5.4	38.5 ± 8.4	40.4 ± 7.8

	Comparison of means (*t*-values)				
Scale	All happy vs all unhappy	Happy introverts vs unhappy introverts	Happy extraverts vs unhappy extraverts	Unhappy extraverts vs unhappy introverts	Happy extraverts vs happy introverts
Happiness	23.11***	17.37***	17.05***	5.10***	3.40**
Extraversion	7.95***	4.07***	4.38***	13.54***	14.14***
Neuroticism	-10.25***	-5.80***	-8.24***	-0.81	-0.37
Solitude	-1.85	-1.08	0.65	-4.58***	-3.85***
Life orientation	12.63***	8.55***	9.11***	1.13	0.55
Affiliation	6.16***	3.06**	2.07*	8.79***	7.89***
Life regard	15.32***	11.07***	11.10***	2.15*	0.44
Empathy	-0.95	-0.81	-1.54	2.20*	1.37
Self-esteem	14.14***	10.13***	8.68***	1.30	0.52

$p < .05$, ** $p < .01$, *** $p < .001$

A comparison of all happy with all unhappy individuals shows that with the exception of preference for solitude and empathic tendency, all of the variables are related to happiness, at least at the $p < .01$ probability level. It has already been observed that a preference for solitude and empathic tendency appear to be more closely related to extraversion than to happiness. The comparisons of happy and unhappy introverts and of happy and unhappy extraverts give broadly similar results to the comparison of all happy and all unhappy participants. Comparisons between the partitioned groups of extraverts and introverts reveal fewer differences. Although differences in happiness are significant at the $p < 0.001$ level, the absolute differences in the respective means are small in magnitude for participants who differ widely in introversion-extraversion. Other significant differences in means are

predominantly associated with the variables most closely related to extraversion, as is to be expected. The most notable observation is that with the exception of extraversion, the variables most associated with differences in happiness appear to be much less important in distinguishing extraverts and introverts.

Behavioural responses

Participants were asked specific questions about their enjoyment of work, different kinds of leisure and their interactions with friends and family. The responses of extraverts, introverts, happy extraverts and happy introverts are compared by independent samples t-tests (two-tailed) in Table 4.15.

Table 4.15 Work, leisure, solitude, friends and family: Influence of differences in introversion-extraversion

	Means and deviations					
Item	A. Extraverts	B. Introverts	*t*	1. Happy extraverts	2. Happy introverts	*t*
N[a]	138	131		89	44	
Enjoyment of:						
work	3.48 ± 0.62	3.32 ± 0.72	1.69	3.52 ± 0.62	3.63 ± 0.49	-0.85
leisure	3.83 ± 0.40	3.60 ± 0.54	3.93***	3.89 ± 0.32	3.75 ± 0.44	1.86
solitary leisure	3.21 ± 0.89	3.36 ± 0.77	-1.40	3.36 ± 0.81	3.55 ± 0.66	-0.41
being alone	3.36 ± 0.78	3.42 ± 0.73	-0.62	3.39 ± 0.78	3.52 ± 0.66	-0.95
Number of close friends	3.15 ± 0.81	2.64 ± 0.89	4.57***	3.10 ± 0.80	2.52 ± 0.96	3.68***
Frequency of seeing:						
closest friend	2.66 ± 1.20	2.76 ± 1.26	-0.67	2.67 ± 1.20	2.58 ± 1.31	0.40
closest friend alone	2.88 ± 1.14	3.02 ± 1.26	-0.95	2.91 ± 1.18	2.85 ± 1.39	0.23
Discuss personal concerns:						
with closest friend	3.54 ± 0.67	3.35 ± 0.75	-2.25*	3.59 ± 0.65	3.41 ± 0.73	1.49
with family members	3.34 ± 0.75	3.00 ± 0.79	-3.70***	3.44 ± 0.64	3.30 ± 0.59	1.24

[a] Numbers sometimes reduced by missing values.
* $p < .05$, ** $p < .01$, *** $p < .001$

All responses were given on a 4-point scale and it is notable that the mean scores were uniformly high, most fell midway between scale points 3 and 4, and that the real differences between the respective means were small, although some were significant. Comparing all extraverts with all introverts, extraverts appeared to enjoy both work and leisure slightly more, and the difference was significant, $t(267) = 3.98$, $p < .001$, for leisure. The differences were less marked for happy extraverts and happy introverts. Happy introverts enjoyed work more than did happy extraverts, although the difference between them did not achieve significance. There were small but not significant differences in the enjoyment of solitary leisure activities or of being alone with one's thoughts, with introverts enjoying them more than extraverts. A comparison of happy extraverts and happy introverts produced identical results.

Extraverts reported having marginally more close friends than did introverts, as did happy extraverts than happy introverts and both differences were significant, $p < .001$. There were no significant differences in the reported frequencies of seeing one's closest friend, or of meeting one's closest friend when no one else was present, for any of the compared groups. In every category, respondents reported that they discussed personal feelings, concerns and problems more with their closest friend than with members of their family. Extraverts and happy extraverts were more likely to discuss personal concerns with their closest friend and with members of their family than were introverts and happy introverts, but the differences were not significant for the comparisons of happy extraverts and happy introverts. These results show that the differences in behaviours typically associated with extraverts and introverts were not very marked among the participants in this study. Generally, any differences were in the expected directions but were small in real terms even when they reached statistical significance. The differences were least for comparisons of happy extraverts and happy introverts which again points to the conclusion that although these two groups differ substantially in their extraversion scores their reported behaviours are virtually identical.

It was known from previous studies that reasonable proportions of participants were members of churches or of performing music groups. Questions were therefore included in the present study about membership of such groups, on the assumption that these activities would provide some evidence of an inner life for those individuals who were less gregarious. The differences in means for extraversion and preference for solitude were compared by independent samples t-tests for members and non-members of musical groups and churches respectively. In neither case were the differences significant. Other questions addressed the amount of time participants spent listening to music, in serious reading, and watching TV, and the corresponding means were compared for extraverts and introverts. On average, extraverts reported listening to music for 10.3 hours/week and introverts 6.7 hours and the difference was significant, $t(257) = -3.17$, $p < 0.01$. There was no significant difference in the time extraverts and introverts spent reading or watching TV. These results are counter-intuitive and lead to the conclusion that the pursuit of activities that might be indicative of a satisfying inner life is not reflected in low extraversion scores.

DISCUSSION

The first aim of this study was to explore the importance of extraversion relative to some other variables and, with the exception of empathic tendency, all were significantly and substantially correlated with happiness. When the effect of extraversion was controlled for by partial correlation, the association between happiness and life regard, self-esteem, life orientation and neuroticism hardly changed, which suggests that these variables are substantially independent of extraversion. However the association between happiness and affiliative tendency and preference for solitude became non-significant, which suggests that

these variables are more closely associated with extraversion than with happiness. These results were substantiated by factor analysis, which showed that self-esteem, life regard, life orientation and neuroticism were most closely associated with happiness, whereas extraversion related more closely to affiliative and empathic tendencies and a preference for solitude (negatively).

The conclusion from these analyses is that, among our participants, happiness is more closely associated with scale variables that reflect fulfilment and satisfaction with life rather than extraversion. This observation is in accord with other findings (Hills & Argyle, 1998b) which demonstrated that the most important component factors of the OHI were satisfaction with life and self-efficacy. This result is consistent with work recently reported by Arrindell, Heesink and (1999) who, in an appraisal of the Satisfaction with Life Scale (SWLS) of Diener, Emmons, Larsen and Griffin (1985), reported that "the frequently reported substantial positive correlation (of the scale) with sociability was not confirmed". Similarly, in a factor analysis of the SWLS, variables associated with extraversion (sociability, disinhibition, inpulsivity, and susceptibility to boredom) appeared in a secondary factor separate from that most characterisic of satisfaction with life and physical well-being.

In evaluating this conclusion, account should be taken of the composition of our sample of respondents. The participants were mostly professionals, in employment or retired, and living with a partner. Relatively few were unemployed, widowed, separated or divorced. It would be reasonable to assume that such individuals would have had a full opportunity to develop life-goals and had moved some way towards their fulfilment. They could be expected to enjoy a substantial measure of life satisfaction and self-esteem and view their worlds with an above average amount of optimism.

The above results suggest that the mechanism by which extraversion affects happiness is different from that of the other variables and this requires some explanation. Extraversion as measured by the EPQ is essentially a measure of sociability. Of the 21 items that form the extraversion subscale, at least 15 are direct measures of gregariousness, for example: "I have many friends", "I enjoy meeting new people", "I like mixing with people". Several of the remaining six items also have a social context, for example "other people think I am very lively" and "I can usually find a ready answer when people talk to me". This has special implications for those who score low on extraversion, who might be considered retiring and withdrawn, or even lacking in social skills. In fact, all that the introversion-extraversion subscale tells us is that introverts are less keen on gregarious environments than extraverts. The recent work of Herringer (1999) supports this conclusion. While observing a reasonable correlation ($r = .38$, $p < .001$) between total extraversion and life satisfaction, when the relationships between different facets of extraversion (activity, assertiveness, excitement-seeking, gregariousness, position emotion and warmth) were examined, gregariousness was not a significant predictor of life satisfaction.

There can be little doubt that social interaction is enjoyable to extraverts and that social interaction can be a major source of pleasure and happiness. There are other possible considerations. Pavot, Diener and Fujita (1990) have suggested that extraverts might be happier simply because they spend more time in social situations and are exposed to more frequent opportunities for experiencing the positive feelings that are generated by social interaction. Another possibility could be societal (Diener, Larsen & Emmons, 1984). Contemporary life is highly interactive. It is increasingly necessary to rely on others for the needs of daily existence and people are often required to live and work in close proximity. Those who report higher levels of well-being are probably well adapted to this kind of life and will also be those who find it easy to get on with other people. Argyle and Lu (1990b) have reported that the relationship between extraversion and happiness is partially explained by social competence. There is also a cultural possibility (Edwards, 1957). In modern western society, the enjoyment of both friendship and happiness are widespread social aspirations, so that extraversion, the personality trait that is commonly associated with both, is seen to be socially desirable. One consequence of this is that happiness derived from largely solitary activities has either been overlooked or explained in "parasocial" terms. For example, Livingstone (1990) has proposed that regular viewers of TV-soaps form satisfying imaginary friendships with the characters appearing.

The second aim of the study was to explore whether there were states of happiness other than demonstrated by extraverts. A substantial minority of happy people returned below average scores on the introversion-extraversion scale and a similar number of unhappy people appeared to be extraverts. A comparison of all happy with all unhappy people showed highly significant differences for the majority of scale variables, as was to be expected from the partial correlations already reported and discussed. These results were mirrored by a comparison of happy and unhappy introverts and of happy and unhappy extraverts. Perhaps the most important observation was that for each of these comparisons there was no evidence for significant relationships between happiness and the social variables, preference for solitude and empathy. In contrast, when unhappy and happy extraverts and unhappy and happy introverts were compared, the differences in these two variables were highly significant. This suggests that variables which are most influenced by introversion-extraversion are the least important in distinguishing happy and unhappy individuals and that when multiple variables are taken into account, those variables associated with life satisfaction are more important than extraversion. When comparisons were restricted to happy people, there appeared to be little practical difference in the nature of the happiness reported by introverts and extraverts. In the case of happy introverts, there is no evidence that their low scores on extraversion are compensated for by greater stability, that is, low neuroticism scores.

Pavot, Diener and Fujita, (1990) have reported that extraverts are happier than are introverts even when they are alone. Diener, Sandvik, Pavot and Fujita (1992) similarly

found that extraverts were happier whether they lived with others or alone, worked in social rather than non-social occupations, or lived in urban or rural environments. The results of the present study with respect to the relationships between happiness and extraversion, and especially those relating to preference for solitude, are not consistent with these findings, although extraverts appear to enjoy leisure more. But there are differences in other respects. Extraverts reported having significantly more close friends, although they do not see their closest friend more frequently than introverts do, nor see their closest friend alone more often. Extraverts are also more likely to discuss personal problems with both their closest friend and with family members, but although significant, the numerical differences were small in magnitude. Yet when happy extraverts and happy introverts were compared there were no significant differences in any of these respects.

The final aim was to determine whether there were differences in the kinds of happiness demonstrated by introverts and extraverts. Participants were asked about their involvement in several potentially introspective activities. The differences between all extraverts and all introverts were small even when statistically significant and the behaviours of happy extraverts and happy introverts were virtually identical. Questions were also asked about the amount of time spent listening to music, in serious reading and in watching TV. There were no significant differences for listening to music and watching TV. The difference was significant for serious reading but it was the extraverts who read more! On the assumption that membership of churches or musical groups might provide evidence of a developed inner life, the differences in extraversion and preference for solitude were compared for members and non-members of these organisations. There were none. In all these respects, it appears that individual behaviour is little affected by substantial differences in introversion-extraversion.

CONCLUSIONS

For the participants in this study, the variables that appear to be most closely associated with happiness are life regard, self-esteem, life orientation and mental stability. Introversion-extraversion is also a significant correlate of happiness, but other factors examined - empathic and affiliative tendencies and preference for solitude - which are closely related to introversion-extraversion are, surprisingly, not significantly associated with happiness. In comparisons of selected groups of extraverts and introverts, the differences in happiness levels are relatively small, although these groups differ widely in introversion-extraversion. These same groups also display significant differences in preference for solitude and affiliative tendency, yet in terms of behaviour there is little difference between introverts and extraverts.

These findings suggest that the mechanism by which extraversion affects happiness may be different from the mechanisms involving variables associated with life satisfaction. A possible explanation may lie in the nature of introversion-extraversion and its functionality in

influencing happiness. As originally defined by Jung, introversion and extraversion distinguished two different modalities in the way individuals satisfied their inner drives (libidos). Introverts were considered to concentrate on their inner worlds at the expense of social interaction, whereas extraverts preferred to live out their internal drives in social interplay. The variables most strongly associated with happiness in this study, for example life regard and self-esteem, are measures of life satisfaction and fulfilment that do not necessarily have a dominant social element. It is also apparent that both introverts and extraverts can achieve high levels of happiness and that those who are the happiest demonstrate virtually identical patterns of social behaviour. The evidence that low introversion-extraversion scores are not inimical to happiness is unequivocal. This suggests that introversion-extraversion may be more of an instrumental variable which reflects, rather than determines, how individuals choose to attain life satisfaction and happiness. ■

4.2 EMOTIONAL STABILITY AS A MAJOR DIMENSION OF HAPPINESS

Happiness is associated with both extraversion and neuroticism, and extraversion is generally considered the more important. A recent study of happy introverts has shown that extraversion is not always an essential correlate of happiness, and an extensive meta-analysis has found that neuroticism is a greater predictor of both happiness and life satisfaction. It is suggested that the reason for the importance of neuroticism having been overlooked in the past, is the difficulty of handling the idea that (positive) happiness is related to the absence of a (negative) construct. This difficulty could be resolved by the reversal of neuroticism into an alternative and positive concept of "emotional stability". Happiness could then be regarded as being associated with two positive qualities. With this change of emphasis, a short empirical study has been made of the relationships between happiness as measured by the Oxford Happiness Inventory (OHI) and extraversion and emotional stability. In bivariate and partial correlation, emotional stability was more strongly associated with happiness than extraversion, and accounted for more of the total variability in multiple regression. Emotional stability was also the greater correlate for a majority of the 29 items of the OHI, and the sole significant predictor of the happiness of younger people.

INTRODUCTION

Psychological well-being, or happiness, is a multidimensional construct comprising emotional and cognitive elements. The basic framework was established by Bradburn (1969) who operationalised well-being in terms of separate positive and negative "affects", which are an amalgam of the feelings, moods and emotional responses of individuals to the variety of pleasant and unpleasant events which make up normal life. According to Bradburn "an individual will be high in psychological well-being in the degree to which he has an excess of positive over negative affect and will be low in well-being in the degree to which negative affect predominates over positive" (p 9). Subsequently Andrews and Withey (1976) showed that well-being could better be represented by the addition of a third, cognitive-evaluative element, life satisfaction, of which self-esteem (Maslow, 1970), a sense of personal control (Rotter, 1966), optimism (Schier & Carver, 1985) and goal fulfilment (Headey & Wearing, 1981) are some specific aspects.

The idea that the positive and negative moods associated with well-being are unrelated is counter-intuitive; it is difficult to visualise being happy and unhappy at one and the same time. Nevertheless, a range of studies has provided evidence in support of the independence of positive and negative affect (for example Bradburn & Caplovitz, 1965; Diener & Emmons, 1985; Watson & Clark, 1997b), and this view has been accepted by the US National Advisory Mental Health Council (1995)[4]. That happiness and its component parts are related differentially and independently to the personality traits of extraversion and neuroticism has been extensively documented since Costa and McCrae (1980) demonstrated that positive affect correlates (positively) with extraversion and that negative affect correlates (negatively) with neuroticism. Similar relationships have been reported for composite measures of well-being such as the Oxford Happiness Inventory (Lu & Argyle, 1991) and cognitive factors such as self-esteem and optimism (Lucas, Diener & Suh, 1996). Costa, McCrae and Norris (1981) found that extraversion and neuroticism data antedated and predicted differences in happiness 17 years later. Similar results were reported by Headey and Wearing (1989) over a period of seven years for an Australian sample.

In parallel with the substantial literature on the relationships between extraversion, neuroticism and well-being, the idea has emerged that extraversion is the predominant predictor of happiness. This would appear to be self-evident because extraversion is associated with friendship and social activity, which are major sources of joy, happiness and personal satisfaction in both private and public life (Campbell, Converse & Rodgers, 1976). There are other plausible reasons for this attribution. Most of the relevant work has been conducted in the West, particularly in the United States, where sociability and the pursuit of personal happiness are legitimate and associated cultural norms. Contemporary life in the

West is also highly interactive, and the ability easily to establish friendly relationships with many people is a valued and advantageous social skill (Diener, Larson & Emmons, 1984). Neuroticism, on the other hand, is associated with distress, depression and despair, and these states are the antithesis of happiness. The construct of neuroticism used in personality theory originated from a clinical measure of mental instability used for the diagnosis of psychological disorder. In a society that is conditioned to "accentuate the positive", it is not intuitively easy to grasp the idea that happiness is related as much to the absence of negative affect (neuroticism), commonly associated with mental illness, as to the presence of positive affect (extraversion).

In order to resolve this difficulty in studies of well-being, it is now suggested that the concept of neuroticism should be reversed and termed "emotional stability", so that greater emotional stability would be regarded as a positive aspect of personality. Emotionally stable people could be expected to be calm, imperturbable and to complain little about their personal worries and anxieties. With this modification, happiness could be regarded as a relationship with two positive constructs. Which is the more important?

The idea that extraversion is the predominant predictor of happiness, is not fully consistent with the ideas of those classical philosophers such as Aristotle and Epicurus, who have given most attention to human happiness. Both recommended living a quiet, contemplative existence in relative solitude. The same can be said of the ways of life commended by some religious systems that involve a degree of enclosure, and medieval hermits and anchorites believed that total isolation from other people was the way to salvation and eternal happiness. It has recently been reported (Hills & Argyle, 2001) that a substantial minority of ordinary people can be classified as happy introverts, that their reported levels of happiness are only marginally less than happy extraverts, and that the social behaviours of happy introverts and extraverts are virtually indistinguishable. In that experiment, it was also noted that emotional stability was a greater predictor of happiness in regression than extraversion and explained more of the variability in the data (38%) than did extraversion (23%). In a meta-analysis of the relationships between 137 distinct personality constructs and subjective well-being, DeNeve and Cooper (1998) found that emotional stability was the strongest predictor of both happiness and life satisfaction. The average weighted correlations with overall subjective well-being were .22 for emotional stability (74 independent samples) and .17 for extraversion (82 independent samples). The corresponding figures for life satisfaction were .24 and .17. The present communication describes a short and specific study of the relative magnitudes of the relationships between happiness as measured by the Oxford Happiness Inventory, and extraversion and emotional stability.

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[4] *This view is not universally accepted. Several workers, notably Russell and Carroll (1999), have argued that the observed independence of positive and negative affects is an artefact created by inherent measurement error, and have reported alternative evidence which supports theoretical predictions based on bipolarity.*

METHOD

Participants

Two hundred and forty-four residents of Oxfordshire and their friends and acquaintances (101 men and 143 women) were recruited by personal contact with a variety of leisure groups, Oxford Brookes and Oxford Universities, and by advertisements in public places. Ages ranged from 18 to 85 (M = 45.9, SD = 17.3) years. The respondents were mainly professional; 73% were graduates or undergraduates, 47% were employed or self-employed and 21% retired. Most (64%) were living with a partner.

Measures

Participants completed a revised version of the Oxford Happiness Inventory (OHI, Argyle, Martin & Lu, 1995); a broad 29-item [Section Q, pp183-185] measure designed to reflect the major dimensions of subjective well-being. Factor analysis (Hills & Argyle, 1998b) identified these dimensions, in decreasing order of magnitude, as satisfaction with life, personal efficacy, sociability/empathy, a positive outlook, physical well-being, cheerfulness and self-esteem. Respondents are invited to select from one of four possible graded choices for each item, and the aggregate score forms the measure of overall happiness. Higher scores indicate greater happiness. In the work now described, the OHI demonstrated an acceptable scale reliability with a Cronbach α of .90 (N = 240). The items that comprise the scale are indicated in Table 4.22. This measure was supplemented by the extraversion and neuroticism sub-scales of the short-scale form of the revised Eysenck's Personality Questionnaire (Eysenck, Eysenck & Barrett, 1985) [included in section R, pp 185-186], Rosenberg's Self-esteem Scale (Rosenberg, 1989) [included in section R, pp 185-186], and the Satisfaction with Life scale (Diener, Emmons, Larson & Griffin, 1985) [included in section R, pp 185-186]. The Cronbach αs recorded for the Self-esteem and Satisfaction with Life scales in this study were respectively .86(243) and .89(242). With the exception of the OHI, items in the original scales were re-worded where necessary as single statements to which participants could respond on a 6-point scale ranging from "strongly agree" to "strongly disagree". Before administration, the individual items of these scales were combined and rearranged in random order to minimise contextual answering (Hills & Argyle, 1998a). The measures were incorporated into a postal questionnaire which recipients were invited to complete and return along with some demographic information.

RESULTS AND DISCUSSION

Bivariate correlation coefficients were first calculated between each of the principal variables and extraversion (E) and emotional stability (ES). The correlations of the total OHI scores with E and ES were respectively .49 and .53. The corresponding figures for satisfaction with life were .29 and .47 and for self-esteem .34 and .63. These values were

significant at the $p < .001$ level in every instance. The correlations between E and ES and satisfaction with life are consistent with previously reported values obtained using different personality scales. Herringer (1998) reported a correlation of .38 between life satisfaction and extraversion as measured by the revised version of the NEO Personality Inventory (Costa & McCrae, 1992), and Arrindell, Heesink and Feij (1999) a correlation of -.30 between life satisfaction and neuroticism as measured by items selected from the neuroticism subscale of the 3-Dimensional Personality Test (van Kampen, 1996).

Linear multiple regressions were carried out both by simultaneous and stepwise entry for each of the three principal variables as dependent variables with E and ES entered as independent variables. The regression coefficients produced by both methods were identical. Table 4.21 presents the results obtained by the stepwise method because this allows the relative importance of each independent variable to be assessed from the corresponding changes in R^2. All the regressions and standardised regression coefficients (βs) were significant at the $p < .001$ level. In each instance ES entered the equation before E and was the larger predictor of each independent variable. The proportions of the total variability explained by the final equations accounted for by ES were 80%, 91% and 94% for the total OHI scores, satisfaction with life and self-esteem respectively.

Table 4.21 Extraversion and emotional stability as predictors of overall OHI scores, satisfaction with life and self-esteem

Dependent variable	Independent variable	R^2	R^2 change	β[a]	F
OHI	Emotional stability	.28	.28	.47***	
	Extraversion	.44	.16	.40***	92.09***
Satisfaction with life	Emotional stability	.23	.23	.22***	
	Extraversion	.27	.04	.44***	44.42***
Self-esteem	Emotional stability	.40	.40	.59***	
	Extraversion	.45	.05	.24***	97.97***

[a] β-values are the standardised coefficients appearing in the final regression equation.
*** $p < .001$

Because the OHI is a broadly based measure of happiness, it is possible to examine the associations with E and ES in detail. Table 4.22 summarises the bivariate correlations of each item with E and ES, and the corresponding partial correlations controlling for ES and E in turn. There is not a great deal of difference between the corresponding individual bivariate and partial correlations, which suggests that there was little covariation between E and ES. ES correlates more strongly than E with some two-thirds, 19 out of 29, of the items. It is of special interest that the item that deals most directly with subjective happiness, "I am very happy", correlates only with ES; the bivariate association with E becomes insignificant when the effect of ES is partialled away.

Table 4.22 Correlations of OHI items with extraversion (E) and emotional stability (ES)

	Item	Correlations		Partial correlations	
		E	ES	E[a]	ES[b]
04.	I feel I am in control most of the time	.28***	.45***	.20**	.44***
12.	I usually wake up feeling rested	ns	.40***	ns	.41***
03.	I am satisfied with many things in my life	.17**	.43***	ns	.41***
01.	I am very happy	.18**	.41***	ns	.39***
13.	I feel very energetic	.21***	.33***	ns	.35***
06.	I am very pleased with the way I am	.29***	.40***	.24***	.35***
08.	Life is very good	.27***	.36***	.22***	.34***
05.	I feel that life is very rewarding	.22***	.35***	.15*	.33***
18.	Most past events seem to have been happy	.24***	.35***	.20**	.33***
15.	I feel very mentally alert	.21***	.32***	.15*	.31***
10.	I find it easy to make most decisions	.26***	.34***	.23***	.31***
02.	I feel I have so much to look forward to	.29***	.30***	.26***	.29***
20.	I have done many of the things I wanted	.28***	.34***	.23***	.29***
16.	I feel very healthy	ns	.27***	ns	.28***
07.	I often have a good influence on events	.25***	.31***	.21***	.26***
23.	I often have a cheerful effect on others	.47***	.29***	.47***	.25***
14.	I find beauty in most things	.21***	.27***	.16*	.23***
19.	I often experience joy and elation	.34***	.26***	.29***	.21***
11.	I find it easy to do things	.23***	.23***	.23***	.19**
21.	I organise my time very well	.15*	.20**	.15*	.18**
25.	I often become committed and involved	.18**	.20***	.15*	.16*
26.	I think the world is a very good place	.33***	.23***	.31***	.16*
22.	I often have fun with other people	.51***	.21**	.50***	.14*
29.	I find most things amusing	.30***	ns	.28***	ns
28.	I think I look attractive	.30***	.19**	.29***	ns
17.	I have very warm feelings towards others	.32***	ns	.29***	ns
09.	I am very interested in other people	.39***	ns	.39***	ns
27.	I laugh a lot	.40***	.14*	.37***	ns

* $p < .05$, ** $p < .01$, *** $p < .001$, *ns* = not significant.
[a] Controlling for ES, [b] Controlling for E.

All these items are associated with a sense of individual well being: feeling healthy, energetic, rested, in control and being pleased with self. An equal number of items are associated with E and not ES and these include some but not all of the exclusively social items, for example "I am interested in other people" and "I have warm feelings towards others". Although the two most clearly social items, "I often have fun with other people" and "I often have a cheerful effect on others", are strongly associated with E, they are still associated with ES to a smaller degree. Overall, these observations do not fully support the thesis that extraversion is the principal predictor of happiness.

The participants in this study were largely mature professional adults; their average age was 46, some two-thirds were employed or retired and a similar proportion said they were

living in a stable relationship. Such people might be particularly likely to exhibit and endorse stability and this could be the reason for the associations reported above being greater for ES than for E. Extraversion and happiness might be more strongly associated for a younger sample. It has been pointed out elsewhere (Hills & Argyle, 2001) that the items used to measure extraversion in the Eysenck Personality Questionnaire mostly assess gregariousness. Younger people, who may not have yet formed stable relationships, are more likely to take part in highly social and gregarious activities. Younger people may also not yet have achieved fully adult stability; Costa and McCrae (1994) consider that personality development continues until the age of 25 or 30, or even later. Extraversion could still be the dominant predictor of happiness for a younger sample. Table 4.23 compares the simultaneous entry regression data for participants aged 30 and above with those aged less than 30.

Table 4.23 OHI regression data for older and younger participants

Independent variable	β	F
Participants aged > 29 (N = 186)		
Emotional stability	.455***	
Extraversion	.449***	84.75***
Participants aged < 30 (N = 50)		
Emotional stability	.503***	
Extraversion	.164 ns	11.65***

*** $p < .001$, *ns* = not significant

The results were completely unexpected. For the older sample, ES was the greater predictor of happiness by a narrow margin. But for the younger sample, ES was a stronger predictor of happiness and E did not achieve significance!

SUMMARY AND CONCLUSIONS

That both extraversion and neuroticism are correlates of happiness has long been known and extraversion is usually considered as the predominant predictor of happiness. Nevertheless, a recent meta-study of publications over the last 30 years (DeNeve & Cooper, 1998) has produced evidence that neuroticism is the greater (negative) predictor of both happiness and life satisfaction. The reason for the influence of neuroticism having been overlooked could be found in the relative conceptual ease of accounting for the associations of extraversion and neuroticism with happiness. It seems instinctively natural to associate the positive state of happiness with extraversion, which is also regarded positively particularly in Western society, but less natural to associate happiness with the absence of a negative state which is more commonly associated with depression and mental illness. We have suggested that were the concept of neuroticism reversed and termed "emotional

stability", it would become easier to handle; happiness could then be understood in terms of a relationship with two positive and socially desirable constructs.

With this change of emphasis, a short study has been made of the relative importance of extraversion and emotional stability, using the Oxford Happiness Inventory to measure happiness. The conclusions from this study are:

1. Emotional stability correlates more strongly with overall happiness, satisfaction with life and self-esteem than does extraversion.
2. In multiple regression, emotional stability is a stronger predictor of overall happiness, satisfaction with life and self-esteem than extraversion, and explains more of the variability in each regression than does extraversion.
3. Emotional stability is a greater correlate and partial correlate than extraversion of a majority of the individual items of the Oxford Happiness Inventory. For five items that relate to personal and internal sources of happiness, emotional stability is a strong and significant correlate whereas the effect of extraversion does not reach significance.
4. For younger participants aged < 30, emotional stability is a substantial and significant predictor of overall happiness and extraversion is not.

It is hoped that these results will lead to a broader understanding of the nature of well-being, by suggesting that emotional stability is at least as important as extraversion in the consideration of human happiness. ■

5 THE MEASUREMENT OF HAPPINESS

5.1 The Oxford Happiness Questionnaire: A compact scale for the measurement of psychological well-being

5.1 THE OXFORD HAPPINESS QUESTIONNAIRE: A COMPACT SCALE FOR THE MEASUREMENT OF PSYCHOLOGICAL WELL-BEING

A new instrument, the Oxford Happiness Questionnaire (OHQ), has been derived from the Oxford Happiness Inventory, (OHI). The OHI comprises 29 items, each involving the selection of one of four options that are different for each item. The OHQ includes similar items to those of the OHI, each presented as a single statement which can be endorsed on a uniform 6-point Likert scale. The new instrument is compact, easy to administer and allows endorsements over an extended range. When tested against the OHI, the validity of the OHQ was satisfactory and the associations between the scales and a battery of personality variables known to be associated with well-being, were stronger for the OHQ than for the OHI. Although parallel factor analyses of OHI and the OHQ produced virtually identical statistical results, the solution for the OHQ could not be interpreted. The previously reported factorisability of the OHI may owe more to way the items are formatted and presented, than to the nature of the items themselves. Sequential orthogonal factor analyses of the OHQ identified a single higher order factor, which suggests that the construct of well-being it measures is uni-dimensional. Discriminant analyses has been employed to produce a short-form version of the OHQ with 8 items.

INTRODUCTION

The Oxford Happiness Inventory (OHI, Argyle, Martin & Crossland, 1989) was devised as a broad measure of personal happiness, mainly for in-house use in the Department of Experimental Psychology of the University of Oxford in the late 1980s. The development of the scale and some of its properties were reviewed by Argyle, Martin and Lu (1995). The scale has been found to behave consistently, and other workers have reported its use both in the UK (Furnham & Brewin, 1990, Joseph & Lewis, 1998), in Spain (Sanchez, 1994) and the US (Valiant, 1993). The OHI has also been used cross-culturally to compare students in Australia, Canada, the UK and USA (Francis, Brown, Lester, & Philipchalk, 1998). A Hebrew translation has been applied in Israel (Francis & Katz, 2000) and it forms the basis of the Chinese Happiness Inventory (CHI) which has been used in Taiwan (Lu & Shih, 1997).

The OHI follows the design and format of the Beck Depression Inventory (BDI, Beck, Ward, Mendelson, Hock & Erbaugh, 1961) which provided, when reversed, a set of 20 multiple-choice items relevant to subjective well-being. Further items were added to cover aspects of happiness which were not otherwise included and 29 items were retained in the final scale. Each item was presented in four incremental levels, numbered from 0 to 3, for example:

0. I am not particularly optimistic about the future[5]
1. I feel optimistic about the future.
2. I feel I have so much to look forward to.
3. I feel that the future is overflowing with hope and promise.

The BDI was designed for clinical application with the purpose of diagnosing manic and depressive states of mind. In non-clinical populations, few are manic or depressive and the extremes of the corresponding OHI item alternatives are little used. In practice, "normal" participants mainly endorse one or other of the two central items. For a substantial minority of items the mean scores are less than, or do not comfortably exceed, their corresponding standard deviations. This suggests that answers to these items may be uniformly, rather than normally distributed, and might not be making their full contribution to the measurement of happiness. The statistical properties of the individual items would be improved if respondents could select answers from a wider range. The multiple-choice format also necessitates a bulky scale that can only be presented as a stand-alone instrument.

A new scale, the Oxford Happiness Questionnaire (OHQ) has been devised which consists of single items that can be answered on a six-point Likert scale (see Appendix to this chapter). These items may easily be incorporated into larger questionnaires in random order, and the opportunity has also been taken of reversing about half of the items. These

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[5] *It could be argued that respondents might be averse to endorsing a multiple choice item with an apparent score of zero. In versions of the OHI used at, and distributed from, Oxford Brookes University since 1998, the items in the OHI have been identified as a, b, c, and d, and scored on a 1 to 4 scale.*

changes should reduce the probability of contextual and compliant answering (see Hills & Argyle, 1998a). The purpose of this paper is to describe the new scale and its psychometric properties and, by placing it in the public domain, to allow its wider use and further examination by others.

METHOD

Participants

One hundred and seventy-two undergraduate students of Oxford Brookes University and their friends and relations (66 men, 99 women, 7 unspecified) took part in the study. Ages ranged from 13 to 68 (M = 30.9, SD = 12.9) years.

Measures

Respondents were invited to complete and return a self-report questionnaire constructed from the OHI [Section A, pp 194-196], the OHQ [included in section B, pp 196-198], and a number of published scales that are known to correlate with well-being. These were the extraversion, neuroticism and psychoticism sub-scales of the short form Eysenck Personality Questionnaire (Eysenck, Eysenck & Barrett, 1985) [included in section B, pp 196-198], Rosenberg's Self-esteem Scale (Rosenberg, 1989) [included in section B, pp 196-198], the Life Orientation Test (Scheier & Carver, 1985) [included in section B, pp 196-198] - a measure of dispositional optimism, the Life Regard Index (Battista & Almond, 1973) [included in section B, pp 196-198] - a measure of both purpose in life as represented by the existence of a set of life goals and the extent to which an individual feels that he has fulfilled them, and the Depression-Happiness Scale (Joseph & Lewis, 1998) [included in section B, pp 196-198]. To ensure uniformity of presentation, items in the original scales were reworded where necessary as single statements to which participants could respond on a uniform 6-point Likert scale ranging from "strongly agree" to "strongly disagree". Before administration, the individual items of all the scales with the exception of the OHI, were combined and rearranged in random order. It was not, therefore, considered necessary to retain any filler items included in the original scales. Questionnaires were administered in alternative versions; in one, the OHI was presented first and in the other, last.

RESULTS AND DISCUSSION

Scale reliabilities

Both the OHI and the OHQ demonstrated high scale reliabilities with values $\alpha(167) = .92$ and $\alpha(168) = .91$ respectively. The inter-item correlations for the OHI ranged from -.03 to .58, mean .28, and the corresponding values for the OHQ were -.04 to .65, mean .28. These virtually identical results show that the multiple-choice items of the OHI can be replaced with

the more compact single choice items of the OHQ without detriment. The observation that the maximum inter-item correlations within the two scales, $r = .65$ and $r = .58$, suggests that no two items are so alike that they are measuring the same facet of happiness; in other words, no items are semantically redundant. The questionnaires used in this study were administered in two versions in which the OHI was completed either first or last. A comparison of means (independent samples t-tests) showed that the order of presentation resulted in no significant differences between versions for either of the scales. The OHI and OHQ scores aggregated over all items were strongly and significantly related, $r(163) = .80$, $p < .001$, which shows that both scales provide very similar results.

Internal consistencies

The collected data were split into high and low groups above and below the mean aggregated values for the OHI and the OHQ respectively. The difference between the means of individual item scores were then compared (independent samples t-tests) with respect to the two groups. There were significant differences between the high and low groups for every item of the OHI and the OHQ. Most were highly significant, $p < .001$, and all differences were in the same direction as the partitioned total scores. This indicates that all the items of both the OHI and the OHQ are making a valid contribution to the measurement of overall happiness.

Between scales consistencies

Table 5.11 presents the correlations between corresponding items of the OHI and OHQ of which all were significant at the $p \leq .001$ level. The mean value was $r = .50$, SD = .11 with individual values ranging from .69 down to .26. The table also identifies the 14 items that were administered in reverse form in the OHQ. Since these items are more or less evenly distributed when the correlations are arranged in descending order of magnitude, it would appear that item reversal has not significantly affected the nature of the measure. This conclusion was supported by the observation that the sums of the positive and negative OHQ items both had high and virtually equal correlations with the whole OHQ scale, $r(168) = .92$, $p < .001$ and $r(168) = .94$, $p < .001$ respectively, and that the positive and negative items scores were also highly correlated, $r = .73$, $p < .001$. However, while the significance and magnitude of the associations between corresponding items are satisfactory for the large majority of items, the correlation coefficients vary over a considerable range. This implies that participants' endorsements of some individual items differ between the OHI and the OHQ and this is particularly marked for, say, the six items with inter-correlations of < .40.

Construct validities

Past research has established relationships between the OHI and a variety of trait and cognitive variables that are associated with psychological well-being. Argyle and Lu (1990a)

found a strong positive association with extraversion, which was confirmed by Furnham and Brewin (1990), who also identified a strong negative asssociation with neuroticism. Substantial positive associations have also been reported between the OHI and self-esteem, the life regard Index and the life orientation test (Hills & Argyle, 2001), and satisfaction with life (Hills & Argyle, 2001). Joseph and Lewis (1998) found a strong positive association between the OHI and the depression-happiness scale.

Table 5.11 Correlations of corresponding OHI and OHQ items

Item	OHI/OHQ Correlation*
28. look attractive (-)	.69
12. wake up rested (-)	.67
10. make decisions easily	.65
16. feel healthy	.63
15. mentally alert	.62
21. can organise time	.60
06. pleased with self (-)	.58
04. in control	.57
23. cheerful effect on others	.57
05. life is rewarding (-)	.55
13. feel energetic (-)	.55
09. interested in others (-)	.54
25. committed and involved	.54
18. happy memories (-)	.53
08. life is good	.51
29. find things amusing	.51
27. laugh a lot (-)	.46
24. life has meaning and purpose (-)	.45
20. done things wanted	.44
26. world is good (-)	.44
14. find beauty in things	.43
02. optimistic (-)	.41
19. joy and elation (-)	.41
17. warmth for others	.39
01. feel happy	.37
03. satisfied with life	.37
22. have fun with others (-)	.36
07. good influence (-)	.33
11. can do most things	.26

* all correlations significant at the $p < .001$ level.
(-) items reversed in scoring.

Table 5.12 reports the correlations between the above variables and the OHI and the OHQ. Psychoticism excepted, all correlations are substantial and equally and highly significant. There is no difference in the strength of associations with extraversion, but in all other instances, the personality variables correlate more strongly with the OHQ than with the OHI. It has previously been reported (Argyle & Hills, 2000) that the association between psychoticism and the OHI does not achieve significance. The present results confirm this observation, but there is a weak negative relationship between psychoticism and happiness

as measured by the OHQ. The overall relationships with the personality variables suggest that the construct validity exhibited by the OHI can safely be extended to the OHQ. Moreover, since the relationships are stronger for the OHQ, the OHQ may be the preferred instrument for measuring happiness.

Table 5.12 Correlations between trait and cognitive variables for the OHI and OHQ

Personality variable	OHI	OHQ
Extraversion	.61***	.61***
Neuroticism	-.56***	-.59***
Psychoticism	.02	-.17*
Satisfaction with life	.68***	.77***
Self-esteem	.66***	.81***
Life orientation test	.70***	.79***
Life regard index	.64***	.77***
Depression-happiness (DH) scale	.79***	.90***
DH positive items	.78***	.87***
DH negative items	.76***	.85***

* $p \leq .05$, *** $p \leq .001$

Factor analysis

Previous factor analyses of the OHI have provided variable results. Using a sample of 101 participants, Furnam and Brewin (1990) extracted nine factors with Eigen-values in excess of unity of which only three were interpretable: satisfaction with personal achievements, enjoyment and fun in life, and vigour and good health. Argyle, Martin and Lu (1995) reported that an earlier factor analysis had found seven factors which could be "loosely labelled" as positive cognition, social commitment, positive affect, sense of control, physical fitness, satisfaction with self, and mental alertness. Working with data from a relatively large sample (N = 275) Hills and Argyle (1998b) also found seven factors, identified as satisfaction with life, efficacy, sociability/empathy, positive outlook, well-being, cheerfulness and self-esteem.

Principal components analysis of the data obtained in the present study extracted seven factors with Eigen values > 1 for the OHI and eight for the OHQ, which accounted for 60.9% and 64.3% of the respective total variances. Both solutions were rotated orthogonally (Varimax) to increase interpretability, accompanied by computation of the individual factor scores. While the solution obtained for the OHI was similar to that previously reported (Hills & Argyle, 1998b), the solution for the OHQ was less satisfactory. Overtly similar items appeared in different factors and a substantial minority of items loaded more or less equally on two or more factors. Under these circumstances, the extracted OHQ factors could not plausibly be interpreted. The correlations between the factor scores for OHI and OHQ reported in Table 5.13, quantify this behaviour. Were the factor solutions similar, one would expect to find a small number of substantial and significant one-to-one relationships with relatively few secondary relationships. That this is not the case suggests that the apparent

factorability of the OHI may be due more to the fixed sequence in which the items are presented than to the items themselves.

Table 5.13 Correlations of OHI and OHQ factor scores

OHI	OHQ Factors							
Factors	F_1	F_2	F_3	F_4	F_5	F_6	F_7	F_8
F_1	.32***	.10	.36***	-.05	.05	-.13	.15*	.01
F_2	.28***	.47***	.18*	.02	-.08	-.02	.06	-.12
F_3	.15	.06	.12	.58***	.01	0.04	-.17	.06
F_4	.17*	.23**	-.07	.15	.28***	.21**	.24**	-.12
F_5	.05	-.11	.25***	.06	0.10	.59***	.00	.06
F_6	-.03	.29***	.20*	-.07	.23**	-.01	.00	.33***
F_7	.21**	-.21**	-.08	.07	.20*	-.05	.15	.17*

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

It could be argued that the non-interpretability of the OHQ was a consequence of the relatively large number of factors extracted using the Eigen-value criterion. However, interpretability was not facilitated in a series of alternative factorisations in which the number of factors extracted was sequentially reduced from seven down to three, during which the proportion of the total variance explained fell to an unacceptably small value. Finally, the OHQ data was subjected to oblique (Direct Oblimin) rotation to permit the extracted factors to be inter-correlated and so allow the identification of any second-order factors. Reanalysis of the initial eight factor scores extracted only one second-order component, which suggests that the construct of well-being measured by the OHQ can better be considered as uni-dimensional.

Short Scale

A shorter version of the OHQ was devised for use when time is limited. The total OHQ scores were partitioned into two groups above and below the scale mean, and stepwise discriminant analysis employed to identify whether a smaller number of OHQ items could successfully predict group membership. The analysis extracted only one discriminant function, and this provides corroborative evidence for the uni-dimensionality of the OHQ. The results reported in Table 5.14 identify the eight items that were sufficient correctly to classify 90% of the grouped cases.

Table 5.14 Stepwise discriminant analysis of OHQ items

Step	Variable entered	Wilks λ	Exact F
1	life is rewarding	.63	99.3 ***
2	mentally alert	.50	81.1 ***
3	pleased with self	.45	66.1 ***
4	find beauty in things	.41	57.7 ***
5	satisfied with life	.39	50.7 ***
6	can organise time	.37	45.1 ***
7	look attractive	.36	40.3 ***
8	happy memories	.35	36.7 ***

*** $p < .001$

The results for the full and shorter versions were significantly and strongly correlated,

$r(168) = .93$, $p < .001$. It is also worthy of note that the significance and strength of the correlations between the individual differences variables and the short form of the OHQ were very similar to the corresponding values for the full OHQ reported in Table 5.12.

CONCLUSIONS

The Oxford Happiness Inventory (OHI) is a relatively lengthy measure of well-being constructed from 29 multiple choice items. A more compact instrument, the Oxford Happiness Questionnaire (OHQ) has been devised which consists of a similar number of similarly worded, single items that respondents may answer on a uniform 6-point Likert scale. The new scale, which contains roughly equal numbers of positive and negative items that can be intermingled with other items in the construction of personality questionnaires, should be less susceptible to questionnaire and respondent bias.

In a series of comparative tests between the OHI and the OHQ, the aggregate scores of both measures were strongly correlated, and both measures demonstrated high scale and item reliabilities. All cross-scale correlations between corresponding items were highly significant, $p < .001$, and for the large majority of items the correlations were strong. However, there were differences in the size of the correlations, which implies that participants' endorsements of similar items vary between the OHI and the OHQ. Since the wordings of the items are virtually identical, it would appear that the results are influenced more by differences in the formats and order of item presentation in the two scales than by the nature of the items themselves.

The construct validity[6] of the OHI has previously been established by the associations of the measure with a variety of individual differences in trait and cognitive variables. In the present study, these associations were compared for both the OHI and OHQ. All were equally and highly significant and, with the exception of an equal association with extraversion, those for the OHQ were stronger. In terms of construct validity, the OHQ appears to be the preferred measure.

Although several factor analyses of the OHI have been reported, it was not found possible convincingly to interpret several alternative orthogonal factor analyses of the OHQ. Successive oblique rotations of the OHQ data suggest that the OHQ may best be represented by a single, second-order component, which argues for the OHQ scale being represented as uni-dimensional.

Finally, a short-form version of the OHQ was devised for use when time and space is limited using discrimant analysis of the full scale. Eight items were sufficient correctly to classify respondents' scores with an accuracy of 90%, and the correlation between the results of the full and short scales was greater than .90 and highly significant, $p < .001$. ■

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[6] *congruent validity*

THE OXFORD HAPPINESS QUESTIONNAIRE

INSTRUCTIONS. Below are a number of statements about happiness. Would you please indicate how much you agree or disagree with each by entering a number alongside it according to the following code:

1= strongly disagree; 2 = moderately disagree; 3 = slightly disagree;
4 = slightly agree; 5 = moderately agree; 6 = strongly agree.

You will need to read the statements carefully because some are phrased positively and others negatively.

Don't take too long over individual questions; there are no 'right' or 'wrong' answers and no trick questions. The first answer that comes into your head is probably the right one for you. If you find some of the questions difficult, please give the answer that is true for you in general or for most of the time.

1†	I don't feel particularly pleased with the way I am (-)	.....
2	I am intensely interested in other people	.....
3†	I feel that life is very rewarding	.....
4.	I have very warm feelings towards almost everyone	.....
5	I rarely wake up feeling rested (-)	.....
6	I am not particularly optimistic about the future (-)	.....
7.	I find most things amusing	.....
8.	I am always committed and involved	.....
9.	Life is good	.....
10	I do not think that the world is a good place (-)	.....
11.	I laugh a lot	.....
12†	I am well satisfied about everything in my life	.....
13†	I don't think I look attractive (-)	.....
14.	There is a gap between what I would like to do and what I have done (-)	.....
15	I am very happy	.....
16†.	I find beauty in some things	.....
17	I always have a cheerful effect on others	.....
18†.	I can fit in everything I want to	.....
19.	I feel that I am not especially in control of my life (-)	.....
20	I feel able to take anything on	.....
21†	I feel fully mentally alert	.....
22.	I often experience joy and elation	.....
23.	I do not find it easy to make decisions (-)	.....
24	I do not have a particular sense of meaning and purpose in my life (-)	.....

\ continued

25. I feel I have a great deal of energy .....
26. I usually have a good influence on events .....
27. I do not have fun with other people (-) .....
28. I don't feel particularly healthy (-) .....
29†. I do not have particularly happy memories of the past (-) .....

Notes. Items marked (-) should be scored in reverse. † Indicates components of the OHQ short scale. The sum of the item scores is an overall measure of happiness, with high scores indicating greater happiness.

SUMMARY AND CONCLUSION

A series of linked studies has been made of aspects of the relationships between and among self-reported well-being (or happiness), leisure activities and individual differences in personality. One group of studies (section 2) was concerned with the positive moods generated by engaging in a range of leisure activities. It was not possible convincingly to demonstrate that any of the activities was strongly associated with happiness (section 2.1). In another study (section 2.2) the personality characteristics and well-being of mature users of the Internet, which might be considered, at least in part as a leisure activity, were examined. Gender and age affected time spent on line, see p 41, but there were remarkably few significant associations with individual differences in personality when gender and age were controlled for. The only significant (negative) association with happiness was for the use of the Internet at work. An examination of three pre-existing theories of leisure motivation has been conducted (section 2.3) with a group of young people, covering some 40 typical pastimes. Partial support was found for two of the theories - Csikzentmihalyi's Theory of Flow and Apter's Reversal Theory - but not sufficient to confirm those theories in their entirety. The best explanation for the enjoyments provided by leisure, was the opportunities they provided for generating social contacts, which could be expected to be a source of great happiness, especially for extraverts.

Three studies were conducted to examine the connection between well-being, religiosity and religious (spiritual) experiences. In the first of these it was found that spiritual experiences were widely spread among a large adult sample irrespective of active membership of a faith community and again it was not possible to show a connection between spiritual experiences and happiness (section 3.1). A comparative study was made of the affects generated by active membership of religious organisations and of performing musical groups (section 3.2). Both of these activities evoked similar affects, see p 82, and these were stronger for musical than for religious participation. This was a remarkable finding given that the affect scales for both activities were built around scales originally devised solely for measuring religious experiences. Despite the strength of many of the relationships examined, no evidence was found for a significant relationship between happiness and either of the activities. The final study in this section (section 3.3) was an examination of the effect of religiosity upon attitudes to work with particular reference to the continuing influence of the Protestant Work Ethic (PWE). Factor analysis was used to explore the composition of a contemporary work ethic (CWE) which was similar in many respects to the PWE particularly with respect to the emphasis given to the value of hard work. However, the CWE did not include beliefs about asceticism and morality nor the attitudes towards wealth, which were originally believed to be components of the PWE. Multidimensional scaling identified two major dimensions of the CWE. One axis appeared to be work versus leisure, the other religion versus self-reliance. Religious people endorsed

beliefs in hard work more highly than the non-religious and were marginally less self-reliant. Neither endorsement of the CWE nor religiosity was significantly associated with happiness.

The studies described immediately above have clearly demonstrated that individuals exhibit real differences in their self-reported happiness, although it was not possible to show that involvement in a range of leisure and other activities widely believed to influence happiness actually did so. However, there was evidence that levels of self-reported happiness were associated with individual differences in several trait and cognitive personality variables. A positive association between extraversion and happiness has been reported many times in the literature and it is widely accepted that both extraversion and neuroticism are major predictors of happiness. Further studies were conducted to investigate to what extent the observed variations in happiness could be accounted for by individual personality differences.

Two studies were conducted to establish the relative importance of extraversion and neuroticism. One study (section 4.1) established the existence of a substantial minority of happy introverts. These individuals tended to prefer solitude to the gregarious activities that are enjoyable to extraverts, but were, nevertheless, almost as happy as extraverts and virtually identical to them in their close behaviours with family and friends. These results could suggest that the assumed link between extraversion and happiness might not be as direct as is generally believed. This work was extended to an examination of the relative importance of extraversion and emotional stability as predictors of happiness (section 4.2). In this study it was found that emotional stability was the stronger predictor of happiness overall and the sole predictor of happiness for younger participants.

Given that some of the findings related to levels of happiness in the above studies were unexpected, it seemed prudent to examine whether the Oxford Happiness Inventory (OHI) that was used as a measure of well-being throughout could be validated. A new version of the instrument, the Oxford Happiness Questionnaire (OHQ) has been devised, validated and its psychometric properties established preparatory to placing it in the public domain (section 5.1). This scale may possess some practical advantages over the OHI, and it has been found that a version of the OHQ containing fewer items still provides an adequate measure of happiness. Factor analyses of the new scale have led to the tentative conclusion that the form of happiness measured by the OHQ is uni-dimensional. However, direct comparisons of the two measures gave otherwise similar results, which does not suggest that the OHI was in any way inadequate.

With this reassurance, are there any external explanations for the inability to detect any differences in happiness between participants and non-participants in leisure activities? Two possible reasons are:

The activities in which people engage in their leisure time do not directly promote greater happiness. A well-documented example of this is TV watching, which is one of the most popular uses of free time, but is the source of little personal satisfaction (section 2.1).

Similarly, none of a range of Internet services appeared to enhance happiness (section 2.2) although heavily promoted as a source of new forms of well-being. However, it can be observed that both of these activities are passive and may not be directly comparable with pastimes that are more active. What then motivates individuals to choose to participate in leisure activities, many of which are costly and physically demanding? The study of several established theories of leisure motivation (section 2.3) showed that these theories did not perform especially well in explaining young people's leisure beliefs. Instead, it was found that their leisure satisfactions could best be explained in terms of the opportunities that leisure activities provided for social interaction, which provides young people with a means to establish independent social identities and to forge new relationships. A successful outcome to this process can give rise to great happiness, but the means of satisfaction (the individual activities that have been examined) may not be regarded as the primary source of happiness. Other forms of leisure, such as watching TV could be seen as non-essential but diverting activities with which individuals occupy themselves in their free time. Whilst alleviating boredom, such activities need not otherwise make a positive contribution to well-being.

The Western pre-occupation with personal happiness[7] may distort self-reports of well-being. To be seen to be happy is a cultural norm in the Western world. It is therefore possible that, in the West, individuals would not willingly admit to being less happy than they perceive their peers to be. It has also frequently been observed that the average levels of reported happiness in experimental samples usually exceed the mid-point of the corresponding scales of measurement (for example, Campbell, Converse and Rodgers, 1976). This effect could lead to an overstatement of self-reported happiness that might be large enough to blanket small differences in actual happiness.

Neither of the above "explanations" seems adequate to account for absence of positive relationships between leisure activities and self-reported happiness, as observed in this series of studies. It therefore seems that any positive effects of leisure may better be explained by indirect influences. In addition to the facilitation of social interaction as mentioned above, forms of leisure that involve considerable physical activity may also enhance well-being through an increased sense of self-mastery, physical fitness or, if the level of activity is sufficiently high, through temporary physiological euphoria.

If one follows this line of argument, another explanation needs to be found for individual differences in well-being. It has often been reported that extraversion and neuroticism are consistently related to several alternative measures of well-being. These relationships have also been examined in detail in the work reported here and it has been shown that emotional stability (low neuroticism) is a stronger and more robust predictor of well-being than extraversion and appears to be the sole predictor of well-being among young adults. It

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[7] *as discussed on p116*

therefore appears that differences in well-being can be explained more directly by individual differences in personality.

This conclusion has some theoretical implications for the nature of happiness; in particular it appears that happiness, or at the least a predisposition to happiness, can better be related to personality factors than to environmental or circumstantial influences. It may even be possible to take this argument a stage further. The factor analyses of the OHQ scale reported on p 146 have led to the speculation that a predisposition to happiness is itself a fundamental individual personality difference. But to examine this proposition further was beyond the scope of the work reported in this dissertation (but see "The Way Forward" below).

LIMITATIONS OF THE STUDY

The use of self-report measures

In so far as happiness is a subjective condition it was appropriate to use self-report instruments for the assessment of well-being, and this is standard practice in scales, which measure personality. Self-report measures have considerable advantages in their ease of administration and in allowing useful amounts of material to be collected in a short time, but they have some limitations. It has always been made clear to members of the subject panel, in obtaining their agreement to take part, that the purpose of the work being carried out was to explore the factors that contribute to greater happiness or enhanced personal well-being. In such situations most people want to be helpful and may have endeavoured to provide the answers that they believe are expected of them. It is also possible that those who consider themselves not to be particularly happy may feel that their answers would not be relevant, and have not returned their questionnaires[8].

Similar considerations apply in the case of social acceptability. It has always been made clear in the questionnaire preambles that there are no "right" or "wrong" answers, that all answers are equally valid, and that answers are provided anonymously and in confidence. Nevertheless it is usually possible for participants to distinguish which answers are the most socially desirable and, if they so wish, to respond accordingly. It has been argued elsewhere (Edwards, 1957) that the wish "to put on a good front", is a natural reaction to questionnaires of which the participant may not even be conscious. Therefore the data on which our studies are based may have been selectively obtained from people who are above average in their levels of happiness, or who wish to be thought so.

The population sample

Similar restrictions may apply to the composition of the population sample employed. The initial members of the Subject Panel were recruited from among the candidate's friends,

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[8] *On several occasions, participants have written in to state that they did not feel able to complete a questionnaire because of a recent bereavement or illness.*

acquaintances and neighbours, who tend to be professional people, either in employment or retired, and of whom most are living in stable relationships, could be expected to be materially well-endowed and so insulated from many of the stresses and strains that would affect a wider population sample. The Panel "snow-balled" to its eventual size largely by personal recommendations of the early members. Because like attracts like under such circumstances, participants were drawn from a relatively narrow and demographically uniform segment of the overall population. It would therefore be anticipated that the sample would demonstrate relatively high and uniform levels of satisfaction with life, one of the main components of well-being. Several of the studies have dealt more specifically with younger people, but these have been selected from undergraduates or from pupils in independent schools, so the same restrictions on the demographic range of the sample would apply. It is therefore possible that the inability to demonstrate significant differences in happiness in the present studies is a reflection of the relatively small differences in happiness among the participants. In any case, great caution would need to be exercised in extrapolating the findings to the population as a whole.

The correlational approach

In common with many other studies on the relationships between well-being and personality, the current studies are exclusively correlational, and are a logical extension of other similar studies that have been described in the literature. Once a significant and substantial correlation has been identified, it is a natural tendency to consider that it is important, but its theoretical value may, in fact, be relatively trivial. A real understanding of the field of study would depend on the establishment of causal relationships between different aspects of personality and happiness. This, correlational studies cannot provide. To take an obvious example (section 2.3), we have shown that the association between leisure activities and the opportunities they provide for engaging in social relationships is a better explanation of leisure satisfactions than that which is provided by several other motivational theories. However, the correlational approach is unable to distinguish between the alternative propositions that social activities generate happiness or that happy people engage in more social activity. Thus, while the relationships examined and tested in the present study have been shown to be plausible, they are not necessarily definitive.

Construction and confounding of scales.

A final caveat relates to the scope of the scales used in the study, most of which are in general use within the field of study. A scale can only measure responses to the items of which it is comprised, and this is of special importance in the case of factor analysis. The interpretation of factors revealed by factor analysis, itself a highly subjective procedure,

crucially depends on the range of items that are considered sufficiently relevant to include in the initial test instrument. The findings of this study are therefore only relevant to the variables included in the analyses. There may well be other equally relevant variables that affect well-being, whose influence remains unknown because there is no prima facie justification in current theory for their inclusion, or they have been otherwise overlooked.

The choice of items to be included in any new scale will also inevitably be conditioned by the paradigms that are current when the scale is devised. For example, it has long been accepted that extraversion is an important correlate of well-being and this has been confirmed many times with a variety of scales designed to measure well-being. In constructing new scales it would be consistent with the prevailing paradigm consciously or subconsciously to include items that relate to extraversion. Because of this confounding of scales, it would not be surprising to find that the new scale also showed a strong correlation with extraversion. Such a finding would not provide additional evidence for the existence of a relationship between extraversion and well-being, merely of adherence to the current paradigm. Several of the established well-being and personality scales used in the present studies include virtually similar items, and it may well be that some of the apparent associations between and among them are at least partly due to item overlap, rather than to genuine relationships between independent variables.

SOME WAYS FORWARD

Within the self-imposed remit of the present study, there would seem to be little justification for carrying out further studies on specific leisure activities and self-reported happiness. Sufficient evidence has already been presented here to justify more work being done on the individual personality differences that appear to moderate the relationships between circumstantial factors and personal satisfactions. The present work has also produced some admittedly tentative evidence that a predisposition to happiness could itself be considered as a personality difference in its own right. Pursuing either of these approaches would provide useful and innovative research, but to propose such programmes of research is beyond the scope of this summary of the work described herein. However, it is possible to apply some of the lessons learned to any future work that might be done. In particular:

In future, less reliance should be placed on purely correlational methods that are of little value in establishing causality. Further work should be constructed around longitudinal studies and more sophisticated statistical methods, especially structural equation modelling, which would allow the testing and comparison of alternative theoretical models involving both trait and cognitive personality variables, as well as considerations of causality. This work would better be carried out with a sample of participants who were more demographically representative of the entire population of the country.

There is another way in which the completed studies could be carried forward. The work that has been done on the relationship between religiosity and well-being remains a matter of personal curiosity. In particular the finding that musical performance appears to generate greater affect levels than religious activity, even when the scale of measurement is one primarily designed for religious activities. This raises the intriguing possibility that other human activities are quasi-religious, and this may tie in with the interest now being shown in "implicit religion" in religious and educational circles. The review article that appears in Appendix 1 has been written to introduce these ideas to those who might be most interested, and whether or not this work proceeds will depend on the reaction received upon publication. There are several currently topical areas of activity that may be suitable for further study, for example the belief systems associated with the practice and use of various branches of alternative medicine and therapies. ■

APPENDICES

A A Psychological Dimension to Implicit Religion

B Specimen questionnaires

APPENDIX A A PSYCHOLOGICAL DIMENSION TO IMPLICIT RELIGION

This paper aims to show that the psychological study of individual differences can contribute to the understanding of implicit religion, and reviews some recent research that seems particularly relevant.

INTRODUCTION

The common ground between psychology and religion has a long history and even predates the recognition of psychology as a formal academic discipline; Galton's (1872) study of the efficacy of public petitionary prayer was one of the first empirical studies ever made. Because religious behaviours and experiences are complex and largely subjective, it is difficult to design appropriate laboratory experiments to test specific hypotheses about the nature of religion, and few have been reported in the literature. Instead, studies are usually based on the analysis of self-report questionnaires completed by willing participants. Such questionnaires may seek either to explore the origins and content of religious beliefs in order to provide a psychological explanation for them or, more commonly, to investigate the associations (correlations) between religiosity and particular social and psychological variables. Most of the work described below falls into the latter category, which might be especially relevant to the study of implicit religion.

Correlational experiments are normally carried out with relatively large numbers of participants whose responses to questionnaires will inevitably vary. In a religious context, for example, this could mean that the range of responses will embrace aspects of both explicit and implicit religions, and so allow the exploration of a much wider range of similarities and contrasts than would be possible with individual case studies. Many useful questionnaires are available, and in most cases their properties have been well tested, validated and described in the literature. Such studies can generate considerable amounts of data, which need to be processed in order to reveal which of the apparent associations are statistically robust. Because this is a common feature of work in the social sciences, extensive statistical tools have been developed to carry out these operations and are available in easily used, computerised versions. A further advantage of the methods of social psychology is that their conclusions are largely empirical; that is they are based upon observations and experiment rather than theory. One value of this approach is that studies can be carried out across different faith communities and cultures, in order to distinguish which features are universal and which depend on specific belief systems.

Nevertheless, it needs to be borne in mind that the empirical approach has its limitations. Although data is most often collected from questionnaires that, ideally, are completed without the direct intervention of the researcher, willing and informed respondents tend to give the answers that they think are expected of them and this can introduce a bias of social conformity to the results. Similarly, one can only analyse the responses of co-operative participants; those who are willing to complete and return their questionnaires. It is not possible to analyse the self-reported feelings and behaviours of those who decline to complete questionnaires, so results are not necessarily based upon a sample that represents a true cross-section of the population. For reasons of convenience, much academic research is based on the responses of student participants. However, students

are a preselected group of individuals whose beliefs and attitudes can not be assumed to represent those of the entire population. Otherwise, experience shows that willing respondents are more likely to be moderately well educated professionals of middle age or older, among whom women predominate. (Coincidentally, these are also characteristics of the congregations of traditional churches.) Additionally the relationships normally identified by these methods are associations and only under very special conditions - repeated surveys of the same individuals carried out over extended periods - can it be inferred that an association implies causality. In other words, it is usually possible to show that two or more properties are significantly related, but not that one causes the other.

There is now a substantial literature on the psychology of religion which has been comprehensively reviewed by Argyle and Beit-Hallahmi (1997), Spilka, Hood and Gorshuch (1996) and Wulff, (1998). The following sections, which owe much to these sources, identify some themes that appear to have special bearing on implicit religion.

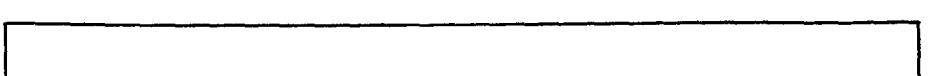
Dimensions of religion

The concept of implicit religion implies the existence of explicit religion. Do implicit and explicit religion mark the opposite ends of a single (bipolar) continuum or instead represent two separate ways (dimensions) of being religious? In the latter case, are the separate dimensions entirely independent (orthogonal) or are they associated (correlated) in any way? It is also possible that both kinds of religion are multidimensional; Bailey (1988) has suggested that Implicit Religion can be defined in terms of Commitment, Social Integration and Religious and Secular Interrelationships. Answers to these questions could contribute to a greater understanding of implicit religion and might have implications for pastoral care at a time when many people appear to be less overt in their religious practices. The dimensions of religion are a major preoccupation of quantitative social psychologists, and there is already an extensive literature and an established methodology relevant to the further study of implicit religion.

Using the techniques of factor analysis, almost any questionnaire (scale) of more than a few questions (items) can be shown to comprise different factors, but these factors are rarely totally uncorrelated and their interpretation is subjective. Evidence adduced from factor and other analyses has been quoted in support of both the uni- and multi-dimensional views of religiosity. Analyses of simple scales made up of items relating to fundamental credal beliefs and church attendance tend to suggest that religiosity has a single dimension. On the other hand, wider ranging scales support multidimensionality. Analyses can also be influenced by the degree of respondents' religious involvement. Results from relatively unsophisticated participants are more likely to indicate a single factor than those from, say, ministers of religion (Maranell & Razak, 1970). Because the associations between measures of religious beliefs and behaviours and other social and psychological variables,

such as gender, age, education, authoritarianism, orthodoxy and tolerance are generally found to be complex, most workers prefer to interpret religiosity multidimensionally.

There are theoretical precedents for considering religiosity as multidimensional. The theologian, von Hügel (1908) proposed three developmental stages in religion: the traditional, based on memory and childhood experiences; the rational, which appeared with increasing maturity and derived from the power to understand argument and think in abstract terms; and the intuitive, or volitional, which arose from mature experiences. Pratt (1920) accepted von Hügel's schema, but considered that the intuitive factor should be subdivided into mystical (intuitive) and practical (moral) elements. Glock (1962) proposed a rather different composition, represented by separate ideological, ritualistic, intellectual, experiential, and consequential aspects, that is beliefs, practices, knowledge, feelings and effects respectively. It is possible to discern similarities among several of these dimensions, and Figure 1 suggests how they might be related.



The validity of these ideas has been tested. Faulkener and DeJong (1966) constructed a questionnaire based on each of Glock's five dimensions, which was administered to a student sample. The most well separated dimensions were the experiential and consequential, and the remaining dimensions, particularly the ideological and intellectual, were intercorrelated. However, these correlations were less apparent when gender, religious affiliation, and parents' church membership were controlled for. The ideological and experiential dimensions were much more closely associated among women than among men. The associations between the different scales were weaker for the children of non-church members, and weakest of all was the association between the ritual and consequential dimensions among Jewish students. It therefore appears that the evidence for multidimensionality is greater in more homogeneous samples, for example all men or all women, than for samples that are less uniform. Stark and Glock (1968) conducted a related study with a modified set of scales. Their findings were similar to those of Faulkner and DeJong and they proposed that the ideological dimension was the best indicator of overall religiosity, because it correlated most highly with all the other dimensions.

Later studies including items in addition to those related to each of Glock's five dimensions, tend to confirm the multidimensionality of religiosity, but suggest that Glock's formulation is more complex than is necessary. Using a random sample of urban Catholics living in Germany, Boos-Nünning (1972) found that items derived from the ritualistic, ideological, experiential and consequential dimensions were all subsumed within a general religiosity factor. Another study (Clayton & Gladden, 1974) identified five factors in the responses of Protestant students, but found that a single ideological commitment factor predominated. Fuchs and Oppermann (1975) related Glock's dimensions to words in frequent religious use in Germany and invited a heterogeneous sample of participants to identify similarities between the words. Only the ideological and ritualistic dimensions were distinguishable in subsequent analysis, and the former was of overriding statistical importance. On balance, it can be concluded that religiosity is probably multidimensional, but that the number of major dimensions is few and may be no more than two.

Extrinsic and intrinsic religion

While most faiths expect adherents to take part in public worship, religious teachings (Buddhist, Christian, Hindu and Jewish for example) also stress the importance of an inner piety that is not accompanied by outward show. This implies the existence of two different kinds of religious orientation, one institutional and the other personal, and these have come to be called Extrinsic and Intrinsic Religiosity (Allport, 1959). For extrinsically oriented individuals, religious observances are pursued for the benefits they bring. These may include feelings of security, comfort or solace, friends and a feeling of belonging. Extrinsic religion is always instrumental, a means to an end. The individual turns to God but does not turn away from self. In contrast, religion itself is the end for the intrinsically oriented

individual. All other needs are considered to be of lesser importance and are, as far as possible, brought into harmony with religious beliefs and prescriptions. Having adopted a creed, the intrinsically inclined individual internalises it and follows it fully; religion is his life and he lives his religion (Allport & Ross, 1967, p. 434).

Allport and Ross developed a 20-item scale, the Religious Orientation Scale (ROS), to measure the two dimensions. A particular advantage of this scale is that the extrinsic and intrinsic dimensions are virtually independent of each other. Donahue (1985) compared the results of 34 previously published studies and found that the mean reported correlation for the two scales was virtually zero, which would indicate the absence of any association between the scales. This implies that the extrinsic and intrinsic orientations are not bipolar alternatives; in theory individuals may exhibit any combination and could even score highly on both. Many studies have compared ROS scores with other attitudinal and personality variables and in general, but not always, the associations are in the expected direction. For example, intrinsics are less prejudiced, less dogmatic, more likely to believe that they are in control of their lives and hold more positive views about death (Bolt, 1977). They also tend to take a more favourable view of human nature (Maddock & Kenny, 1972) and exhibit higher "purpose in life" scores (Bolt, 1975). An intrinsic orientation appears to militate against depression and narcissism (Watson, Morris, Hood & Foster, 1988). However, in a study of Dutch Jewish, Protestant and Roman Catholic students, Lange (1971) found an intrinsic orientation to be associated with greater authoritarianism, dogmatism and rigidity. Special attention has been given to the attitudes and behaviours of those who score highly on both the intrinsic and extrinsic dimensions, the so-called "indiscriminately pro-religious". In a US study, Sanderson (1974) found that such individuals were most likely to be super-patriotic, opposed to civil liberties and culturally intolerant.

Religion as "Quest"

Originally, it was believed that a strong intrinsic orientation indicated a more positive or sincere way of being religious; this would be consistent with religious teaching and with much of the work described above. However, the case can be made that the extrinsic and intrinsic dimensions represent a static view of religion that misses the possibility of religious growth through experience: "the degree to which an individual's religion involves an open-ended dialogue with existential questions raised by the contradictions and tragedies of life" (Batson & Ventis, 1982). The idea that righteousness or salvation has to be actively sought is a common to many faiths, for example Buddhism and Christianity, and in recent times, Pratt (1950) has stated that for the modern, honest and thinking individual, worship can only be understood as "an active search". Earlier, Batson (1976) had argued that this aspect, "Quest", was more characteristic of mature religiosity than were the extrinsic and intrinsic dimensions. Batson and his colleagues devised another scale, the Religious Life Inventory (RLI) which, in addition to items relating to extrinsic and intrinsic religiosity, contained items

relating to interactional growth. Factor analysis of this scale revealed three independent factors termed Religion as Means (*extrinsicity*), Religion as Ends (intrinsicity) and the new factor, Religion as "Quest". Batson and Ventis (1982) conducted further studies to confirm that the quest dimension was most typical of "true" religion. They contend that an intrinsic orientation is rigid and simplistic and although it provides a sense of freedom from guilt and anxiety, this freedom is bought at the expense of uncritical acceptance of religious beliefs. The more sceptical quest orientation, on the other hand, allows room for dealing with the complexities and doubts of daily life, does not involve an uncritical acceptance of religious beliefs and is conducive to open-mindedness, personal growth and self-actualisation. It may be no coincidence that these particular values were considered normative by the ultra-liberal thinkers of the 1970s.

Perhaps the studies of Batson - whose initial work was theological rather than psychological - and his colleagues, were intended to be provocative and to challenge traditional views of religion. It might be that Batson was more interested in providing data in support of a "value-laden" hypothesis than in testing that hypothesis empirically. Were this to be so, then both conceptual and ideological criticism would be justified, of which there has been some. Most of Batson's work was conducted with college students in whom the quest orientation and its accompanying scepticism could be expected to be strong. Working with a sample of some 200 Presbyterians whose ages ranged from 11 to 83, Watson, Howard, Hood and Morris (1988) found that quest scores decreased and intrinsic scores increased with advancing age. This is not supportive of the view that the quest orientation is characteristic of (religious) maturity. Nevertheless, Batson's work has established Quest as a potentially useful dimension available for the study of religious attitudes, and it has been applied to an assessment of the effectiveness of different styles of pastoral counselling (Lyons & Zingle, 1990).

It will be seen from this brief account, that psychologists cannot claim to have defined the fundamental dimensions of religion. In all probability, religion is too complex for such an explanation ever to be possible. Nevertheless, existing studies have generated a number of different concepts and created a methodology that can make a useful and sympathetic contribution to the assessment of both old and new theological propositions, of which intrinsic religion may be one. It can already be inferred that intrinsic religion will prove to be multidimensional; are its dimensions associated with any of those described above? One would not expect a close relationship with extrinsic religiosity. It would, however, be instructive to know whether Implicit Religion were related to either or both of Intrinsic Religion and Quest; the Social Integration and Religious and Secular Interrelationships aspects of implicit religion appear to have something in common with the latter. A further field of study would be the associations that might exist between Intrinsic Religion and individual personal and cognitive differences in personality; in particular; does an explicit or intrinsic orientation have any association with psychological well-being? The remainder of

this review will describe two recent empirical studies of mystical experiences among church and non-church members, and a comparison of the sensations evoked by religious and musical activities. These topics have been chosen for their possible relevance to implicit religion and to illustrate some typical applications of the concepts and methodologies described above.

THE INCIDENCE OF MYSTICAL EXPERIENCES

Exceptionally devout individuals of many faiths have reported ecstatic experiences. William James (1902) studied the experiences of the medieval Christian mystics and other famous religious individuals and concluded that they were induced by some kind of psychological disharmony. Spilka and McIntosh (1995) reported that many who have such experiences were previously in some form of distress such as depression, fear, dread, feelings of sin or a crisis of meaning. But there may be other forms of religious experience. Pratt was the first to draw attention to a milder type that was neither ecstatic nor extreme, and was more characteristic of the experiences of ordinary religious people. These experiences were often vague and difficult to articulate and he proposed that they originated from a region of consciousness that he described as "the feeling background". He also proposed that "mild mystics" would not be mentally disturbed and would be happier than those who had not undergone such experiences: "The two classes... [of religious experience]... might be called the mild and extreme type. The former is commonplace and easily overlooked, and is never carried to extremes. The other type is usually so striking in its intensity and in its effects that it attracts notice and is regularly regarded as a sign either of supernatural visitation or of a pathological condition." (Pratt, 1920. p. 339).

Subsequent work has provided empirical support for the widespread occurrence of mystical/religious experiences. Greeley (1975) asked a US national sample (N = 1467) "Have you ever felt as though you were very close to a powerful spiritual force that seemed to lift you out of yourself?", to which 35% of the respondents gave a positive reply. Such events were relatively infrequent; 18% of the sample had only experienced them once or twice and 12% several times. Only 5% claimed that they had experienced the events often. Almost identical results were obtained in a UK study (Hay & Morrisey, 1978) which asked the question "Have you ever been aware of or influenced by a presence or power, whether you call it God or not, which is different from your everyday self?" Hay (1982) also found that the experiences were mostly of short duration: 51% said that they lasted for a few seconds to 10 minutes, 23% up to a day, 9% up to a month and 6% up to a year or longer. Neither of the above survey questions implies a specifically religious interpretation. The studies were carried out with large cross-sectional samples, and if extrapolation is valid, then the events have been experienced at one time or another by about one-third of the corresponding populations. This is probably greater than the proportion of active, frequent and regular adherents to religious groups in the same populations. In a more general study

of religious consciousness, Greeley (1975) explored the situations that appeared to act as triggers for mystical experience and found that the most influential was listening to music (49%), closely followed by prayer (48%) and the beauties of nature (45%). There were other religious stimuli in addition to prayer, such as attending church services (41%), listening to a sermon (40%) and reading the Bible (31%). Nevertheless, not all the reported stimuli were ostensibly religious, for example reading a poem or novel (21%), childbirth (20%) and sexual activity (18%).

These results suggest the exercise of caution in interpreting accounts of mild mystical events exclusively in religious terms. Nevertheless, a connection between mystical and religious experiences is widely accepted. Jung (1938) considered that the numinous (Otto, 1917), an awareness of something outside the self which transcends space and time, is the immediate source of a religious attitude. Subsequent studies allowed further distinctions to be made between the transcendent and immanent elements in mystical experience. Hood (1975) constructed a 32-item, self-report scale derived from a list of the features considered by Stace (1960) to be important and universal features of mystical experience in all traditions. Factor analysis of this scale produced two factors. One factor, general mysticism, contained immanent items that related to a relationship between the Divine and the self, such as subjectivity, ego loss and the experience of unity with God. The other factor, religious interpretation, contained transcendent items such as awe and awareness of an ultimate reality outside of the self. There are however other possible components of mystical experience that are not represented in Hood's scale. Anthropologists have emphasised the social element in mystical experience, and Turner (1969) has drawn attention to communitas, the feelings of love, equality and fusion with others, experienced by participants in the liminal state of some primitive rituals.

Argyle and Hills, (2000) have recently explored the prevalence and intensity of mystical experiences among a UK sample of church and non-church members in greater detail. Overall, 56% of respondents report a mystical experience and the incidence of experiences is higher among church members (75%) than non-members (38%). The overall figures are greater than others have found, which may be due to the high proportion of church members in the sample. Mild experiences (72%) outnumber intense experiences (28%) by about three to one and this is consistent with Pratt's (1920) proposition that the experiences of ordinary religious people would be characteristically mild, rather than intense. However, there is little difference in the relative intensities of experiences reported by church members (76% mild) and non-members (71%) mild. The picture that emerges from the above comparisons is one of qualitative uniformity in the nature of mystical events experienced by church members and non-members. The main difference is in quantity; church members have twice as many experiences as non-members. Greeley (1975) has shown that a number of the more powerful "triggers" of mystical experiences are religious, for example, prayer, bible reading and being alone in church. A plausible explanation for the greater frequency of experiences

among church members could be that they are more exposed to activities and environments conducive to mystical sensations. They may also be more inclined to recognise their experiences as mystical from their knowledge of similar events in sacred writings.

Hills and Argyle (2000) also constructed a Religious Affect Scale of 25 items based upon items selected from Hood's (1975) Mystical Experience Scale, supplemented with items intended to assess possible transcendent, immanent, social and sensory components. Respondents were asked to rate "the intensity of their personal feeling" for each of the items. Factor analysis of the scale revealed three factors. Factor 1 included all the immanent items, for example "contact with God" and "being at peace with God", along with items related to the emotional response thereto, "feeling loved" and "feeling supported and helped" and "joy/elation". Factor 2 was almost entirely made up of socially related items such as "being part of a family" and "opportunities to help others" which could be related to the caring, supportive and co-operative aspects of membership of a religious group. Factor 3 was largely composed of transcendent items. Factors 1 and 2 were associated with church membership and Factor 3 with mystical experiences. The relationships between the incidence of mystical experiences, and a battery of personality variables were also examined. Few were significant. Experiencers were more empathetic and had a greater regard for life than non-experiencers, but otherwise there were no substantial differences between the two groups.

Overall, these results could have some implications, albeit speculative, for implicit religion. Although church members report more frequent mystical experiences, non-church members have similar experiences which are qualitatively little different from those of church members. If it can be accepted that the recollection and reporting of mystical experiences are indicative of a religious disposition, then it can be argued that many people who do not attend church, have a form of religious consciousness that is implicit rather than explicit.

MUSICAL AND RELIGIOUS EXPERIENCES

One aspect of implicit religion is that of commitment, and it has been suggested that this is as likely to be found in secular as in religious activities (Bailey, 1988). To explore this proposition, it would be of interest to examine related pairs of activities that demand personal dedication and in which the religious and the secular overlap. Musical and religious activities seem to meet these requirements and have recently been compared and contrasted (Hills & Argyle, 1998a). These two activities have much in common. Both can evoke powerful and fairly intense emotional responses, some of which are private to the individual while others are experienced in a social context such as a public act of worship or musical performance. Music and religion are also associated in practice. It has been found that music is the most common "trigger" of religious experiences (Greeley, 1975). Music plays an important part in church services and even music that is not intended for religious

purposes is frequently structured according to liturgical conventions and performed and experienced in quasi-religious terms. Both experiences possess mystical and transcendental elements that are difficult to communicate. The positive emotions arising from music are often described in religious language. Franz Schubert described the music of Mozart in these terms: "Thus beautiful impressions remain in the soul, which are soothing to our existence, and which neither time nor events can efface. In the darkness of our life they throw a light, bright and beautiful future, which fills us with fervent hope. O Mozart! Immortal Mozart! How many, yea, innumerable impressions of a brighter and better world have you imprinted on our souls" (Booth-Davies, 1978). In a psychological examination (Valentine, 1962) of the nature of music, subjects were asked to describe their experiences of particular compositions. One of them described Beethoven's "Pastoral" Sonata as "The joyful uplifting of the oppressed soul that feels released from depths of anguish through faith in a kind, heavenly Father".

Hills and Argyle's (1998) comparison of musical and religious activities was intended to establish the associations of the two activities with well-being and with a variety of individual personality differences. These can be ignored for the purposes of this review, in order to focus on the study's possible implications for implicit religion. The study was carried out with some 250 participants many of whom were members of churches or of performing musical groups, mostly amateur choirs. Separate scales were constructed for musical (25 items) and church experiences (24 items). Both contained selected items from Hood's (1975) mystical experience scale and each was augmented by additional items that seemed relevant to the appropriate activity, for example relations with others, musical satisfactions, challenge and transcendental experiences. Respondents were invited to indicate the "strength of their personal feelings" for each of the items, of which 11 were common to both scales. Initial attention was focused on the scores for the common items. Correlation analysis of the musical and religious scores showed that the scores for 10 of the 11 items were strongly associated. A comparison of the item means showed that the music scores were greater for 9 of the 11 items. These findings indicate that music and religion are very similar in the feelings they evoked among the participants, and that the feelings aroused by music are stronger. This latter finding is particularly notable given that the items on which the examination was based were originally devised to measure religious experiences.

The two complete scales were also factor analysed. The musical scale (25 items) provided five factors and the religious scale (24 items) four factors. The analyses provided different factor structures, that is no factors were common to both solutions. However, two pairs of factors were strongly associated; those which contained the well-being items and those which contained the transcendental items, from which it can be concluded that musical and religious experiences are similar in that they both induce a sense of well-being and an experience of transcendence. While these results are insufficient to support the conclusion that membership of performing musical groups is an example of implicit religion,

it would appear that such membership evokes similar, and even stronger, sensations to those experienced by religious people.

IN CONCLUSION

This review has attempted to show that the methodologies and concepts of contemporary social psychology could make a useful contribution to the further study of implicit religion. Two recently published studies on religious and musical experiences have been re-examined to establish the relevance of their findings to implicit religion, and some interesting parallels have been observed. ■

APPENDIX B QUESTIONNAIRES

The questionnaires are presented here in the chronological order in which they were administered, which is not necessarily the order in which the results have been discussed above. There is no exact one-to-one correspondence between particular questionnaires and specific chapters because data collection was conducted for several studies simultaneously. Questionnaires 1 - 5 were completed by a continuing subject panel and were coded so that the responses from particular individuals could be linked throughout the series. It was therefore possible to carry questions over from questionnaire to questionnaire. However approximate connections between chapters and questionnaires are as follows.

Questionnaire 1. Positive moods, section 2.1 [questions A, B, C; pp161-168]

Questionnaire 2. Musical and religious experiences, section 3.2
Questions D, E, F, G; pp 169-172]

Questionnaire 3. Data not specific to any particular section, some unused [pp 173-176]

Questionnaire 4. Religious experiences, section 3.1; Happy introverts, section 4.1
[pp 177-182]

Questionnaire 5. Attitudes to work, section 3.3; emotional stability, section 4.2
[pp 183-188]

Questionnaire 6. Theories of leisure, section 2.3 [pp189-190]

Questionnaire 7. Uses of the Internet, section 2.2 (Questions A, B, C; pp 191-193]

Questionnaire 8. Measurement of happiness, section 5.1
[Questionas A, B; pp 194-198]

IN CONFIDENCE

THE OXFORD HAPPINESS PROJECT

School of Psychology, Oxford Brookes University
Gypsy Lane Campus, Headington, Oxford OX3 0BP UK

Thank you for agreeing to become a member of the Happiness Subject Panel. Here is the first set of questionnaires which we hope you will complete for us.

What we are trying to do at first, is to map out what kinds of satisfactions people get from some typical social activities (Questionnaire C). We also want to find out how these satisfactions are affected by how happy people feel generally (Questionnaire A) and the extent to which they are predisposed to be happy by the sort of people they are (Questionnaire B), because we are all very different in this respect. You may find some of the questions in questionnaire B a little odd, but we want to use this particular questionnaire as a reference point, because it has been used many thousands of times all over the world for similar purposes and its properties are very well researched.

It should take you about 20 minutes to complete the three questionnaires. Don't take long over individual questions. There are no 'right' or 'wrong' answers nor any trick questions; the first answer that comes into your head is probably the best one for you.

There is a box at the end of the questionnaire booklet for your (optional) remarks. We would be delighted if you would comment on the study or the questionnaires, particularly if you think we have missed anything out or could have phrased a question better.

Would you please return your completed questionnaires in the pre-paid envelope. Thank you.

QUESTIONNAIRE A. *On this questionnaire are groups of statements. Please read each group carefully. Then pick out the one statement in each group which best describes the way you have been feeling* ***in the past week, including today.*** *Circle the letter (a, b, c or d) beside the statement you have picked. If several statements in the same group seem to apply equally well, circle each one.* ***Please be sure to read all the statements in each group before making your choice.***

01.	a	I do not feel happy.
	b	I feel fairly happy.
	c	I am very happy.
	d	I am incredibly happy.
02.	a	I am not particularly optimistic about the future.
	b	I feel optimistic about the future.
	c	I feel I have so much to look forward to.
	d	I feel that the future is overflowing with hope and promise.
03.	a	I am not really satisfied with anything in my life.
	b	I am satisfied with some things in my life.
	c	I am satisfied with many things in my life.
	d	I am completely satisfied about everything in my life.
04.	a	I feel that I am not especially in control of my life.
	b	I feel at least partially in control of my life.
	c	I feel that I am in control most of the time.
	d	I feel that I am in total control of all aspects of my life
05.	a	I don't feel that life is particularly rewarding.
	b	I feel that life is rewarding.
	c	I feel that life is very rewarding.
	d	I feel that life is overflowing with rewards.
06.	a	I don't feel particularly pleased with the way I am.
	b	I am pleased with the way I am.
	c	I am very pleased with the way I am.
	d	I am delighted with the way I am.

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07.	a	I never have a good influence on events.
	b	I occasionally have a good influence on events.
	c	I often have a good influence on events.
	d	I always have a good influence on events.
08.	a	I get by in life.
	b	Life is good.
	c	Life is very good.
	d	I love life.
09	a	I am not really interested in other people.
	b	I am moderately interested in other people.
	c	I am very interested in other people.
	d	I am intensely interested in other people.
10.	a	I do not find it easy to make decisions.
	b	I find it fairly easy to make some decisions.
	c	I find it easy to make most decisions.
	d	I can make all decisions very easily.
11.	a	I find it difficult to get started to do things.
	b	I find it moderately easy to start doing things.
	c	I find it easy to do things.
	d	I feel able to take anything on.
12.	a	I rarely wake up feeling rested.
	b	I sometimes wake up feeling rested .
	c	I usually wake up feeling rested.
	d	I always wake up feeling rested.
13.	a	I don't feel at all energetic.
	b	I feel fairly energetic.
	c	I feel very energetic.
	d	I feel I have boundless energy.
14.	a	I don't think things have a particular 'sparkle'.
	b	I find beauty in some things.
	c	I find beauty in most things.
	d	The whole world looks beautiful to me.
15	a	I don't feel mentally alert.
	b	I feel quite mentally alert.
	c	I feel very mentally alert.
	d	I feel fully mentally alert.
16.	a	I don't feel particularly healthy.
	b	I feel moderately healthy.
	c	I feel very healthy.
	d	I feel on top of the world.
17.	a	I do not have particularly warm feelings towards others.
	b	I have some warm feelings towards others.
	c	I have very warm feelings towards others.
	d	I love everybody.
18.	a	I do not have particularly happy memories of the past.
	b	I have some happy memories of the past.
	c	Most past events seem to have been happy.
	d	All past events seem extremely happy.
19.	a	I am never in a state of joy or elation.
	b	I sometimes experience joy and elation.
	c	I often experience joy and elation.
	d	I am constantly in a state of joy and elation.
20.	a	There is a gap between what I would like to do and what I have done.
	b	I have done some of the things I wanted.
	c	I have done many of the things I wanted.
	d	I have done everything I ever wanted.

21.	a	I can't organise my time very well.
	b	I organise my time fairly well.
	c	I organise my time very well.
	d	I can fit in everything I want to do.
22.	a	I do not have fun with other people.
	b	I sometimes have fun with other people.
	c	I often have fun with other people.
	d	I always have fun with other people.
23.	a	I do not have a cheerful effect on others.
	b	I sometimes have a cheerful effect on others.
	c	I often have a cheerful effect on others.
	d	I always have a cheerful effect on others.
24.	a	I do not have any particular sense of meaning and purpose in my life.
	b	I have a sense of meaning and purpose.
	c	I have a great sense of meaning and purpose.
	d	My life is totally meaningful and purposive.
25.	a	I do not have particular feelings of commitment and involvement.
	b	I sometimes become committed and involved.
	c	I often become committed and involved.
	d	I am always committed and involved.
26.	a	I do not think the world is a good place.
	b	I think the world is a fairly good place.
	c	I think the world is a very good place.
	d	I think the world is an excellent place.
27.	a	I rarely laugh.
	b	I laugh fairly often.
	c	I laugh a lot.
	d	I am always laughing.
28.	a	I don't think I look attractive.
	b	I think I look fairly attractive.
	c	I think I look attractive
	d	I think I look extremely attractive.
29.	a	I do not find things amusing.
	b	I find some things amusing.
	c	I find most things amusing.
	d.	I am amused by everything.

QUESTIONNAIRE B. *Please answer each question by putting a circle around the 'Yes' or 'No' following the question. There are no 'right' or 'wrong' answers, nor any 'trick' questions. Work quickly and do not think too long about the exact meaning of the questions.* ***Please remember to answer each question.***

01.	Do you have many different hobbies?	Yes	No
02.	Do you stop to think things over before doing anything?	Yes	No
03.	Does your mood often go up and down?	Yes	No
04.	Have you ever taken the praise for something you knew someone else had really done? ..	Yes	No
05.	Are you a talkative person?	Yes	No
06.	Would being in debt worry you?.....	Yes	No
07.	Do you ever feel 'just miserable' for no reason?	Yes	No
08.	Were you ever greedy by helping yourself to more than your share of anything?	Yes	No
09.	Do you lock up your house carefully at night?	Yes	No
10.	Are you rather lively?	Yes	No

11.	Would it upset you a lot to see a child or an animal suffer?	Yes	No
12.	Do you often worry about things you should not have done or said?	Yes	No
13.	If you say you will do something, do you always keep your promise no matter how inconvenient it might be?	Yes	No
14.	Can you usually let yourself go and enjoy yourself at a lively party?	Yes	No
15.	Are you an irritable person?	Yes	No
16.	Have you ever blamed someone for doing something you knew was really your fault?	Yes	No
17.	Do you enjoy meeting new people?	Yes	No
18.	Do you believe insurance schemes are a good idea?	Yes	No
19.	Are your feelings easily hurt?	Yes	No
20.	Are *all* your habits good and desirable ones?	Yes	No
21.	Do you tend to keep in the background on social occasions?	Yes	No
22.	Would you take drugs which may have strange or dangerous effects?	Yes	No
23.	Do you often feel 'fed up'?	Yes	No
24.	Have you ever taken anything (even a pin or a button) that belonged to someone else?	Yes	No
25.	Do you like going out a lot?	Yes	No
26.	Do you enjoy hurting people you love?	Yes	No
27.	Are you often troubled about feelings of guilt?	Yes	No
28.	Do you sometimes talk about things you know nothing about?	Yes	No
29.	Do you prefer reading to meeting people?	Yes	No
30.	Do you have enemies who want to harm you?	Yes	No
31.	Would you call yourself a nervous person?	Yes	No
32.	Do you have many friends?	Yes	No
33.	Do you enjoy practical jokes that can sometimes really hurt people?	Yes	No
34.	Are you a worrier?	Yes	No
35.	As a child did you do as you were told immediately and without grumbling?	Yes	No
36.	Would you call yourself 'happy-go-lucky'?	Yes	No
37.	Do good manners and cleanliness matter much to you?	Yes	No
38.	Do you worry about awful things that might happen?	Yes	No
39.	Have you ever broken or lost something belonging to someone else?	Yes	No
40.	Do you usually take the initiative in making new friends?	Yes	No
41.	Would you call yourself tense or 'highly-strung'?	Yes	No
42.	Are you mostly quiet when you are with other people?	Yes	No
43.	Do you think marriage is old-fashioned and should be done away with?	Yes	No
44.	Do you sometimes boast a little?	Yes	No
45.	Can you easily get some life into a rather dull party?	Yes	No

46.	Do people who drive carefully annoy you?	Yes	No
47.	Do you worry about your health?	Yes	No
48.	Have you ever said anything bad or nasty about anyone?	Yes	No
49.	Do you like telling jokes and funny stories to your friends?	Yes	No
50.	Do most things taste the same to you?	Yes	No
51.	As a child were you ever cheeky to your parents?	Yes	No
52.	Do you like mixing with people?	Yes	No
53.	Does it worry you if you know there are mistakes in your work?	Yes	No
54.	Do you suffer from sleeplessness?	Yes	No
55.	Do you always wash before a meal?	Yes	No
56.	Do you nearly always have a 'ready answer' when people talk to you?	Yes	No
57.	Do you like to arrive at appointments in plenty of time?	Yes	No
58.	Have you ever felt listless and tired for no reason?	Yes	No
59.	Have you ever cheated at a game?	Yes	No
60.	Do you like doing things in which you have to act quickly?	Yes	No
61.	Is (or was) your mother a good woman?	Yes	No
62.	Do you often feel life is very dull?	Yes	No
63.	Have you ever taken advantage of someone?	Yes	No
64.	Do you often take on more activities than you have time for?	Yes	No
65.	Are there several people who keep trying to avoid you?	Yes	No
66.	Do you worry a lot about your looks?	Yes	No
67.	Do you think people spend too much time safeguarding their future with savings and insurances?	Yes	No
68.	Have you ever wished that you were dead?	Yes	No
69.	Would you dodge paying taxes if you were sure you could never be found out?	Yes	No
70.	Can you get a party going?	Yes	No
71.	Do you try not to be rude to people?	Yes	No
72.	Do you worry too long after an embarrassing experience?	Yes	No
73.	Have you ever insisted on having your own way?	Yes	No
74.	When you catch a train, do you often arrive at the last minute?	Yes	No
75.	Do you suffer from 'nerves'?	Yes	No
76.	Do your friendships break up easily without it being your fault?	Yes	No
77.	Do you often feel lonely?	Yes	No
78.	Do you always practise what you preach?	Yes	No
79.	Do you sometimes like teasing animals?	Yes	No
80.	Are you easily hurt when people find fault with you or the work you do?	Yes	No

81.	Have you ever been late for an appointment or work?	Yes	No
82.	Do you like plenty of bustle and excitement around you?	Yes	No
83.	Would you like other people to be afraid of you?	Yes	No
84.	Are you sometimes bubbling over with energy and sometimes very sluggish?	Yes	No
85.	Do you sometimes put off until tomorrow what you ought to do today?	Yes	No
86.	Do other people think of you as being very lively?	Yes	No
87.	Do people tell you a lot of lies?	Yes	No
88.	Are you touchy about some things?	Yes	No
89.	Are you always willing to admit it when you have made a mistake?	Yes	No
90.	Would you feel very sorry for an animal caught in a trap?	Yes	No

Please check to see that you have answered every question.

QUESTIONNAIRE C. *On the questionnaire below, there are groups of statements about some likely satisfactions generated by five common activities, for example sport or exercise, work, listening to music, and watching TV. Would you please indicate the intensity of your personal, positive feelings for each of these by circling one appropriate number, where 1= the lowest intensity, and 6 = the greatest intensity, for each of the numbered statements.*

A.	**Taking part in sport or exercise**						
01.	Bodily well-being	1	2	3	4	5	6
02.	Positive body-image	1	2	3	4	5	6
03.	Self-esteem	1	2	3	4	5	6
04.	Joy	1	2	3	4	5	6
05.	Excitement	1	2	3	4	5	6
06.	Achievement	1	2	3	4	5	6
07.	Enjoyable interaction with others	1	2	3	4	5	6
08.	Positive feeling about life	1	2	3	4	5	6
09.	Positive feelings towards others	1	2	3	4	5	6
B.	**Satisfactions from work**						
01.	Companionship	1	2	3	4	5	6
02.	Achievement	1	2	3	4	5	6
03.	Excitement	1	2	3	4	5	6
04.	Opportunities for leadership	1	2	3	4	5	6
05.	Doing something useful	1	2	3	4	5	6
06.	Working with others	1	2	3	4	5	6
07.	Absorption in the task	1	2	3	4	5	6
08.	Status/recognition	1	2	3	4	5	6
09.	Self-development	1	2	3	4	5	6
10.	Meeting new challenges	1	2	3	4	5	6
11.	Acquiring/using skills	1	2	3	4	5	6

C.	**Enjoying music**						
01.	Bodily well-being	1	2	3	4	5	6
02.	Joy	1	2	3	4	5	6
03.	Excitement	1	2	3	4	5	6
04.	Positive feeling about life	1	2	3	4	5	6
05.	Positive feelings towards others	1	2	3	4	5	6
06.	Feeling uplifted	1	2	3	4	5	6
07.	Feeling united with others present	1	2	3	4	5	6
08.	Timelessness	1	2	3	4	5	6
09.	Entertainment	1	2	3	4	5	6
D.	**Church or other related activities**						
01.	Joy	1	2	3	4	5	6
02.	Positive feeling about life	1	2	3	4	5	6
03.	Positive feelings towards others	1	2	3	4	5	6
04.	Being at peace with God	1	2	3	4	5	6
05.	Being bathed in warmth or light	1	2	3	4	5	6
06.	Relief from anxiety	1	2	3	4	5	6
07.	Timelessness	1	2	3	4	5	6
08.	Feeling united with others present	1	2	3	4	5	6
09.	Feeling supported and helped	1	2	3	4	5	6
10.	Feeling loved	1	2	3	4	5	6
E.	**Close relationships with partner, family or others**						
01.	Feeling loved	1	2	3	4	5	6
02	Joy	1	2	3	4	5	6
03.	Enjoying companionship	1	2	3	4	5	6
04.	Enjoying looking after the other(s)	1	2	3	4	5	6
05.	Bodily well-being	1	2	3	4	5	6
06.	Self-esteem	1	2	3	4	5	6
07.	Positive feeling about life	1	2	3	4	5	6
08.	Relaxation	1	2	3	4	5	6
09.	Feeling supported and helped	1	2	3	4	5	6
F.	**Watching/listening to TV or radio soap operas or sitcoms**						
01.	Joy	1	2	3	4	5	6
02.	Feeling relaxed	1	2	3	4	5	6
03.	Entertainment	1	2	3	4	5	6
04.	Being amused	1	2	3	4	5	6
05.	Distraction from worries	1	2	3	4	5	6
06.	Enjoying companionship of others watching	1	2	3	4	5	6
07.	Enjoying the company of, or identifying with, the characters in the story	1	2	3	4	5	6

Would you now please tell us something about yourself.

1. Gender (male/female) .....
2. Your age .....

Please underline the appropriate answer to the questions below.

3. Are you an active member of a choir/orchestra/etc. ..... Yes No
4. Are you an active member of a church, chapel or any other religious body ... Yes No
5. Are you an active member of a sports club, aerobics group etc. ..... Yes No
6. Do you watch TV soaps or sit coms regularly. ..... Yes No

7. Are you:

   single living with partner separated divorced widowed

8. At what level did you finish your education:

   O-level/GCSE A-level Post A-Level diploma etc. Degree

9. Are you:

   A Student Employed or self employed Not employed At Home* Retired

   ** for example, looking after a family*

THANK YOU FOR YOUR PATIENCE AND CO-OPERATION

Please use this space to make any comments you wish about the Project or the questionnaires.

THE OXFORD HAPPINESS PROJECT

School of Psychology, Oxford Brookes University
Gypsy Lane Campus, Headington, Oxford OX3 0BP UK

Thank you for returning our first questionnaire. The response was excellent, over 230 completed questionnaires were received. The results have now been analysed and we have obtained some very useful results on happiness and satisfactions from work and exercise.

The results were particularly interesting for musical and religious satisfactions. Surprisingly, they seemed to have much in common. We would like to examine this further and have extended and revised the musical and religious sections. We have also shortened the happiness questionnaire and would like you to test this out for us too. The new set of questions will allow us to find out how happiness varies with people's preferences for being alone or in company.

This questionnaire is shorter then the first and we hope you will continue to support us by completing it. Please read the questions carefully because we have used both negative and positive phrasing in some cases. Don't take too long over individual questions. There are no 'right' or 'wrong' answers; the first answer that comes into your head is probably the best one for you.

Would you please return your completed questionnaire in the pre-paid envelope. Thank you.

QUESTIONNAIRE D. ***Would you please indicate how far you agree or disagree with the following statements by placing a cross somewhere along the line joining 'strongly agree' and 'strongly disagree' according to your preference.***

D01. I take a positive attitude towards myself.

Strongly agree _____ *strongly disagree*

D02. I don't feel at all energetic

Strongly agree _____ *strongly disagree*

D03. I am always committed and involved.

Strongly agree _____ *strongly disagree*

D04. I wish I could have more respect for myself.

Strongly agree _____ *strongly disagree*

D05. On the whole I am satisfied with myself.

Strongly agree _____ *strongly disagree*

D06. I certainly feel useless at times.

Strongly agree _____ *strongly disagree*

D07. I am able to do things as well as most people.

Strongly agree _____ *strongly disagree*

D08. At times I think I am no good at all.

Strongly agree _____ *strongly disagree*

D09. I feel I have a number of good qualities.

Strongly agree _____ *strongly disagree*

D10. I do not have a cheerful effect on others.

Strongly agree _____ *strongly disagree*

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D11. I feel that I am in complete control of my life.

Strongly agree _____ *strongly disagree*

D12. I feel that I do not have much to be proud of.

Strongly agree _____ *strongly disagree*

D13. I feel that I am a person of worth, at least on an equal plane with others.

Strongly agree _____ *strongly disagree*

D14. All in all, I am inclined to feel that I am a failure.

Strongly agree _____ *strongly disagree*

D15. I love life.

Strongly agree _____ *strongly disagree*

QUESTIONNAIRE E. ***For each of the following pairs of statements, select the one that best describes you by ticking either A or B. If neither statement describes you well, please select the statement that describes you most nearly or more often than not.***

E 01.	A.	I enjoy being with people.
	B.	I enjoy being by myself.
E02.	A.	I try to plan my day so that I always have some time to myself.
	B.	I try to plan my day so that I am always doing something with someone.
E03.	A.	One feature I look for in a job is the opportunity to work with interesting people.
	B.	One feature I look for in a job is the opportunity to spend time by myself.
E04	A.	When I spend a few hours with lots of people, I usually feel stimulated and energetic.
	B.	When I spend a few hours with lots of people I am usually eager to get away by myself.
E05.	A.	Time spent alone is often productive for me.
	B.	Time spent alone is often time wasted for me.
E06.	A.	I often have a strong desire to get away by myself.
	B.	I rarely have a strong desire to get away by myself.
E07.	A.	I like holidays in places where there are lots of people around and lots of things to do.
	B.	I like holidays in places where there are few people around and a lot of serenity and quiet.
E08.	A.	When I have to spend several hours alone, I find the time boring and unpleasant.
	B.	When I have to spend several hours alone, I find the time productive and pleasant
E09	A.	On a long plane trip, I would prefer to sit next to someone who was pleasant to talk to.
	B.	On a long plane trip, I would prefer to spend the time quietly.
E10.	A.	Time spent with other people is often boring and uninteresting.
	B.	Time spent alone is often boring and uninteresting.
E11.	A.	I have a strong need to be with other people.
	B.	I do not have a strong need to be with other people.
E12.	A.	There are many times when I just have to get away and be myself.
	B.	There are rarely times when I just have to get away and be myself.

QUESTIONNAIRE F - ***Musical satisfactions. If you get absolutely no satisfaction from music of any kind, please skip this section and go to section G.***

F00. Are you are a member of any musical group, for example a band, choir, orchestra or pop group?

Yes No (Please circle yes or no.)

On the questionnaire below, there are groups of statements about some satisfactions which might be experienced from music, either as a listener or as a performer. Would you please indicate the intensity of your personal feelings for each of these by circling one appropriate number, where 0 = zero intensity, and 5 = the greatest intensity, for each of the numbered statements.

01.	Achievement	0	1	2	3	4	5
02.	Appreciating a good performance	0	1	2	3	4	5
03.	Being bathed in warmth and light	0	1	2	3	4	5
04.	Bodily well-being	0	1	2	3	4	5
05.	Challenge	0	1	2	3	4	5
06.	Enjoying company of others present	0	1	2	3	4	5
07.	Entertainment	0	1	2	3	4	5
08.	Excitement	0	1	2	3	4	5
09.	Feeling uplifted	0	1	2	3	4	5
10.	Getting the best out of one's self	0	1	2	3	4	5
11.	Glimpsing another world	0	1	2	3	4	5
12.	Identification with performers	0	1	2	3	4	5
13.	Joy/elation	0	1	2	3	4	5
14.	Loss of sense of self	0	1	2	3	4	5
15.	Mental stimulation	0	1	2	3	4	5
16.	Mental well-being	0	1	2	3	4	5
17.	Pleasure in musical structures	0	1	2	3	4	5
18.	Positive feelings about life	0	1	2	3	4	5
19.	Recognising the familiar	0	1	2	3	4	5
20.	Relaxation/calmness	0	1	2	3	4	5
21.	Reminders of happy occasions	0	1	2	3	4	5
22.	Self discipline	0	1	2	3	4	5
23.	Taking part in a shared performance	0	1	2	3	4	5
24	Timelessness	0	1	2	3	4	5

QUESTIONNAIRE G - ***Religious interests. If you have absolutely no religious beliefs of any kind, please skip this section and go on to section H.***

Otherwise, would you please indicate the intensity of your personal feelings, which might be experienced from church services or other religious events, for each of the items overleaf by circling one appropriate number, where 0= zero intensity, and 5 = the greatest intensity, for each of the numbered statements. Please complete this section irrespective of whether or not you are an active member of a religious organisation.

01.	Timelessness	0	1	2	3	4	5
02.	Taking part in a shared performance	0	1	2	3	4	5
03.	Refreshment	0	1	2	3	4	5
04.	Quieting of the mind	0	1	2	3	4	5
05.	Positive feeling about life	0	1	2	3	4	5
06.	Opportunities to help others	0	1	2	3	4	5
07.	Obtaining guidance	0	1	2	3	4	5
08.	Loss of sense of self	0	1	2	3	4	5
09.	Joy/elation	0	1	2	3	4	5
10.	Glimpsing another world	0	1	2	3	4	5
11.	Feeling uplifted	0	1	2	3	4	5
12.	Feeling supported and helped	0	1	2	3	4	5
13.	Feeling loved	0	1	2	3	4	5
14.	Feeling 'at home'	0	1	2	3	4	5
15.	Experience of a unifying vision	0	1	2	3	4	5
16.	Excitement	0	1	2	3	4	5
17.	Enjoying familiar practices	0	1	2	3	4	5
18.	Enjoying company of others present	0	1	2	3	4	5
19.	Contact with God	0	1	2	3	4	5
20.	Calmness	0	1	2	3	4	5
21.	Bodily well-being	0	1	2	3	4	5
22.	Being united with other people	0	1	2	3	4	5
23.	Being part of a family	0	1	2	3	4	4
24.	Being bathed in warmth and light	0	1	2	3	4	5
25.	Being at peace with God	0	1	2	3	4	5

G25. Are you an active member of any religious organisation (church, chapel or other religious body)

Yes No (Please circle yes or no.)

G26. The next question is entirely optional. *Many people from different religious backgrounds report undergoing some form of intense religious/spiritual experience. If you have ever had such an experience would you please tick the box below.*

H. Would you now please tell us something about yourself.

01. Gender (male/female) .....

02. Your age .....

THANK YOU FOR YOUR PATIENCE AND CO-OPERATION

IN CONFIDENCE

THE OXFORD HAPPINESS PROJECT

School of Psychology, Oxford Brookes University
Gypsy Lane Campus, Headington, Oxford OX3 0BP UK

This is the third questionnaire in the series and we want to explore some alternative measures of happiness used by other workers. You may therefore find some of the questions in different sections to be virtually identical, but please answer them all. We are also still trying to refine the way we ask the questions and, as before, would welcome any comments on how we can make things easier. We hope you will continue to support us by completing the questionnaire. Don't take too long over individual questions. There are no 'right' or 'wrong' answers and no 'trick' questions; the first answer that comes into your head is probably the best one for you.

Would you please return your completed booklet in the prepaid envelope. Many thanks!

To make answering easier, the same 6-point scoring system is used throughout. This is: **1 = strongly disagree; 2 = moderately disagree; 3 = slightly disagree; 4 = slightly agree; 5 = moderately agree; 6 = strongly agree.** Please read the questions carefully because some are phrased positively and others negatively.

Section I. *Below are some words that are often used to describe people. Would you use them to describe yourself by entering a number from 1 to 6 (as above) alongside each word. Try to describe yourself as you see yourself now, not as other people might see you or as you would like to be, and in comparison with other people you know of the same gender and about your age.*

01. kind	11. adventurous	21. bold .....
02. disorganised.....	12. selfish	22. stingy .....
03. relaxed	13. practical	23. hardworking.....
04. silent	14. unstable	24. unemotional.....
05. imaginative	15. curious	25. sophisticated. .....
06. unassertive	16. unenergetic	26. conscientious. .....
07. co-operative	17. trusting	27. outgoing.....
08. irresponsible.	18. careless	28. anxious. .....
09. at ease	19. contented.	29. agreeable.....
10. uncreative	20. unreflective	30. curious .....

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Section J.

01. I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people. .....
02. In general, I feel I am in charge of the situation in which I live .....
03. I am not interested in activities that will expand my horizons. .....
04. Most people see me as loving and affectionate. .....
05. I live life one day at a time and don't really think about the future. .....
06. When I look at the story of my life, I am pleased with how things have turned out..... .....
07. My decisions are not usually influenced by what everyone else is doing..... .....
08. The demands of everyday life get me down. ....
09. I don't want to try new ways of doing things - my life is fine as it is. ....
10. Maintaining close relationships has been difficult and frustrating for me. ....

11. I tend to focus on the present, because the future nearly always brings me problems. .. ..
12. In general I feel confident and positive about myself. .. ..
13. I tend to worry about what other people think of me . .. .
14. I do not fit very well with the people and the community around me. . .. .
15. I think it is important to have new experiences that challenge how you think about yourself and the world. .. ..
16. I often feel lonely because I have few close friends with whom to share my concerns. .. ..
17. My daily activities often seem trivial and unimportant to me. .. ..
18. I feel that many of the people I know have got more out of life than I have. .. ..
19. Being happy with myself is more important to me than having others approve of me. .. ..
20. I am quite good at managing the many responsibilities of my daily life... .. ..
21. When I think about it, I haven't really improved much as a person over the years. .. ..
22. I enjoy personal and mutual conversations with family members or close friends... .. ..
23. I don't have a good sense of what it is I am trying to accomplish in this life.. .. ..
24. I like most aspects of my personality. .. ..
25. I tend to be influenced by people with strong opinions. .. ..
26. I often feel overwhelmed by my responsibilities.. .. ..
27. I feel that I have developed a lot as a person over time.. .. ..
28. I don't have many people who want to listen when I need to talk. .. ..
29. I used to set goals for myself, but now that seems like a waste of time.. .. ..
30. I made some mistakes in the past, but I feel that all in all everything has worked out for the best. .. ..
31. I have confidence in my opinions, even if they are contrary to the general consensus. .. ..
32. I generally do a good job of taking care of my personal finances and affairs. .. ..
33. I do not enjoy being in new situations that require me to change my old familiar ways of doing things.. .. ..
34. It seems to me that most other people have more friends than I do.. .. ..
35. I enjoy making plans for the future and working to make them a reality.. .. ..
36. In many ways I feel disappointed about my achievements in life. .. ..
37. It is difficult for me to voice my own opinions on controversial matters. .. ..
38. I am good at juggling my time so that I can fit in everything that needs to be done. .. ..
39. For me, life has been a continuous process of learning, changing and growth.. .. ..
40. People would describe me as a giving person, willing to share my time with others... .. ..
41. I am an active person in carrying out the plans I set for myself. .. ..
42. My attitude towards myself is probably not as positive as most people feel about themselves. .. ..
43. I often change my mind about decisions if my friends or family disagree. .. ..
44. I have difficulty in arranging my life in a way that is satisfying to me.. .. ..
45. I gave up trying to make big improvements or changes in my life a long time ago. .. ..
46. I have not experienced many warm and trusting relationships with others.. .. ..
47. Some people wander aimlessly through life but I am not one of them. .. ..
48. The past has had its ups and downs, but in general, I wouldn't want to change it. .. ..
49. I judge myself by what I think is important, not by the values of what others think is important.. .. ..
50. I have been able to build a home and a lifestyle for myself that is much to my liking. .. ..

51. There is a truth to the saying that you can't teach an old dog new tricks. .....
52. I know that I can trust my friends, and they know they can trust me. .....
53. I sometimes feel as if I have done all there is to do in life. .....
54. When I compare myself to friends and acquaintances, it makes me feel good about who I am. .....

Section K.

01. I feel that I shall attain what I want in life. .....
02. I don't believe in anything about my life very deeply. .....
03. I feel that I am living fully. .....
04. I don't have much of a purpose for living, even for myself. .....
05. I get completely confused when I try to understand my life. .....
06. I get so excited by what I'm doing that I find new stores of energy that I didn't know I had .....
07. I have a lot of potential that I don't normally use. .....
08. I don't know what I really want to do with my life .....
09. I have a system for living that allows me to truly understand my being alive. .....
10. I don't seem to be able to accomplish the things that are the really important to me. .....
11. I feel good about my life... .....
12. I have a very clear idea of what I'd like to do with my life. .....
13. I don't really value what I'm doing. .....
14. I have come to terms with what's important for me in my life. .....
15. I have developed a philosophy that gives my life meaning. .....
16. I have found a meaningful way of leading my life .....
17. I have real passion in my life. .....
18. I have some aims and goals that would give me a great deal of satisfaction if I could accomplish them. .....
19. I need to find something to which I can be intensively committed. .....
20. I spend most of my time doing things that aren't very important to me. .....
21. Living is deeply rewarding... .....
22. Nothing very outstanding ever seems to happen to me.. .....
23. Other people seem to feel better about their lives than I do. .....
24. Something seems to stop me doing what I really want to do. .....
25. There are things that I devote all my life's energies to... .....
26. Other people seem to have a much better idea of what they want to do with their lives than I do... .....
27. There honestly isn't anything that I totally want to do. .....
28. When I look at my life I feel satisfaction in having worked to accomplish something. .....

Section L.

01. In uncertain times, I usually expect the best. .....
02. It's easy for me to relax. .....
03. If something can go wrong for me, it will. .....
04. I always look on the bright side of things. .....
05. I'm always optimistic about my future.. .....

06. I enjoy my friends a lot.. .. ..
07. It's important for me to keep busy... .. ..
08. I hardly ever expect things to go my way.. .. ..
09. Things never work out the way I want them to.. .. ..
10. I don't get upset too easily.. .. ..
11. I'm a believer in the idea 'that every cloud has a silver lining.' .. ..
12. I rarely count on good things happening to me. .. ..

Section M. ***Please describe the way you have been feeling over the last week or so, including today***

01. I rarely wake up feeling rested.. .. ..
02. I do not have fun with other people. .. ..
03. I find most things amusing. .. ..
04. There is a gap between what I would like to do and what I have done. .. ..
05. I don't feel particularly healthy. .. ..
06. I feel that life is very rewarding... .. ..
07. I laugh a lot... .. ..
08. I don't think I look attractive.. .. ..
09. I usually have a good influence on events. .. ..
10. I don't think things have a particular sparkle.. .. ..
11. I do not have a particular sense of meaning and purpose in my life. .. ..
12. I often experience joy and elation. .. ..
13. I have very warm feelings to almost everyone. .. ..
14. I am always committed and involved. .. ..
15. I feel I have a great deal of energy.. .. ..
16. I am intensely interested in other people.... .. ..
17. I feel fully mentally alert.. .. ..
18. I do not find it easy to make decisions. .. ..
19. I do not have particularly happy memories of the past. .. ..
20. I always have a cheerful effect on others.. .. ..
21. I do not think the world is a good place... .. ..
22. I feel able to take anything on. .. ..
23. I don't feel particularly pleased with the way I am. .. ..
24. I feel that I am not especially in control of my life.. .. ..
25. I am well satisfied about everything in my life.. .. ..
26. I get by in life. .. ..
27. I am not particularly optimistic about the future... .. ..
28. I can fit in everything I want to... .. ..
29. I am very happy.. .. ..

Section N. Would you now please tell us something about yourself.

01. Gender (male/female) ....

02. Your age ....

THANK YOU FOR YOUR PATIENCE AND CO-OPERATION

The Oxford Happiness Project. Fourth Questionnaire.

Please put your answers to each question in the final column using the following code:

1 = strongly disagree; 2 = moderately disagree; 3 = slightly disagree;
4 = slightly agree; 5 = moderately agree; 6 = strongly agree.

This coding is repeated at the top of each page. You will need to read the questions carefully because some are phrased positively and others negatively.

Don't take too long over individual questions; there are no 'right' or 'wrong' answers and no trick questions. The first answer that comes into your head is probably the right one for you. Please answer the questions as honestly as you can, but don't take them too seriously. You'll probably do best if you treat the whole exercise as an enjoyable game. If you find some of the questions difficult, please give the answer that is true for you in general or for most of the time. It should take you about half an hour to answer the whole questionnaire, but there is no reason why you shouldn't do it over several days if you prefer.

Would you please return the completed questionnaire in the enclosed prepaid envelope. Many thanks.

The first section of the questionnaire is mainly about personal attitudes and well-being.

001	All in all, I am inclined to feel that I am a failure.	
002	I am annoyed by unhappy people who are just sorry for themselves.	
003	I don't feel particularly pleased with the way I am.	
004	I feel that I shall attain what I want in life.	
005	I have taken the praise for something actually done by someone else.	
006	I rarely have a strong desire to get away by myself.	
007	I worry about my health.	
008	My feelings are easily hurt.	
009	Sometimes I feel 'just miserable' for no reason.	
010	I often find that I can remain cool in spite of the excitement around me.	
011	All my habits are good and desirable ones.	
012	I am intensely interested in other people.	
013	I don't get upset just because a friend is acting upset.	
014	I feel that life is very rewarding.	
015	I have very warm feelings to almost everyone.	
016	I rarely wake up feeling rested.	
017	I worry too long after an embarrassing experience.	
018	My friendships are many.	
019	Sometimes I have to make a real effort to be sociable.	
020	I wish I could have more respect for myself.	
021	Another's laughter is not catching to me.	
022	I am not particularly optimistic about the future.	
023	I don't have much of a purpose for living, even for myself.	
024	I find it easy to put some life into a dull party.	
025	I have, at some time, cheated at a game.	
026	I really get involved with the feelings of the characters in a novel.	
027	I would call myself tense or 'highly-strung'.	
028	My friendships break up easily without it being my fault.	
029	Sometimes the words of a love song can move me deeply.	
030	Marriage is old-fashioned and should be done away with.	
031	At the cinema I am sometimes amazed by the amount of crying and sniffing around me.	
032	I am often troubled by feelings of guilt.	
033	I don't know what I really want to do with my life.	
034	I find it silly for people to cry of happiness.	
035	I have, in the past, blamed someone for doing something that was really my fault.	
036	I seldom make extra effort to make friends.	
037	I would dodge paying taxes if I were sure it could not be found out.	
038	My mood often goes up and down.	
039	Sometimes, I like teasing animals.	
040	Something seems to stop me doing what I really want to do.	

1 = strongly disagree; 2= moderately disagree; 3 = slightly disagree;
4 = slightly agree; 5 = moderately agree; 6 = strongly agree.

041	At times I think I am no good at all.	
042	I am quite independent of the people I know.	
043	I don't really have fun at large parties.	
044	I find most things amusing.	
045	I have, on occasion, taken advantage of someone.	
046	I sometimes feel tired and listless for no apparent reason.	
047	I would feel sorry for an animal caught in a trap.	
048	My mother is (or was) a good woman.	
049	Sometimes, I talk about things I know nothing about.	
050	I am always committed and involved.	
051	Becoming involved in books or films is a little silly.	
052	I am touchy about some things.	
053	I don't really value what I'm doing.	
054	I get completely confused when I try to understand my life.	
055	I just get by in life.	
056	I sometimes insist on having my own way.	
057	I would like other people to be afraid of me.	
058	Nothing very outstanding ever seems to happen to me	
059	The people around me have a great influence on my moods.	
060	I do not think the world is a good place.	
061	Being in debt would worry me.	
062	I am very upset when I see an animal in pain.	
063	I don't seem to be able to accomplish the things that are the really important to me.	
064	I get so excited by what I'm doing that I find new stores of energy that I didn't know I had	
065	I laugh a lot.	
066	I sometimes put off to tomorrow what I ought to do today.	
067	I would not be very good at a job which required me to meet people all day long.	
068	Often I would rather be alone than with a group of friends.	
069	There are rarely times when I just have to get away and be myself.	
070	I have sometimes helped myself to more than my fair share of something.	
071	Good manners and cleanliness mean a lot to me.	
072	I am well satisfied about everything in my life	
073	I don't sleep very well.	
074	I get very angry when I see someone being ill-treated.	
075	I like doing things in which I have to act quickly.	
076	I spend a lot of time visiting friends.	
077	I would rather be a social worker than work in job training centre.	
078	On a long plane trip, I would prefer to sit next to someone who was pleasant to talk to.	
079	There are things that I devote all my life's energies to.	
080	I often take on more activities than I have time for.	
081	I'm a believer in the idea 'that every cloud has a silver lining.'	
082	I become more irritated than sympathetic when I see someone's tears.	
083	I don't spend much of my time talking with people I see every day.	
084	I go out of my way to meet people.	
085	I like going out often.	
086	I spend most of my time doing things that aren't very important to me.	
087	I would rather read than meet people.	
088	On occasion, I have said something bad or nasty about someone.	
089	There honestly isn't anything that I totally want to do.	
090	I worry a lot about my looks.	
091	I'm always optimistic about my future.	
092	I become nervous if others around me seem nervous.	
093	I don't think I look attractive.	
094	I hardly ever expect things to go my way.	
095	I like holidays in places where there are few people around and a lot of serenity and quiet.	
096	I stop to think things over before doing anything.	

1 = strongly disagree; 2= moderately disagree; 3 = slightly disagree;
4 = slightly agree; 5 = moderately agree; 6 = strongly agree.

097	I would take drugs which might have strange or dangerous effects.	
098	On the whole I am satisfied with myself.	
099	There is a gap between what I would like to do and what I have done.	
100	Most foreigners I have met seem cool and unemotional.	
101	I am very happy.	
102	I become very involved when I watch a film.	
103	I don't think things have a particular 'sparkle'.	
104	I have a lot of potential that I don't normally use.	
105	I like mixing with people.	
106	I suffer from 'nerves'.	
107	If I say I will do something, I always keep my promise however inconvenient it might be.	
108	One feature I look for in a job is the opportunity to work with interesting people.	
109	Things never work out the way I want them to.	
110	Sometimes I am bubbling over with energy, and sometimes sluggish.	
111	I always have a cheerful effect on others.	
112	I can fit in everything I want to.	
113	I easily get hurt when people find fault with me or my work.	
114	I have a system for living that allows me to truly understand my being alive	
115	I like plenty of bustle and excitement around me.	
116	I take a positive attitude towards myself.	
117	If something can go wrong for me, it will.	
118	Other people seem to feel better about their lives than I do.	
119	Time spent alone is often boring and uninteresting.	
120	I am always willing to admit that I have made a mistake.	
121	I always look on the bright side of things.	
122	I can get a party going.	
123	I enjoy being by myself.	
124	I have a very clear idea of what I'd like to do with my life.	
125	I like telling jokes and funny stories to my friends.	
126	I tend to get emotionally involved with a friend's problems.	
127	In uncertain times, I usually expect the best.	
128	Other people seem to have a much better idea of what they want to do with their lives than I do.	
129	Time spent alone is often productive for me.	
130	I don't believe in anything about my life very deeply.	
131	I always practise what I preach.	
132	I can let go enjoy myself at a lively party.	
133	I enjoy hurting the people I love.	
134	I have been late for an appointment or work.	
135	I like to arrive in plenty of time for appointments.	
136	I tend to keep in the background on social occasions.	
137	Insurance schemes are a good idea.	
138	Other people think I am very lively.	
139	When friends start to talk about their problems, I try to steer the conversation to something else.	
140	I feel that I am not especially in control of my life.	
141	I always wash my hands before a meal.	
142	I can usually find a 'ready answer' when people talk to me.	
143	I enjoy meeting new people.	
144	I have broken or lost something that belonged to someone else.	
145	I like to watch people open presents.	
146	I tend to lose control when I am bringing bad news to people.	
147	It is hard for me to see how some things upset people so much.	
148	People consider me quite friendly.	
149	When I am with other people, I mostly keep quiet.	
150	I have sometimes wished that I was dead.	
151	I am a 'happy-go-lucky' person.	

1 = strongly disagree; 2= moderately disagree; 3 = slightly disagree;
4 = slightly agree; 5 = moderately agree; 6 = strongly agree.

152	I cannot continue to feel all right if people around me are depressed.	
153	I enjoy practical jokes, even if someone might get hurt.	
154	I have come to terms with what's important for me in my life.	
155	I lock up my house carefully at night.	
156	I truly enjoy myself at social functions.	
157	It makes me sad to see a lonely stranger in a group.	
158	People make too much of the feelings and sensitivity of animals.	
159	When I go for a train, I often arrive at the last minute.	
160	I often worry about things I should not have said or done.	
161	I am a nervous person.	
162	I certainly feel useless at times.	
163	I feel able to take anything on	
164	I have developed a philosophy that gives my life meaning.	
165	I need to find something to which I can be intensively committed.	
166	I trust my friends completely.	
167	It upsets me to see helpless old people.	
168	People spend too much time safeguarding their future with savings and insurance.	
169	When I have to spend several hours alone, I find the time boring and unpleasant.	
170	I worry about awful things that might happen.	
171	I am a rather lively person.	
172	I choose hobbies that I can share with other people.	
173	I feel fully mentally alert	
174	I have found a really significant way of leading my life.	
175	I often experience joy and elation.	
176	I try not to be rude to people.	
177	It would upset me a lot to see a child or an animal suffer.	
178	People tell me a lot of lies.	
179	When I look at my life I feel satisfaction in having worked to accomplish something	
180	Most things taste the same to me.	
181	I am a talkative person.	
182	I do not find it easy to make decisions.	
183	I feel good about my life.	
184	I have many different hobbies	
185	I often feel 'fed up'.	
186	I try to be in the company of friends as much as possible.	
187	It would worry me if I knew that there were mistakes in my work.	
188	People who drive carefully annoy me.	
189	When I see someone I know from a distance, I don't go out of my way to say hello.	
190	Sometimes I boast a little.	
191	I am a worrier.	
192	I do not have a particular sense of meaning and purpose in my life.	
193	I feel I have a great deal of energy	
194	I have many friends.	
195	I often feel life is very dull.	
196	I try to plan my day so that I always have some time to myself.	
197	Little children sometimes cry for no apparent reason.	
198	Seeing people cry upsets me.	
199	When I spend a few hours with lots of people I am usually eager to get away by myself.	
200	I rarely count on good things happening to me.	
201	I am able to do things as well as most people.	
202	I do not have a strong need to be with other people.	
203	I feel I have a number of good qualities.	
204	I have real passion in my life.	
205	I often feel lonely.	
206	I usually have a good influence on events.	
207	Living is deeply fulfilling.	

1 = strongly disagree; 2= moderately disagree; 3 = slightly disagree;
4 = slightly agree; 5 = moderately agree; 6 = strongly agree.

208	Several people keep trying to avoid me.	
209	When I was a child I did what I was told immediately and without grumbling.	
210	I am an irritable person.	
211	I am able to make decisions without being influenced by people's feelings.	
212	I do not have fun with other people.	
213	I feel that I am a person of worth, at least on an equal plane with others.	
214	I have some aims and goals that would give me a great deal of satisfaction to accomplish.	
215	I often find public displays of emotions annoying.	
217	Lonely people are probably unfriendly.	

218	Some songs make me happy.	
219	When I was a child, I was sometimes cheeky to my parents.	
220	I don't feel particularly healthy.	
221	I am able to remain calm even though those around me worry.	
222	I do not have particularly happy memories of the past.	
223	I feel that I am living fully.	
224	I have some enemies who want to harm me.	
225	I feel that I do not have much to be proud of.	
226	I have taken something (even a pin or a button) that belonged to someone else.	

The next section of the questionnaire is mainly about leisure, work and relationships. Would you <u>underline</u> the answer that is most appropriate for you.

227. All things considered, how much do you enjoy your leisure activities?

1. not at all. 2. slightly. 3. moderately. 4. very much.

228. How much do you enjoy those kinds of leisure which you can do alone, such as gardening or collecting?

1. not at all. 2. slightly. 3. moderately. 4. very much.

229 How much do you enjoy being alone with your thoughts, for example while going for a walk in the country?

1. not at all. 2. slightly. 3. moderately. 4. very much.

230. How many really close friends do you have?

1. one. 2. two or three. 3. four or five. 4. more than five.

231. How often do you see your <u>closest</u> friend?

1. every day. 2. several times a week. 3. every week. 4. Less often.

232. How often do you see your <u>closest</u> friend alone, with no other people present?

1. every day. 2. several times a week. 3. every week. 4. Less often.

233. How often do you discuss personal feelings, problems and concerns with your closest friend?

1. never. 2. hardly ever. 3. sometimes. 4. often.

234. How far do you discuss personal feelings, problems and concerns with members of your family?

1. never. 2. hardly ever. 3. sometimes. 4. often.

235. My work is:

1. full-time. 2. part-time. 3. Voluntary. (If you do not have a job, go to question 237).

236. All things being considered, how much do you enjoy your work?

1. not at all. 2. slightly. 3. moderately. 4. very much indeed.

We would like answers to the next set of questions to round-off some work we did earlier.

237. Are you an active member of a church, chapel or any other religious body,

1. yes. 2. no (if no, go to question 240).

238. How often do you attend your church, chapel, etc.?

1. weekly. 2. several times a month. 3. once a month. 4. less often.

239. How often do you take part in any other religious activity? (e.g. church council, study or house group).

1. weekly. 2. several times a month. 3. once a month. 4. less often. 5. never.

240. Are you an active member of a performing musical group, for example a band, choir, orchestra, or pop-group?

1. yes. 2. no (if no, go to question 242).

241. How often do you take part in the activities of your musical group?

1. weekly. 2. several times a month. 3. once a month. 4. less often.

242. If you listen to music, how many hours a week do you spend listening? . .....

243. What type of music do you like best (e.g. classical, easy listening, heavy-metal, pop)? .....

244. If you read serious books, how many hours a week do you spend reading? .....

245. What type of books do you like best (e.g. classical novels, Mills & Boone, poetry, sci-fi)? .....

246. If you watch TV, how many hours a week do you spend viewing? . .....

247. What type of TV do you like best (e.g. documentary, horror, nature, soaps,)?. .....

In a previous questionnaire we asked a question about spiritual/religious experiences. Many of you reported such experiences and we would like to take this subject further with the following extra questions.

248. Have you ever been aware of or influenced by a presence or power, whether you call it God or not, which is different from your everyday self?

1. once or twice. 2. several times. 3. more often. 4. never (if never go to question 251a)

249. Approximately how long did the experience last?

1. up to 10 minutes. 2. up to a day. 3. up to a month. 4. longer.

250. Would you describe the experience as:

1. mild. 2. quite strong. 3. fairly intense. 4. extremely intense.

Finally, would you tell us something about yourself?

251a. Gender (male/female) ..... 251b. Your age .....

252. Are you:

1. single 2. living with partner 3. separated 4. divorced 5. widowed

8. At what level did you finish your education:

1. O-level/GCSE 2. A-level 3. Post A-Level diploma etc. 4. Degree

9. Are you:

1. a student 2. employed or self employed 3. Not employed
4. at Home (e.g, looking after a family) 5. Retired

THANK YOU FOR YOUR PATIENCE AND CO-OPERATION

THE OXFORD HAPPINESS PROJECT

Section Q. Below, there are 29 groups of statements about personal happiness. Please read all four statements in each group and then pick out the one statement in each group that best describes the way you have been feeling in the past week, including today, then circle the letter (a, b, c or d) beside the statement you have chosen.

01	a	I do not feel happy
	b	I feel fairly happy
	c	I am very happy
	d	I am incredibly happy
02	a	I am not particularly optimistic about the future
	b	I feel optimistic about the future
	c	I feel I have so much to look forward to
	d	I feel that the future is overflowing with hope and promise
03	a	I am not really satisfied with anything in my life
	b	I am satisfied with some things in my life
	c	I am satisfied with many things in my life
	d	I am completely satisfied about everything in my life
04	a	I feel that I am not especially in control of my life
	b	I feel at least partially in control of my life
	c	I feel that I am in control most of the time
	d	I feel that I am in total control of all aspects of my life
05	a	I don't feel that life is particularly rewarding
	b	I feel that life is rewarding
	c	I feel that life is very rewarding
	d	I feel that life is overflowing with rewards
06	a	I don't feel particularly pleased with the way I am
	b	I am pleased with the way I am
	c	I am very pleased with the way I am
	d	I am delighted with the way I am
07	a	I never have a good influence on events
	b	I occasionally have a good influence on events
	c	I often have a good influence on events
	d	I always have a good influence on events
08	a	I get by in life
	b	Life is good
	c	Life is very good
	d	I love life
09	a	I am not really interested in other people
	b	I am moderately interested in other people
	c	I am very interested in other people
	d	I am intensely interested in other people
10	a	I do not find it easy to make decisions
	b	I find it fairly easy to make some decisions
	c	I find it easy to make most decisions
	d	I can make all decisions very easily
11	a	I find it difficult to get started to do things
	b	I find it moderately easy to start doing things
	c	I find it easy to do things
	d	I feel able to take anything on
12	a	I rarely wake up feeling rested
	b	I sometimes wake up feeling rested
	c	I usually wake up feeling rested
	d	I always wake up feeling rested

13	a	I don't feel at all energetic
	b	I feel fairly energetic
	c	I feel very energetic
	d	I feel I have boundless energy
14	a	I don't think things have a particular 'sparkle'
	b	I find beauty in some things
	c	I find beauty in most things
	d	The whole world looks beautiful to me
15	a	I don't feel mentally alert
	b	I feel quite mentally alert
	c	I feel very mentally alert
	d	I feel fully mentally alert
16	a	I don't feel particularly healthy
	b	I feel moderately healthy
	c	I feel very healthy
	d	I feel on top of the world
17	a	I do not have particularly warm feelings towards others
	b	I have some warm feelings towards others
	c	I have very warm feelings towards others
	d	I love everybody
18	a	I do not have particularly happy memories of the past
	b	I have some happy memories of the past
	c	Most past events seem to have been happy
	d	All past events seem extremely happy
19	a	I am never in a state of joy or elation
	b	I sometimes experience joy and elation
	c	I often experience joy and elation
	d	I am constantly in a state of joy and elation
20	a	There is a gap between what I would like to do and what I have done
	b	I have done some of the things I wanted
	c	I have done many of the things I wanted
	d	I have done everything I ever wanted
21	a	I can't organise my time very well
	b	I organise my time fairly well
	c	I organise my time very well
	d	I can fit in everything I want to do
22	a	I do not have fun with other people
	b	I sometimes have fun with other people
	c	I often have fun with other people
	d	I always have fun with other people
23	a	I do not have a cheerful effect on others
	b	I sometimes have a cheerful effect on others
	c	I often have a cheerful effect on others
	d	I always have a cheerful effect on others
24	a	I do not have any particular sense of meaning and purpose in my life
	b	I have a sense of meaning and purpose
	c	I have a great sense of meaning and purpose
	d	My life is totally meaningful and purposive
25	a	I do not have particular feelings of commitment and involvement
	b	I sometimes become committed and involved
	c	I often become committed and involved
	d	I am always committed and involved

26	a	I do not think the world is a good place
	b	I think the world is a fairly good place
	c	I think the world is a very good place
	d	I think the world is an excellent place
27	a	I rarely laugh
	b	I laugh fairly often
	c	I laugh a lot
	d	I am always laughing
28	a	I don't think I look attractive
	b	I think I look fairly attractive
	c	I think I look attractive
	d	I think I look extremely attractive
29	a	I do not find things amusing
	b	I find some things amusing
	c	I find most things amusing
	d	I am amused by everything

Section R. This section is about your attitudes to work and life in general. Please put your answers to each question in the final column using the following code:

1 = strongly disagree; 2 = moderately disagree; 3 = slightly disagree;
4 = slightly agree; 5 = moderately agree; 6 = strongly agree.

01	Other people think I am very lively	
02	People spend too much time safe-guarding their future with savings and insurances	
03	People who work hard deserve to be rewarded	
04	Poverty comes from not wanting to do a proper job	
05	Scrupulous honesty is the best way of gaining the respect of others	
06	So far, I have obtained the important things I want in life	
07	Society would have fewer problems if people had less leisure time	
08	Sometimes I feel 'just miserable' for no reason	
09	Sometimes I feel useless	
10	Spend what you have, the future will look after itself	
11	Success means having ample time to pursue leisure activities	
12	The conditions of my life are excellent	
13	The credit card is a ticket to careless spending	
14	The spirit of God lives within every man	
15	The trend towards increased leisure is not a good thing	
16	There is some great plan for the affairs of men, the end of which no mortal eye can see	
17	To be superior, a person must stand alone	
18	When I am with other people, I mostly keep quiet	
19	Only those who depend on themselves get ahead in life	
20	One should avoid dependence on others wherever possible	
21	One can learn better on the job by striking out boldly on one's own than by listening to others	
22	Once you die, that's all there is	
23	On the whole, I am satisfied with myself	
24	My mood often goes up and down	
25	My feelings are easily hurt	
26	Most people who do not succeed in life are just plain lazy	
27	Most people spend too much time in unprofitable amusement	
28	More leisure time is good for people	
29	Marriage is old-fashioned and should be done away with	
30	It worries me if I know there are mistakes in my work	
31	It is better to follow society's rules than to go your own way	
32	It is always wrong to exploit other people for personal gain or pleasure	

1 = strongly disagree; 2 = moderately disagree; 3 = slightly disagree;
4 = slightly agree; 5 = moderately agree; 6 = strongly agree.

33	In most ways, my life is close to my ideal	
34	If I could live my life over again, I would change almost nothing	
35	I would like other people to be afraid of me	
36	I would call myself tense or 'highly-strung'	
37	I worry too long after an embarrassing experience	
38	I worry a lot	
39	I wish I could have more respect for myself	
40	I usually take the initiative in making new friends	
41	I try not to be rude to people	
42	I tend to keep in the background on social occasions	
43	I take a positive attitude towards myself	
44	I suffer from 'nerves'	
45	I prefer to go my own way rather than act by the rules	
46	I often feel that I would be more successful if I sacrificed certain pleasures	
47	I often feel lonely	
48	I often feel 'fed-up'	
49	I might take drugs which may have strange or dangerous effects	
50	I like plenty of bustle and excitement around me	
51	I like mixing with people	
52	I find it easy to get some life into a rather dull party	
53	I feel that I do not have much to be proud of	
54	I feel that I am a person of worth, at least on an equal plane with others	
55	I feel I have a number of good qualities	

56	I enjoy meeting new people	
57	I enjoy co-operating with others	
58	I don't take much notice of what other people think	
59	I can usually let myself go and enjoy myself at a lively party	
60	I can get a party going	
61	I am satisfied with my life	
62	I am often troubled by feelings of guilt	
63	I am an irritable person	
64	I am able to do things as well as most people	
65	I am a talkative person	
66	I am a rather lively person	
67	I am a nervous person	
68	Hard work still counts for more than all the clever ideas you read in the news-papers	
69	Hard work is fulfilling of itself	
70	Hard work is a good builder of character	
71	Good manners and cleanliness mean a lot to me	
72	For young people to avoid sexual intercourse before marriage is old-fashioned and unnecessary	
73	Being in debt would worry me	
74	At times I think I am no good at all	
75	All in all, I an inclined to believe that I am a failure	
76	A successful person earns an adequate income and can save for the future	
77	A self-made man is likely to be more ethical than the man born to wealth	

Section S. These questions are about your attitudes towards religion. Under each of the following statements, there are five alternative answers. Would you please circle the letter (a, b, c, d or e) beside the statement that most closely matches your views.

1. **Do you agree with the statement "Religion gives me a great amount of comfort and security in life"?**

   a. Strongly disagree
   b. Disagree
   c. Uncertain
   d. Agree
   e. Strongly agree

2. **When you have a serious problem how often do you take religious advice or teaching into consideration?**

   a. Almost always
   b. Usually
   c. Sometimes
   d. Rarely
   e. Never

3. **How much influence would you say that religion has on the way that you choose to act and the way you choose to spend your time each day?**

   a. No influence
   b. A small influence
   c. Some influence
   d. A fair amount of influence
   e. A large influence

4. **Which of the following statements come closest to your belief about God?**

   a. I am sure that God exists and that he is really active in my life
   b. Although I sometimes question God's existence, I do believe in him and believe that he knows of me as a person
   c. I don't know if there is a personal God, but I do believe in a higher power of some kind
   d. I don't know if there is a personal God or a higher power of some kind, and I don't know if I ever will
   e. I don't believe in a personal God or in a higher power

5. **Which of the following best describes your practice of prayer or religious meditation?**

   a. I never pray
   b. Prayer has little importance in my life
   c. I pray only during formal ceremonies
   d. I usually pray in times of stress or need but rarely at any other time
   e. Prayer is a regular part of my daily life

6. **Which of the following statements comes closest to your belief about life after death (immortality)?**

   a. I believe in a personal life after death with a soul existing as a specific individual
   b. I believe in a soul existing after death as a part of a universal spirit
   c. I believe in a life after death of some kind, but I really don't know what it would be like
   d. I don't know whether there is any kind of life after death, and I don't know if I ever will know
   e. I don't believe in any kind of life after death

7. **During the past year, how often have you experienced a feeling of religious reverence or devotion?**

   a. Never
   b. Rarely
   c. Sometimes
   d. Frequently
   e. Almost daily

8. How often have you attended religious services during the last year? ..... times

9. Which of the following best describes your religious faith? (circle one)

   1. None 2. Buddhist 3. Christian* 4. Jewish 5. Hindu 6. Moslem 7. Sikh

   7. Other (please specify).....

   * If you selected "Christian", would you please indicate your denomination .....

10. On a scale of 0 (low) to 10 (high), how religious would you mark yourself? .....

11. On a scale of 0 (low) to 10 (high), how satisfied are you with your work? .....

12. On a scale of 0(low) to 10 (high), how happy do you feel generally? .....

Section T. Finally, would you please tell us something about yourself by entering or underlining the items that best describe you?

1. a. Gender (male/female) ..... b. Your age ..... years

2. Are you:

   1. Single 2. Living with a partner 3. Married 4. Separated 5. Divorced 6. Widowed

3. Are you:

   1. A full-time student 2. Employed or self-employed 3. Not employed 4. At home* 5. Retired

   ** for example looking after a family*

4. At what stage did/will you finish your education?

   1. O-level/GCSE 2. A-level. 3. Post A-level/diploma etc. 4. Degree

THANK YOU FOR YOUR PATIENCE AND CO-OPERATION

Please use this space to make any comments you wish about the Project or the questionnaire.

From:

Name:.....
Address:.....
.....
.....

Gender (male/female)..... Age .....

Fold here
↓

To:

The Oxford Happiness Project
School of Psychology
Oxford Brookes University
Headington, Oxford OX3 0BP
(attn. Peter Hills)

↑
Fold here

To return the questionnaire, please refold it into two, fold again along the two lines above so that the address panel is facing you, tuck the top end into the bottom end, and return through the internal mail.

There is an internal mail post box is in the foyer of the main building, behind and to the left of the reception desk.

Psychology of Leisure: Can you help?

May we ask for your help in testing some theories about why people engage in spare-time activities? ***To show our appreciation of your assistance, our computer will choose four people at random from those who return completed questionnaires to receive a cheque for £25.*** If you would like to take part, would you fill in your name and address on the reverse of this booklet, where you will also find details of how you can return it through the internal mail.

Peter Hills
Oxford Brookes University

The questionnaire (within) covers a number of different leisure activities. Would you please use the following guidelines to complete it. We do not expect anyone to be able to report on all the activities; just complete those of which you have personal experience.

Column A. **Frequency. On about how many days did you engage in this activity during the last year?** (Once a week would be 52, every day for one fortnight only would be 14).

Column B. **Enjoyment. How much did you enjoy it?** Use a five-point scale ranging from 1 = very little, to 5 = a great deal.

Column C. **Purpose. Did you do this mainly for fun, or for some serious purpose, for example self-improvement or physical fitness?** Use a five-point scale ranging from 1 = mainly for fun, to 5 = mainly for some serious purpose.

Column D. **Social satisfaction. How much satisfaction did you get from social relationships with other people in this activity.** Use a five-point scale ranging from 1 = very little, to 5 = a great deal.

Column E. **Skill. How much skill did the activity require?** Use a five-point scale ranging from 1 = very little, to 5 = a great deal.

Column F. **How good do you think you are at the activity?** Use a five-point scale ranging from 1 = not at all good, to 5 = very good indeed.

Column G. **Challenge. How challenging, demanding or difficult was this activity?** Use a five-point scale ranging from 1 = not challenging at all, to 5 = very challenging.

These guidelines are repeated in the column headings of the questionnaire. Please use the full scale, not just 1 or 5.

Many thanks for your help

	Activity	A. Frequency (Number of days in the last year)	B. Enjoyment 1=very little 5=a great deal	C. Purpose 1=mainly for fun 5=serious purpose	D. Social satisfaction? 1=very little 5=a great deal	E. Skill 1=very little 5=a great deal	F. Good at it? 1=Not at all good 5=very good indeed	G.Challenge 1=very little 5=a great deal
01	Active Sport (eg football, tennis)							
02	Activities with the family							
03	Computer games							
04	Craft work							
05	Dancing (disco or other)							
06	Dangerous sports (eg bunjee jumping)							
07	DIY							
08	Eating out							
09	Evening classes							
10	Fishing							
11	Gardening							
12	Going to parties							
13	Going to pubs							
14	Hobbies (eg photography, collecting)							
15	Holidays/travel							
16	Leisure groups/clubs							
17	Light reading (novels)							
18	Listening to music (pop or classic)							
19	Listening to radio							
20	Meditation							
21	Painting, drawing							
22	Performing music (solo, groups, choirs)							
23	Physical exercise (eg aerobics, jogging)							
24	Political activities, including demos.							
25	Raising money for charities							
26	Relaxing							
27	Religious activities							
28	Serious reading (study)							
29	Serious walking (2 miles or more)							
30	Sewing, knitting, dress-making							
31	Social life with friends							
32	Swimming							
33	Theatre/cinema							
34	Voluntary work							
35	Watching sports							
36	Watching TV							

THE OXFORD HAPPINESS PROJECT

School of Psychology, Oxford Brookes University
Gipsy Lane Campus, Headington, Oxford OX3 0BP, UK

Internet Questionnaire

A. THE INTERNET AND e-MAIL. *(If you don't use the Internet or e-mail, go straight Section to B)*

01. Where do you use the Internet? *(Please circle "Yes or "No" in answer to each question)*

At home	Yes	No
At school/college/university	Yes	No
At work	Yes	No
Elsewhere (eg Internet/Cyber shop/cafe or Public Library)	Yes	No

02. About how many hours do you spend online each week?

At home	hours
At school/college/university	hours
At work	hours
Elsewhere (eg Internet/Cyber shop/cafe or Public Library)	hours

03. Which Internet services do you use? *Please put your answers to each question in the shaded column using the following code:*

1 = never; 2 = rarely; 3 = sometimes; 4 = frequently; 5 = A lot.

01	Downloading software	
02	e-mail for work or studies	
03	e-mail to friends and family	
04	Finding addresses	
05	Getting information for work	
06	Getting information for studies	
07	Getting information in general	
08	Internet phone calls/conferencing	
09	Mailing lists (eg. LISTSERVE, MAJORDOMO)	
10	Current news (eg online newspapers)	
11	News/discussion groups, electronic billboards (eg USENET)	
12	Online banking	
13	Online game playing	
14	Random surfing	
15	Real-time discussion/chat (INTERNET RELAY CHAT)	
16	Shopping	
17	Visiting websites that contain "adult" material	

B. MOBILE TELEPHONES *(If you don't use a mobile telephone, go straight to Section C below)*

01. About how many outgoing calls do you make each week? .....

02. What do you use your mobile phone for? *Please put your answers to each question in the shaded column using the following code:*

1 = never; 2 = rarely; 3 = sometimes; 4 = frequently; 5 = A lot.

01	Work	
02	Talking to partner/family	
03	Talking to friends	
04	Other (please specify)	

C. This section is about your personal feelings and attitudes. *Please put your answers to each question in the shaded column using the following code:*

1 = strongly disagree; 2 = moderately disagree; 3 = slightly disagree;
4 = slightly agree; 5 = moderately agree 6 = strongly agree.

01	On the whole, I am satisfied with myself	
02	My mood often goes up and down	
03	Other people think I am very lively	
04	I like mixing with people	
05	So far, I have obtained the important things I want in life	
06	Sometimes I feel 'just miserable' for no reason	
07	Sometimes I feel useless	
08	The conditions of my life are excellent	
09	When I am with other people, I mostly keep quiet	
10	My friends understand my motives and reasoning	
11	My feelings are easily hurt	
12	In most ways, my life is close to my ideal	
13	My family is important to me	
14	Marriage is old-fashioned and should be done away with	
15	It worries me if I know there are mistakes in my work	
16	It is better to follow society's rules than to go your own way	
17	My family really cares about me	
18	If I could live my life over again, I would change almost nothing	
19	I would like other people to be afraid of me	
20	I would call myself tense or 'highly-strung'	
21	I usually take the initiative in making new friends	
22	I worry a lot	
23	I wish my family was more concerned about my welfare	
24	I wish I could have more respect for myself	
25	I worry too long after an embarrassing experience	
26	I try not to be rude to people	
27	I tend to keep in the background on social occasions	
28	I take a positive attitude towards myself	
29	I suffer from 'nerves'	
30	I prefer to go my own way rather than act by the rules	
31	I like plenty of bustle and excitement around me	
32	I often feel 'fed-up'	
33	I might take drugs which may have strange or dangerous effects	
34	I am a rather lively person	
35	I often feel lonely	
36	I have some one who fills my need for intimacy	
37	I feel I have a number of good qualities	
38	I feel that I am a person of worth, at least on an equal plane with others	
39	I find myself wishing for some one with whom to share my life	
40	I find it easy to get some life into a rather dull party	
41	I feel that I do not have much to be proud of	
42	I can usually let myself go and enjoy myself at a lively party	
43	I feel part of a group of friends	
44	I have an unmet need for a close romantic relationship	
45	I feel alone when I'm with my family	
46	I enjoy meeting new people	
47	I enjoy co-operating with others	
48	I don't have a friend or friends who shares my views, but I wish I did	
49	I don't feel 'in tune' with others	
50	I don't take much notice of what other people think	
51	I have a romantic partner to whose happiness I contribute	
52	At times I think I am no good at all	
53	I am satisfied with my life	
54	I am often troubled by feelings of guilt	

1 = strongly disagree; 2 = moderately disagree; 3 = slightly disagree;
4 = slightly agree; 5 = moderately agree 6 = strongly agree.

55	I am an irritable person	
56	I am able to do things as well as most people	
57	I am a talkative person	
58	All in all, I an inclined to believe that I am a failure	
59	I am a nervous person	
60	Good manners and cleanliness mean a lot to me	
61	Being in debt would worry me	
62	I can get a party going	
63	People spend too much time safe-guarding their future with savings and insurances	

Section D. Finally, would you tell us something about yourself?

01. Gender (male/female) .....

02. Your age ..... years

03. Are you: *(please circle one item)*

1. single 2. living with a partner 3. separated 4. divorced 5. widowed.

04. At what stage did you (will you) finish your education? *(please circle one item)*

1. O-level/GCSE 2. A-level 3. Post A-level diploma etc. 4. Degree

05. Are you:

1. a student. 2. employed or self-employed. 3. not employed.
4. At home (e.g. looking after a family). 5. Retired.

06. On a scale of 0 (low) to 10 (high), how happy do you feel generally .....

THANK YOU FOR YOUR PATIENCE AND CO-OPERATION

Please use this space to make any comments you wish about the study or about the questionnaire

THE OXFORD HAPPINESS PROJECT AT BROOKES UNIVERSITY

Thank you for taking a questionnaire. It is anonymous, and we hope you will help us by completing it.

Other researchers have devised several different sets of questions for measuring happiness and how it is affected by peoples' general attitudes about life. In this study, we want to find out how these different sets of questions are related, and if any one set is better than another. To make this comparison as fair as possible, we have taken everyone's questions and mixed them in random order. Many of the questions seem to ask the same things with slightly different wordings, which means that there is some duplication. We don't want to waste your time, but to get comparable results we have to use all the questions, even if some of them are virtually the same. Please bear with us.

There are two parts to the questionnaire, each to be answered in a different way, which is explained at the beginning of each section. Don't take too long over individual questions. There are no "right" or "wrong" answers and no trick questions; the first answer that comes into your head is probably the right one for you.

Many thanks for helping.

Section A

Below, there are groups of statements about personal happiness. Please read all four statements in each group and then pick out the one statement in each group that best describes the way you have been feeling in the past week, including today. Circle the letter (a, b, c or d) beside the statement you have picked.

01	a	I do not feel happy
	b	I feel fairly happy
	c	I am very happy
	d	I am incredibly happy
02	a	I am not particularly optimistic about the future
	b	I feel optimistic about the future
	c	I feel I have so much to look forward to
	d	I feel that the future is overflowing with hope and promise
03	a	I am not really satisfied with anything in my life
	b	I am satisfied with some things in my life
	c	I am satisfied with many things in my life
	d	I am completely satisfied about everything in my life
04	a	I feel that I am not especially in control of my life
	b	I feel at least partially in control of my life
	c	I feel that I am in control most of the time
	d	I feel that I am in total control of all aspects of my life
05	a	I don't feel that life is particularly rewarding
	b	I feel that life is rewarding
	c	I feel that life is very rewarding
	d	I feel that life is overflowing with rewards
06	a	I don't feel particularly pleased with the way I am
	b	I am pleased with the way I am
	c	I am very pleased with the way I am
	d	I am delighted with the way I am
07	a	I never have a good influence on events
	b	I occasionally have a good influence on events
	c	I often have a good influence on events
	d	I always have a good influence on events
08	a	I get by in life
	b	Life is good
	c	Life is very good
	d	I love life
09	a	I am not really interested in other people
	b	I am moderately interested in other people
	c	I am very interested in other people
	d	I am intensely interested in other people

10	a	I do not find it easy to make decisions
	b	I find it fairly easy to make some decisions
	c	I find it easy to make most decisions
	d	I can make all decisions very easily
11	a	I find it difficult to get started to do things
	b	I find it moderately easy to start doing things
	c	I find it easy to do things
	d	I feel able to take anything on
12	a	I rarely wake up feeling rested
	b	I sometimes wake up feeling rested
	c	I usually wake up feeling rested
	d	I always wake up feeling rested
13	a	I don't feel at all energetic
	b	I feel fairly energetic
	c	I feel very energetic
	d	I feel I have boundless energy
14	a	I don't think things have a particular 'sparkle'
	b	I find beauty in some things
	c	I find beauty in most things
	d	The whole world looks beautiful to me
15	a	I don't feel mentally alert
	b	I feel quite mentally alert
	c	I feel very mentally alert
	d	I feel fully mentally alert
16	a	I don't feel particularly healthy
	b	I feel moderately healthy
	c	I feel very healthy
	d	I feel on top of the world
17	a	I do not have particularly warm feelings towards others
	b	I have some warm feelings towards others
	c	I have very warm feelings towards others
	d	I love everybody
18	a	I do not have particularly happy memories of the past
	b	I have some happy memories of the past
	c	Most past events seem to have been happy
	d	All past events seem extremely happy
19	a	I am never in a state of joy or elation
	b	I sometimes experience joy and elation
	c	I often experience joy and elation
	d	I am constantly in a state of joy and elation
20	a	There is a gap between what I would like to do and what I have done
	b	I have done some of the things I wanted
	c	I have done many of the things I wanted
	d	I have done everything I ever wanted
21	a	I can't organise my time very well
	b	I organise my time fairly well
	c	I organise my time very well
	d	I can fit in everything I want to do
22	a	I do not have fun with other people
	b	I sometimes have fun with other people
	c	I often have fun with other people
	d	I always have fun with other people
23	a	I do not have a cheerful effect on others
	b	I sometimes have a cheerful effect on others
	c	I often have a cheerful effect on others
	d	I always have a cheerful effect on others
24	a	I do not have any particular sense of meaning and purpose in my life
	b	I have a sense of meaning and purpose
	c	I have a great sense of meaning and purpose
	d	My life is totally meaningful and purposive

25	a	I do not have particular feelings of commitment and involvement
	b	I sometimes become committed and involved
	c	I often become committed and involved
	d	I am always committed and involved
26	a	I do not think the world is a good place
	b	I think the world is a fairly good place
	c	I think the world is a very good place
	d	I think the world is an excellent place
27	a	I rarely laugh
	b	I laugh fairly often
	c	I laugh a lot
	d	I am always laughing
28	a	I don't think I look attractive
	b	I think I look fairly attractive
	c	I think I look attractive
	d	I think I look extremely attractive
29	a	I do not find things amusing
	b	I find some things amusing
	c	I find most things amusing
	d	I am amused by everything

Section B

This section consists of a number of statements. Would you please indicate in the final column, how much you agree or disagree with each one , using the following code:

1 = strongly disagree; 2 = moderately disagree; 3 = slightly disagree;
4 = slightly agree; 5 = moderately agree; 6 = strongly agree.

01	All in all, I an inclined to believe that I am a failure	
02	I am a nervous person	
03	I am an irritable person	
04	I am satisfied with many things in my life	
05	I can organise my time well.	
06	I don't really value anything that I am doing	
07	I enjoy meeting new people	
08	I feel dissatisfied with my life	
09	I feel I have a number of good qualities	
10	I feel mentally alert	
11	I feel really good about my life	
12	I feel satisfied with my life	
13	I feel that I cannot make decisions	
14	I feel that life has a purpose	
15	I feel that life isn't worth living	
16	I find it easy to get some life into a rather dull party	

17	I have a lot of potential that I don't normally use	
18	I like mixing with people	
19	I often become committed and involved	
20	I prefer to go my own way rather than act by the rules	
21	I rarely wake up feeling rested	
22	I try not to be rude to people	
23	I worry too long after an embarrassing experience	
24	If I could live my life over again, I would change almost nothing	
25	At times I think I am no good at all	
26	I am a rather lively person	
27	I am not pleased with the way I am.	
28	I can get a party going	
29	I don't feel energetic.	
30	I enjoy co-operating with others	
31	I feel healthy	
32	I feel mentally alert	

1 = strongly disagree; 2 = moderately disagree; 3 = slightly disagree;
4 = slightly agree; 5 = moderately agree; 6 = strongly agree.

33	I feel reasonably happy	
34	I feel that I am in control most of the time	
35	I feel that I have failed as a person	
36	I feel too tired to do anything	
37	I get completely confused when I try to understand my life	
38	I have come to terms with what is important in my life	
39	I might take drugs which may have strange or dangerous effects	
40	I often have a cheerful effect on others	
41	I really don't believe in anything about my life very deeply	
42	I usually take the initiative in making new friends	
43	I would like other people to be afraid of me	
44	It is better to follow society's rules than to go your own way	
45	Living is deeply fulfilling	
46	I can do most things easily	
47	On the whole, I am satisfied with myself	
48	So far, I have obtained the important things I want in life	
49	The world is not a good place.	
50	Being in debt would worry me	
51	I am able to do things as well as most people	
52	I believe in the idea that "every cloud has a silver lining	
53	I don't have much fun with other people	
54	I feel cheerless	
55	I feel lethargic	
56	I feel pleased with the way I am	
57	I feel that I am really going to attain what I want in life	
58	I feel that life is meaningless	
59	I find it easy to make decisions	
60	I have done many of the things I wanted	
61	I often feel 'fed-up'	
62	I rarely laugh.	
63	I wish I could have more respect for myself	
64	If something can go wrong for me, it will	
65	Life is good.	
66	Most things amuse me.	
67	Other people seem to feel better about their lives than I do	
68	Sometimes I feel useless	
69	Good manners and cleanliness mean a lot to me	
70	I am often troubled by feelings of guilt	
71	I don't experience much joy and elation.	
72	I feel disappointed with myself	
73	I feel optimistic about the future	
74	I feel that I do not have much to be proud of	
75	I find beauty in many things.	
76	I have warm feelings towards others.	
77	I rarely count on good things happening to me	
78	I worry a lot	
79	In uncertain times, I usually expect the best	
80	Most past events seem to have been sad.	
81	Other people think I am very lively	
82	Marriage is old-fashioned and should be done away with	
83	I need to find something that I can really be committed to	
84	I feel sad	
85	Things never work out the way I want them to	
86	I always look on the bright side of things	
87	I can make decisions easily.	
88	I feel happy	
89	I feel run down	
90	I feel that life is enjoyable	

1 = strongly disagree; 2 = moderately disagree; 3 = slightly disagree;
4 = slightly agree; 5 = moderately agree; 6 = strongly agree.

91	I have a clear idea of what I'd like to do in life	
92	I often feel lonely	
93	I tend to keep in the background on social occasions	
94	It worries me if I know there are mistakes in my work	
95	My life has little meaning and purpose.	
96	The conditions of my life are excellent	
97	I am a talkative person	
98	I don't take much notice of what other people think	
99	I feel pessimistic about the future.	
100	I am not interested in other people.	
101	I feel cheerful	
102	I feel that I have been successful	
103	I'm always optimistic about the future	
104	I would call myself tense or 'highly-strung'	
105	People spend too much time safe-guarding their future with savings and insurances	
106	I am satisfied with my life	
107	I feel like crying	
108	I hardly ever expect things to go my way	
109	I take a positive attitude towards myself	
110	My mood often goes up and down	
111	I can usually let myself go and enjoy myself at a lively party	
112	I feel that I am a person of worth, at least on an equal plane with others	
113	I suffer from 'nerves'	
114	Sometimes I feel 'just miserable' for no reason	
115	I don't think I look attractive	
116	I feel that life is rewarding	
117	In most ways, my life is close to my ideal	
118	I feel healthy	
119	I have a philosophy of life that gives my living significance.	
120	Life is not very rewarding	
121	I like plenty of bustle and excitement around me	
122	When I am with other people, I mostly keep quiet	
123	My feelings are easily hurt	
124	I rarely have a good influence on events.	
125	I feel unattractive	

Would you now tell us something about yourself?

Gender (male/female) .....

Your age ..... years

On a scale of 0 (low) to 10 (high), how happy do you generally feel? .....

THANK YOU FOR YOUR PATIENCE AND CO-OPERATION

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