'What is the self anyway?' towards a more parsimonious conceptualisation of the self: A review

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ABSTRACT

The 'self' is of interest across multiple psychological, cognitive, and social sciences. Unhelpfully, a plethora of terms are used across different theoretical and empirical areas. This leads to inconsistency, confusion and lack of clarity and impedes cross-disciplinary communication and progress. To improve clarity, increase parsimony and support theoretical and empirical advances, it is important to establish clear terms that can be applied consistently across psychology. The aim of this paper is to present a comprehensive initial inventory of synthesised self-terms that can be used by, and across psychology. We review self-terms used across different areas in psychology and identify a set of terms that are most frequently and consistently used across these domains. We then present a synthesis of commonly used 'self-terms' that are specifically related to six psychological sub-disciplines; Cognitive, Social, Developmental, Neuroscience, Clinical and Personality psychology. A glossary of self-terms, together with frequently used synonymous self-terms are presented.

1. Introduction

The self is notoriously difficult to define; it is a complex and differentiated construct with no clear, universal definition (Klein, 2012; Strawson, 2000). Klein and Gangi (2010) stated that "Despite centuries of thought devoted to the problem [of identifying what the self is] it has proven notoriously difficult to provide a set of propositions capable of transforming our acquired knowledge into a satisfying description of what the self is" (p.1). The conceptualisation of the self as an active, multi-faceted construct has given rise to a plethora of terminologies that have all been used in research on 'the self'. These include (but are not limited to) self-perceptions, self-images, self-conceptions, self-representations, self-knowledge, self-evaluations, self-schema, self-complexity, and self-clarity. The sheer number of self-terms, many of which are poorly defined and synonymous has made this literature difficult to examine (Morin, 2017). Often, researchers describe the vast number of self-terms within the literature, comment on the inconsistencies, and then define their self-terms relevant for their area of study. Thus, much of the language used to describe the self is idiosyncratic, sub-discipline specific, and/or used inconsistently (Klein & Gangi, 2010). Wylie (1979) argued that the existence of so many different self-terms and contradictory definitions has rendered much of the self literature useless. To create a more parsimonious understanding of the self, key self-terms from different psychology sub-disciplines should be mapped together. This is especially important given the increase in multi-disciplinary research investigating the self and the multi-disciplinary nature of the self.

Leary (2004) proposed that research examining the self should "embrace a set of precise, clear and distinct terms for each of the phenomena that we study under the self [and identity] umbrella" (p.2). He argued that these concise definitions would help reduce confusion and provide a clear framework to use moving forwards. There have been some attempts to integrate these terminologies (Thagard & Wood, 2015; Trapnell & Campbell, 1999). The most recent synthesis was by Morin (2017), who grouped self-terms into four broad categories. The first category was "Basic terms pertaining to describe general self-perceptions" this included terms such as 'self' and 'self-knowledge'. The second category was defined as "Non self-terms associated with various key self-related terms" and included terms such as 'consciousness' and 'introspection'. The third category described "Self-processes used by the self as an executive agent" and comprised self-term such as 'self-evaluation' and 'self-description'. The final category was classified as

"Self-views (content and feelings about the self)" (p.2-5) and contained self-terms such as 'self-esteem' and 'self-concept'.

Morin (2017) made a strong attempt to classify self-terms and present concise definitions which considered synonymous self-terms. However, he did not consider how different sub-disciplines in psychology conceptualise and describe the self. This is important because research examining the self has become increasingly sub-disciplinary and therefore this has created a need for research to use universal self-terms that are not discipline-specific, in order to promote parsimony. It is therefore important that commonalities and differences in the conceptualisation and description of the self are considered across sub-disciplines in psychology. Morin (2017) provided a useful and helpful general classification scheme that considered the overlaps and connectiveness of each self-term. However, the overlap or connectedness of each self-term within separate categories is not fully considered. For example, the term 'self-evaluation' classified in category one is closely related to the term 'self-esteem' in category four - this is because, by definition, one's evaluation of their self is likely to influence their global self-worth i.e., their self-esteem. Thus, there is a need to provide a more comprehensive list of self-terms, which should be mapped together rather than categorised. This is vital, as identifying synonymous or similar terms may lead to a more universal understanding and description of the self.

Therefore, the aim of this paper is to present a comprehensive initial inventory of synthesised of self-terminologies that consider how terms inter-relate across disciplines. This will build on Morin's (2017) classification system and identify and map self-terms from six sub-disciplines of psychology where the self is a key topic of investigation- 'Cognitive', 'Social', 'Developmental', 'Personality', 'Clinical' psychology' and 'Neuroscience'. As acknowledged by Morin (2017), terminologies that describe the self vary according to context and a complete consensus may not be possible. However, the main goal here is to synthesise the most relevant literature and key terminologies and provide a comprehensive framework that is applicable to multiple sub-disciplines in psychology. It is also hoped that the glossary of self-terms together with synonymous terms will provide a resource for researchers to use to search for definitions and draw parallels between other synonymous self-terms not directly considered in this review.

2. Sub-disciplines in psychology and their conceptualisations of the self

Prior to running literature searches to identify commonly used self-terms across sub-disciplines in psychology, it was important to firstly examine how the six sub-disciplines conceptualise the self. These six sub-disciplines were chosen because each is a main branch of psychology in which self-related research is carried out. We acknowledge that other disciplines such as Philosophy (not considered directly in this paper) also conduct self-related research, thus the current study is not exhaustive. Instead, the aim here is to make a first attempt to synthesis self-related research across key areas of psychology. This enabled some of the key researchers within each discipline to be identified, leading to the identification of self-terms.

2.1. Social psychology

Social psychologists have identified that the social environment is an important factor that influences how an individual perceives their 'self'. For example, Cooley (1902) described 'the looking glass self' and proposed that self-descriptions are constructed by individuals based on inferences about how society views them. Consistent with theorists from developmental psychology, Cooley suggested that from early childhood perceptions of the self are constructed based on how others interact with and respond to an individual. According to Cooley, individuals preferentially attend to the opinions and feedback from others who are perceived as important. Subsequently, Mead (1934) proposed that the self is constructed based on social interactions from social groups and more general groups (i.e., cultural group). More recently, Deaux (1993) described identity (the self) as a selection of membership to social groupings that have a degree of personal significance or meaning attached to them.

Furthermore, prominent social psychologists, Markus and Kunda (1986) have highlighted that self-concept is a dynamic structure and individuals learn about their self via interactions with others. However, they also suggested that the self includes 'possible selves'. These are defined as potential future versions of an individual that are shaped by social experiences, pre-existing self-evaluations, values and beliefs that an individual may hold. Importantly they suggest that possible selves are socially constrained (Markus & Nurius, 1986), for example, research has shown that possible selves generated by English native speakers typically reflect characteristics of an individualistic culture, whereas native Spanish speakers typically have more collectivist characteristics within their possible selves (Waid & Frazier, 2003).

Also, in social psychology, there is consideration about how the immediate social environment influences self-description, for example females in an all-male room are more likely to describe themselves using their gender (McGuire, McGuire, Child, & Fujioka, 1978). More recent research in social psychology has suggested that individuals tend to describe themselves according to their social roles (e.g., "a student", "a brother", "a footballer") and in relation to cultural norms (Bhar & Kyrios, 2016). Gray (1994) proposed that an individual may perceive themselves as having different characteristics when they inhabit different socially determined roles; for example they may perceive themselves as 'confident' around family members in the role of a son, father, or brother, but 'shy' at school in the role of a student. The importance of the social environment is also considered in developmental psychology.

2.2. Developmental psychology

The development of the self from birth, through to childhood and adolescence is a focus of developmental psychology. Erikson (1965) proposed that a key developmental task during adolescence the construction of an 'identity' (or self). He suggested that a fundamental challenge is to integrate multiple roles (e.g., 'student', 'sister', 'footballer', 'worker') into a coherent self. Developmental psychologists (e.g., Harter, 1999, 2012) have described the development of the self as constrained and facilitated by the development of cognitive skills. Therefore, the development of the self, proposed by Harter (1999; 2012) is closely linked to Piaget's (1952) theory of cognitive development. Thus, as cognitive development progresses, children are able to construct more complex perceptions of their self. By adolescence, the development of abstract thought allows young people to conceptualise more complex and abstract perceptions of their psychological and personal characteristics (Harter, 1999, 2012; Piaget, 1952).

The importance of the social environment in the development of the self is also an important focus of developmental psychology. Thus, there is significant overlap between social psychology and developmental psychology. Specifically, in adolescence the social environment (particularly with peers) becomes more important and this is increasingly reflected in self-images (Stangor, Jhangiani, & Tarry, 2014). Increased social comparison enables the development of more sophisticated perceptions, psychological attributes and social roles. These become important parts of the self (Damon & Hart, 1988; Harter, 2012). Specifically, Harter (2012) suggested that the self contains information from 'direct appraisals' that define personal characteristics and are developed based on our individual view of personally experienced events. 'Reflected appraisals' that describe our own perceptions about 'How I am perceived by others' is another important information source within the self.

2.3. Cognitive psychology

Within the field of cognitive psychology the self is conceptualised as mental representations that include specific descriptions, characteristics, strengths and weaknesses, qualities and goals. Epstein (1973) described the self-concept as a theory about oneself. Hattie (1992) suggested that self-concept contains cognitive appraisals of personal attributes. It is suggested that the self contains 'schema' about the self. The concept of 'schema' was first defined by Barlett (1932) as a knowledge structure used to store specific information in memory. The concept of schema in relation to the self was further developed by Markus (1977) who defined 'self-schema', as "cognitive generalisations about the self, derived from past experiences that organise and guide the processing of self-related information contained in an individual's experience" (p.64). She suggested that these cognitive structures or set of beliefs also serve to direct attention to relevant information (Markus, 1977). This work on self-schema has informed more recent work on the self in cognitive psychology in relation to autobiographical memory, specifically the 'working self.'

Autobiographical memories are described as personally important events that contain important information about "me as a person". Conway and Pleydell-Pearce (2000) described autobiographical memories as the 'basis' of the self as they provide real-life examples of 'the self' in action. Conway proposed that autobiographical memory reflects a personal history that defines 'who I am' across time and in respect to different contexts. Thus, autobiographical memories provide a sense of coherence and continuity of the self, and the accessibility of these memories is controlled by the 'working self.' The working self is described as 'currently active information about the self'. It reflects a subset of knowledge available in the wider autobiographical knowledge base and is influenced by current goals (Conway, 2005). These goals influence the information that is encoded and retrieved. This is important because memories that are more accessible are likely to reflect important self-knowledge.

Like developmental psychology, cognitive psychology also highlights the importance of adolescence as a key developmental period in the construction of the self. Specifically, cognitive psychology researchers have identified that when adults are asked to recall important events from their lives, they primarily recalled autobiographical memories that dated from their adolescence and early adulthood i.e., between the ages of 15–30 years of age (Rubin & Schulkind, 1997). A phenomenon described as the "reminiscence bump" (Rubin, Wetzler, & Nebes, 1986). Importantly, cognitive psychology researchers have suggested that this 'bump' coincides with a period of self formation or 'identity formation' during adolescence and early adulthood (Erikson, 1968). Therefore, memories from this time may be 'self-defining', and reflect vivid, emotionally intense experiences of personal events that echo important parts of an individual's sense of self (Conway, 2005; Fitzgerald, 1988; Singer & Salovey, 1993). However, other research suggests there may be alternative explanations for the reminiscence bump (Janssen, 2015; Rubin, 2015). For example, the cognitive abilities account suggests that the reminiscence bump may be caused by age-related changes in the ability to encode personal experiences. Thus, more memories are encoded more deeply during adolescence and adulthood than any other lifetime period (Janssen, 2020).

2.4. Personality psychology

Within the sub-discipline of personality psychology, the self is conceptualised as 'personality'. This term is often seen as synonymous with 'the self'. Researchers have used the term 'personality' to describe the 'entirety of an individual' or focused on specific personality traits, that is a set of characteristics (McCrae & Costa, 1988).

Other researchers within the field of personality have taken a different approach to examining the self. This approach has been to examine the self in terms of 'life story' or 'narrative identity' (McAdams,

1985; Singer, 2004). Specifically, the focus here is on 'the story' that an individual develops about their self. This conceptualisation of the self as based on a 'life story' overlaps with cognitive psychology in a shared interest in autobiographical memory. McAdams and McLean (2013) suggested that narrative identity is based on important, personal, autobiographical memories that are constructed into a story. These memories together describe to an individual "who they are now, how they came to be, and where they think their lives may be going in the future" (McAdams & McLean, 2013, p. 333).

As in developmental and cognitive psychology, personality psychologists have also acknowledged developmental changes in the self (or 'life story') and the importance of adolescence. Specifically, personality researchers have identified adolescence as an important period as it reflects a time when the life story develops (McAdams, 1985). This is because from middle childhood to adolescence young people are suggested to develop the ability to recall a coherent past (i.e., a story of their lives so far). Thus, from the age of 15 years, young people are able to construct a life-story (Habermas & Bluck, 2000). Also, as acknowledged by the reminiscence bump in cognitive psychology, adolescence is theorised to reflect one of the most important life periods within the life story. This is because during adolescence and adulthood the collection of self-defining memories from this period is the densest. Given that the number of self-defining memories date disproportionately from adolescence and early adulthood, this period is suggested to be one of the most important 'chapters' within the life story (Singer, Blagov, Berry, & Oost, 2013).

2.5. Clinical psychology

Within clinical psychology the self is typically examined in relation to psychopathology. Integral to many different types of mental health problems e.g., depression, social anxiety, and psychosis, are problems or concerns about 'the self'. For example, in relation to depression, Beck (1967) proposed that as part of the 'Cognitive Triad', and alongside a negative view of the future and the world, a negative view of the self was a 'hallmark' of depression. This perspective contributed to the development of cognitive therapy for depression (Beck, 1979) one of the leading evidence-based psychological treatments.

Vulnerability to depression has been related to many concepts that are relevant to the 'self' (Luyten & Fonagy, 2016). These include (but are not limited to) low self-esteem (Kohut & Wolf, 1978), high self-criticism (Blatt, 2004) and increased self-focused attention (Pyszczynski & Greenberg, 1987). Other research has examined "the distortions in the content of mental representations concerning the self" (Luyten & Fonagy, 2016, p. 73), in depression i.e., using Beck's influential model of depression. Using this work, recent research has examined biased self-referential processing in depression. This is described as a bias towards negative, information about the self (Lemogne et al., 2010) and is thought to reflect a depressed individual's 'negative view of the self' (Beck, 1967).

There is a degree of convergence between cognitive psychology and clinical psychology. For example, the self in relation to autobiographical memory has been examined in relation to clinical disorders such as schizophrenia (e.g Bennouna-Greene et al., 2012), depression (e.g., Köhler et al., 2015) and anxiety (e.g., O'Toole, Watson, Rosenberg, & Bernsten, 2016).

2.6. Neuroscientific perspective

Consistent with other sub-disciplines in psychology, the neuroscientific approach considers the self as containing superficial information such as age and occupation but also a core sense of 'who I am' consisting of personality traits, core beliefs and values and our likes and dislikes (Heatherton, 2011). However, the neuroscience perspective is centered around brain-imaging techniques as it assumes that the brain has distinct mechanisms for "knowing ourselves" (Heatherton, 2011).

There have been many studies, often using fMRI, that have attempted to locate the neural substrates of the self or processes related to the self (e.g., D'Argembeau et al., 2007; Northoff et al., 2006; St. St Jacques, Conway, Lowder, & Cabeza, 2011). Brain activity has been examined in relation to thinking about the self typically using the self-referential processing task which asks participants to reflect on whether or not a series of adjectives describe them (Rogers, Kuiper, & Kirker, 1977). Typically, research has found that activity in the Medial Prefrontal Cortex (MPFC) is associated with self-relevant processing (Macrae, Moran, Heatherton, Banfield, & Kelley, 2004). Other research has identified increased activity in the MPFC when participants were asked to reflect on their self (D'Argembeau et al., 2005).

However, there is considerable overlap between neuroimaging research and other sub-disciplines described previously. For example, clinical neuroscience typically identifies abnormalities in brain structures and activity in relation to mental health problems (Cacioppo et al., 2007). This approach has also been used to examine the self in relation to mental health problems. For example, research has identified sustained activity in brain regions implicated in self-reflection among individuals with depression (Johnson, Nolen-Hoeksema, Mitchell, & Levin, 2009). Neuroscientific research also supports the developmental psychology approach to the self, i.e., that the self develops across adolescence. Research observed brain regions involved in self-related processing continued to develop during adolescence. Specifically, the MPFC undergoes structural changes during adolescence (Shaw et al., 2008).

2.7. Commonalities across sub-disciplines

Despite each sub-discipline having a somewhat difference conceptualisation of the self, there are some commonalties across all sub-disciplines. For example, across all areas of psychology the self is acknowledged as a multi-faceted structure, made up of an array of different perceptions about 'Who I am'. This overlap between the different sub-disciplines is important because, although there may not be a consensus on what the self 'is', there a general consensus over a key feature of the self.

Secondly, all the sub-disciplines considered in this paper acknowledge the importance of the social environment in providing feedback about oneself. This commonality is important because we are social in our very nature and spend a considerable amount of time in social environments. Thus, it is not possible to construct a perception of 'me as a person' in a vacuum and therefore the self is heavily influenced by the social environment. Thirdly, all sub-disciplines included in this paper highlight the importance of adolescence as a key developmental period in the construction of the self. However, the relative importance does differ; cognitive and personality psychologists place significant importance on the adolescent self and the enduring effect this may have across the lifespan, whereas in developmental psychology the focus is more on how the self changes during adolescence and does not consider the enduring effect.

3. Literature searches: identification of self-terms in key psychological sub-disciplines

3.1. Identification of key researchers

In a traditional systematic review search terms are refined, and database searches are completed using pre-defined search terms according to PRISMA guidelines (Moher, Liberati, Tetzlaff & Altman, 2009). However, this approach was not possible in this review for several reasons. Firstly, the aim of this review was to search *for* self-terms rather than start with them. Secondly, when we conducted a preliminary search of the literature using 'the self' as a search term (August 2021), this resulted in 388,340 studies (82,894 in MEDLINE, 73, 481 in PsyINFO, and 231,965 in Web of Science). Given the large

number of papers retrieved it was not possible to categorise and synthesise the many different self-terms used. Additionally, many of the self-terms used were described inconsistently and interchangeably across papers. Therefore, we identified influential researchers who had investigated the self (or related terms) in relation to the six sub-disciplines in psychology. This was the first step to identifying key self-terms commonly used by researchers within each of the sub-disciplines.

To identify key researchers within each sub-discipline, searches were conducted using terms that reflected how each area of psychology conceptualised the self. These rudimentary conceptualisations of the self within each sub-discipline were derived using key theories/research studies and were then used to guide preliminary self-terms. For example, in relation to cognitive psychology search terms such as 'autobiographical memory' were used as this has been operationalised within the Self-Memory System (Conway & Pleydell-Pearce, 2000). Results from these searchers were organised according to their 'citation count'. Thus, it was possible to identify commonly cited works and therefore identify 'key researchers'. We also completed checks on the Journal names of authors' published works to ensure they were publishing within each identified area of psychology. Table 1 shows key researchers within each of the sub-disciplines. The rationale for the identification of these 'key' researchers was that they had published influential research or theory related to the self, this work had a high number of citations and was still being used to inform current research (i.e., papers published within the last year). A description of each researcher's key contribution to the self literature is described in Table 1, together with examples of recent research which has been informed by this work. In Table 1, there are two researchers identified in developmental psychology. This is because Erikson's work is frequently cited to evidence the importance of adolescence in relation to the construction and consolidation of the self, however his work has rarely been tested empirically. However, Harter's research (e.g., Harter, 1988) especially in relation to her theory of how the self develops across childhood and adolescence, has been influential in developmental psychology, and is frequently used to inform current research (see Table 1).

After identifying key researchers (e.g., Conway, Markus, Erikson, Harter, Beck and McAdams) a search of each of their authored works was completed to identify other important researchers who had also investigated the self within each psychology sub-discipline (see Fig. 1). Semantic scholar was also used to identify researchers who may not have necessarily collaborated with 'key' researchers, but who had published influential work related to or influenced by key researchers. For example, the work of Arnaud D'Argembeau is influential in the study of the self in cognitive psychology (and personality psychology) and has been influenced by the work of Martin Conway, however they do not share any co-authored published works.

Fig. 1 Highlights influential researchers who have investigated the self (or a construct that is closely conceptually related) within each psychological sub-discipline. Each researcher presented in Fig. 1 is categorised according to their respective disciplines. To identify the area of psychology the researchers are based in was determined on where they published their work. However, in instances where there is overlap between areas of psychology, (e.g., a researcher has published work in both clinical and cognitive psychology), researchers are colour coded with each respective discipline (e.g., blue and pink). As Fig. 1 demonstrates, researchers tend to work across different sub-disciplines in psychology, highlighting the multi-disciplinary approach taken by some key researchers who examine 'the self'.

4. Relations between self-terms between psychological disciplines

After identifying key researchers who had investigated the self in respect to the sub-disciplines in psychology, the self-terms used by researchers were collated and mapped together. The aim here was to

Table 1
Rationale for the key researchers within each sub-discipline in psychology.

Sub-discipline	Researcher	Key paper(s)	Citations as of 08/21	The most recent papers to reference the most cited paper(s) of the author as of August 2021.
Cognitive	Martin Conway	Conway, M. A., & Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self-memory system. *Psychological Review, 107*(2), 261–288. https://doi.org/10.1037//0033-295	4809	Panteleeva, Y., Courvoisier, D. S., Glowinski, D., Grandjean, D. M., & Ceschi, G. (2021). Effects of emotionally incongruent musical excerpts on memory retrieval, Psychology of Music *doi:10.1177/03057356211034571*, 030573562110345.
		Conway, M. A. (2005). Memory and the self. *Journal of Memory and Language, 53*(4), 594–628. https://doi.org/10.1016/j.jml.2005.08.005	2419	Mace, J. H., Petersen, E. P., & Kruchten, E. A. (2021). Elucidating the mental processes underlying the direct retrieval of autobiographical memories. *Consciousness and Cognition*, *94*, 103190. https://doi.org/10.1016/J.CONCOG.2021.103190
Developmental	Erik Erikson	Erikson, E. H. (1968). Identity: Youth and crisis. New York: W. W. Norton	44722	Jamison, T. B., & Sanner, C. M. (2021). Relationship form and function: Exploring meaning-making in young adults' romantic histories. *Personal Relationships, 1–20* https://doi.org/10.1111/PERE.12400
	Susan Harter	Harter, S. (1982). The Perceived Competence Scale for Children. *Child Development, 52*, 87–97. https://doi.org/10.2307/1129640	6558	Ryu, S., Lee, J. E., Zeng, N., Stodden, D., McDonough, D. J., Liu, W., & Gao, Z. (2021). Bidirectional relationships among children's perceived competence, motor skill competence, physical activity, and cardiorespiratory fitness across one school year. *BioMed Research International*, 1–13. https://doi.org/10.1155/2021/1704947
Clinical	Aaron Beck	Beck, A. T. (1976). Cognitive therapy and the emotional disorders. London: Penguin Book.	20865	Araújo, G. E., Cruz, O. S., & Moreira, D. (2021). Maladaptive Beliefs of Young Adults in Interpersonal Relationships: A Systematic Literature Review: https://Doi.Org/10.1177/15248380211038684, 152483802110386. https://doi.org/10.1177/15248380211038684
		Beck, A. T. (1967). Depression: Clinical, experimental, and theoretical aspects. Philadelphia: University of Pennsylvania Press	10697	Dolcos, F., Katsumi, Y., Moore, M., Berggren, N., de Gelder, B., Derakshan, N., Hamm, A. O., Koster, E. H. W., Ladouceur, C. D., Okon-Singer, H., Pegna, A. J., Richter, T., Schweizer, S., Van den Stock, J., Ventura-Bort, C., Weymar, M., & Dolcos, S. (2020). Neural correlates of emotion-attention interactions: From perception, learning, and memory to social cognition, individual differences, and training interventions. *Neuroscience & Biobehavioral Reviews*, *108*, 559–601. https://doi.org/10.1016/j.neubiorev.2019.08.017
Social	Hazel Markus	Markus and Kunda (1986). Possible selves. *American Psychologist, 41*(9), 954–969. https://doi.org/10.1037/0003-066X.41.9.954	10669	Chang-Kredl, S., Garlen, J., Sonu, D., & Farley, L. (2021). Models of possible selves: Teachers' reflections on childhood memories of parents. *Teaching Education*. https://doi.org/10.1080/10476210.2021.1948989
		Markus and Kunda (1986). Culture and the self – implications for cognition, emotion and motivation. *Psychological Review, 98*(2), 224–253. https://doi.org/10.1037/0033-295X.98.2.224	28136	Howard, K. A. S., & Ferrari, L. (2021). Social-emotional learning and career development in elementary settings. *British Journal of Guidance & Counselling*. doi.org/10.1080/03069885.2021.1959898
Personality	Dan McAdams	McAdams (2001). Narrative identity. *Current Directions in Psychology, 22*(3), 233–238. https://doi.org/10.1177/0963721413475622	988	McAdams (2001). Psychopathology and the self: Human actors, agents, and authors. *Journal of Personality, 88*(1), 146–155. https://doi.org/10.1111/jopy.12496
Neuroscience	Todd Heatherton	Heatherton T. F. (2011). Neuroscience of self and self-regulation. *Annual review of psychology, 62*, 363–390. https://doi.org/10.1146/annurev.psych.121208.131616	499	Parelman, J. M., Doré, B. P., Cooper, N., O'Donnell, M. B., Chan, H. Y., Falk, E. B. (2021). Overlapping functional representations of self- and other-related thought are separable through multivoxel pattern classification. Cerebral Cortex. https://doi.org/10.1093/cercor/bhab272

synthesise commonly used self-terms and present a group of self-terms that are commonly used across the sub-disciplines in psychology.

Firstly, for each sub-discipline, a word bank of self-terms was created. By presenting data in this way, it was possible to see the degree of overlap between self-terms i.e., whether the same self-terms were used across one or more sub-disciplines in psychology. In doing this, the self-terms were classified according to four levels, this is presented in Fig. 2. At level one, the self-terms presented here are often used within that particular discipline (e.g., the term 'self-representations' is commonly used within developmental psychology). However, it is important to note that these self-terms are not strictly 'discipline-specific'. It is possible that other areas of psychology may also use these terms. This is because as soon as a new paper is published within another respective discipline, and uses these terms, then it is "used" by this discipline. However, the aim was the present terms that were frequently used within specific disciplines.

Level two includes terms which are typically used across two disciplines (e.g., 'life story' is described with Cognitive and Personality psychology). Level three contains self-terms commonly related to three psychological disciplines (e.g., 'self-description' is used by Social,

Clinical and Personality researchers). At level four there is a group of self-terms which are often used by all disciplines. The neuroscientific approach is only included at Level four as this sub-discipline commonly uses self-terms that are consistently used across all disciplines in psychology. Examples of discipline-specific self-terms are not clearly used in the neuroscientific literature.

Fig. 2 shows extensive overlap between self-terms across disciplines. There are many words or terms used to describe the content of the self. These are either often described within one specific discipline (e.g., self-representations) or are commonly described within more than one area of psychology (e.g., self-conceptions). Therefore, to ensure a more parsimonious understanding of the self, it is imperative that researchers investigating the self-use clearly defined 'self-terms' that are often used across different areas of psychology to ensure consistency across as many disciplines as possible. Also, many words or terms presented in Fig. 2 are synonymous with each other (e.g., self-worth, self-esteem). To promote parsimony between self-terms and reduce redundancy, it is important that the meaning of each self-term is clearly defined by researchers (preferably in the introduction section of articles), as this will reduce ambiguity and ensure it is clear what is meant by the use of each

Fig. 1. Psychology sub-disciplines and researchers investigating the self.
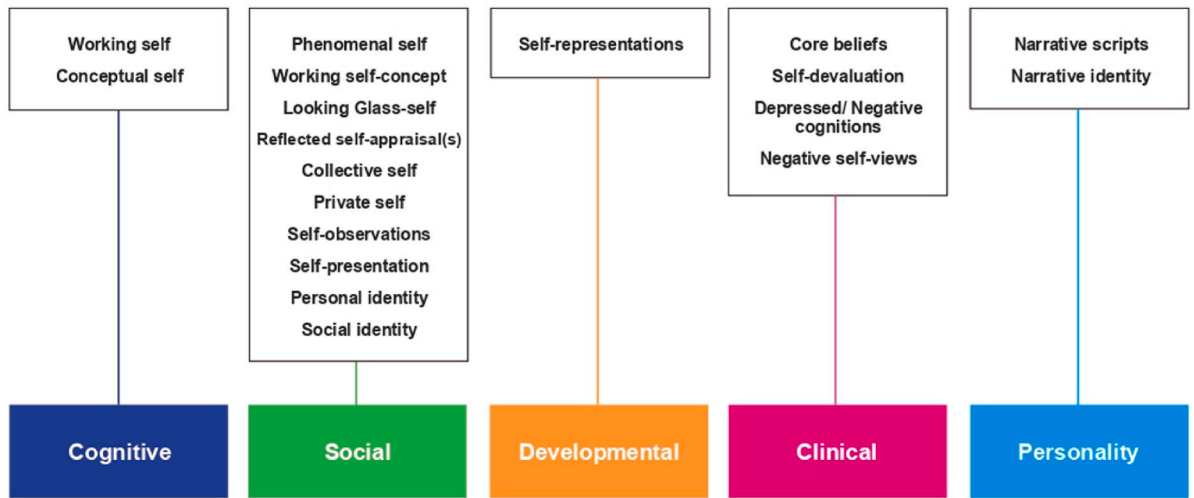
term.

5. Promoting clarity between self-terms: a glossary

The aim of this glossary is to present self-terms that are clearly collated, defined and grouped with their synonyms to promote parsimony. This will help develop integration across areas of psychology related to the study of the self. This is important because researchers tend to work between and across many sub-disciplines of psychology when investigating the self, this has led to synonymous self-terms and many terms being used inconsistently.

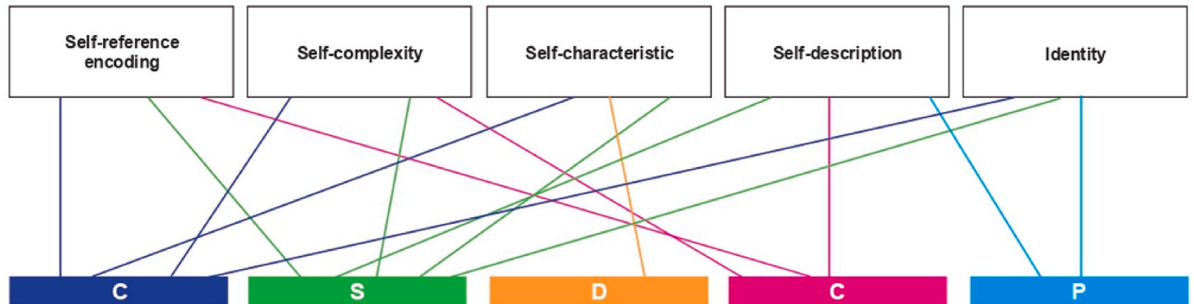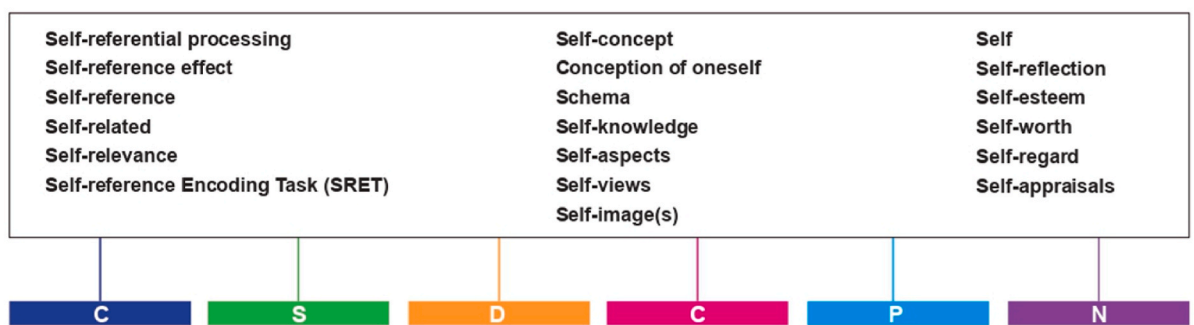Table 2 displays some of the most commonly used self-terms,
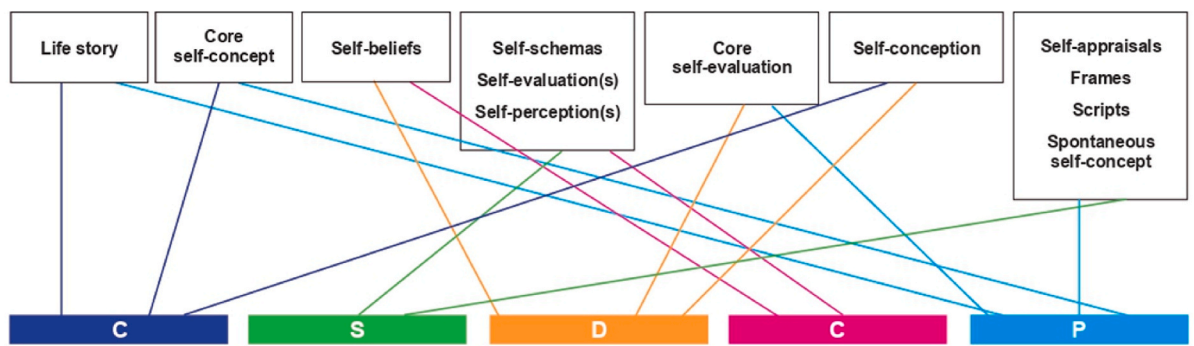
Fig. 2. Visual representation of some self-terms commonly used by psychological sub-disciplines.

Table 2
Glossary of self-terms: Extract from Supplementary Information.

Self-term	Meaning	Cited by	Related self-terms
Self-concept	All known information about the self, which includes evaluations, descriptions, abilities, skills and capabilities. This includes representations of the self in the past, present and imagined future	Oyserman, Elmore, & Smith, 2012 Gecas (1982)	The self, Me-self, Conceptual self,
Self-knowledge	All beliefs/perceptions an individual may have about the self.	Baumeister (1998)	The self, Schema, Narrative scripts/Frames Self-images, Self-perceptions, Self-representations, Self-descriptions,
Self-Schema	Knowledge about oneself that is created from past experiences, and interaction with others (e.g., "I am quiet"). Some schema inter-relate as they describe the self in a particular domain (e.g. 'A student'). Schema can relate to the past, future or the present. Together schemas act as a control system and influence the processing of information which is relevant to an individual According to Beck (1967) maladaptive self-schemas are a cognitive vulnerability for depression.	Markus (1977) Leary (2004) Beck (1967)	Narrative scripts, Self-images, Self-perceptions, Self-representation, Self-descriptions, Scripts, Frames, Self-knowledge, Self-appraisals, Self-descriptions, Self-concept, Self-conceptions,

relevant to this paper. A definition is provided, and a list of closely related synonymous self-terms are presented. This extract is provided to highlight some of the most commonly used self-terms, however a more comprehensive list of self-terms is provided in the Supplementary Material. The definitions of each self -term presented in this glossary are not exhaustive. As noted earlier, Wylie (1979) observed that there are many contradictory definitions within the self literature, and the sheer number of self-terms means that a complete glossary is practically impossible. Therefore, the aim here is to provide a definition for each self-term, as identified by a specific 'self' researcher. These researchers were selected due to either them being the first 'identified' researcher that described each self-term or commonly cited. The hope is that this glossary will provide a valuable resource for researchers to use when looking for definitions, related terms and mapping other self-terms not directly considered in this review to synonymous self-terms commonly used across sub-disciplines in psychology.

6. Limitations

There are several limitations with the current research. Firstly, given that a traditional systematic review could not be conducted, a novel way to systematically search the literature was developed, i.e., focusing on key researchers identified via prominent and highly cited pieces of work. Using this approach, it was possible to identify key self-terms within each sub-discipline in psychology. However, there may be methodological issues with this approach which may have resulted in a selective, biased inclusion of studies and therefore self-terms. Secondly, identifying key researchers based on their citation volume may be problematic. For example, this approach may ignore researchers who may have published impactful research but who have not yet received significant citations. Thus, this process may bias towards more established researchers rather than early-career researchers, who may have published papers but are still building their reputation and network within the field of 'the self'. Thirdly, we have included only a selection of sub-disciplines in psychology within this review. Other important schools of thought which have considered the self, such as such as Philosophy for example, were beyond the scope of the review and not considered. Finally, given that the self is an intensively studied construct, with widespread interest from researchers, the rate of publications in relation to the self is high. Thus, it is possible that very recent research may not have been included in the current research, especially given that literature searches in this review paper were conducted in August 2021. Due

to the sheer number of self-terms within the literature and the rate of publications in this field it is impossible to include all self-terms in this review. However, the hope is that this paper will provide a starting point for researchers to use moving forwards. The glossary of terms will also act as a resource for researchers who wish to map other synonymous self-terms not considered in this paper to commonly used terms.

7. Implications and recommended future directions

Interest in the self is not limited to one psychological sub-discipline. Many domains in psychology have investigated the self and this has led to self-terms being used interchangeably and inconsistently. A further problem is that there is no unified description of these terms and their relations with other discipline-specific self-terms are not clear. For the first time, we present a synthesis of commonly used self-terms used by researchers within six sub-disciplines in psychology. We also consider relations between these self-terms, with the aim of providing a broader and more parsimonious conceptualisation of self-terms across sub-disciplines in psychology. This will help to address the issue of poorly defined self-terms and over-use of synonymous self-terms used within the self-literature and will be of use to researchers investigating the self.

There are important implications and recommendations based on the current research. Firstly, we recommend that for researchers keen to investigate the self; only terms which are consistently used across sub-disciplines in psychology should be employed. We have provided some examples in Level 4 of Figure Two in this manuscript. Chosen self-terms should be clearly defined and described. Secondly, we suggest that discipline-specific self-terms should be avoided wherever possible as this adds to the confusing landscape of the self-literature. Instead, these terms should be replaced with terms which are consistently used across sub-disciplines in psychology. However, we recognise that this may not always be feasible, therefore in these special cases, researchers investigating the self should link their conceptualisation of the self/specific self-terms to pre-existing self-terms/theories within their specific sub-discipline. Thirdly, we recommend that researchers do not define any new/novel self-terms and adopt these in their research. Instead, researchers should use pre-existing self-terms and definitions identified by this review where possible, to ensure that research investigating the self is comparable across sub-disciplines in psychology.

The self is at the centre of all our lived experiences and therefore it naturally features heavily in psychological research and theory. This in itself is not a problem; it is not possible to detach from the self when we

conduct psychological research. We recommend that the presence of the self and impact of this on research/theory should be openly discussed. This is because the self i.e., our perceptions about ourselves, self-related cognitions, beliefs, relationships, past experiences make up who we are, and is inherently a part of everything we do. A clear example of this is in reflexive thematic analysis, where the assumptions and perceptions of the researchers are considered in line with the analysis (Braun & Clarke, 2019).

In conclusion, the self is a multifaceted construct which cannot be clearly defined. Herein lies the issue as to conduct valid reliable research, as clear definition is needed. Thus, to make the self measurable and quantifiable, the self has been reduced to a set parameters to ensure it meets this criteria. This has led to a vast array of definitions, conceptualisation of the self and self-terms. 'A plea for clarity' regarding the self literature was highlighted by McLeary in 2004. However, twenty years on, we suggest that this is still exactly what is needed. We echo ideas discussed by McLeary (2004) - the self is a key construct which features in much of the research undertaken in psychology and there is an urgent need for precise and clear definitions for self terms to "promote communication and mimimize confusion" (p.3).

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E. Hards: Conceptualization, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Writing – original draft, Writing – review & editing. **C.J. Rathbone:** Writing – original draft, Writing – review & editing. **J.A. Ellis:** Conceptualization, Writing – original draft, Writing – review & editing. **S. Reynolds:** Conceptualization, Writing – original draft, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

No data was used for the research described in the article.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.newideapsych.2024.101080.

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