University of Reading

Who am I? Classification and assessment of the self in adolescents and in relation to depression symptoms

A thesis submitted in fulfilment of the requirement for the degree of Doctor of Philosophy

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Declaration

I confirm that this is my own work and the use of all material from other sources had been properly acknowledged.

The work in this thesis is made up of four papers authored by myself, Professor Judi Ellis, Professor Shirley Reynolds and Jennifer Fisk (JF was a co-author on Papers 1, 2 and 3 only). To clarify my specific contribution to the papers, I confirm that data used in all papers was primarily obtained by me. I independently recruited adolescents from schools two and three. Jennifer Fisk allowed me to use data she collected from school one. These data from all three schools was then collated by me. I independently handled data, conducted analyses, literature searches and the write up of all manuscripts in this thesis. Authors Prof. Shirley Reynolds and Prof. Judi Ellis assisted the preparation of manuscripts and completed reliability analysis for data coding.

My estimated percentage contribution to all four papers was 70-65%. Prof Shirley Reynolds contributed 20% and Prof Judi Ellis contributed 10% to all papers. Jennifer Fisk contributed 5% (i.e., data from school 1) to Papers 1, 2, and 3 only.

Emily Hards, May, 2019

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This thesis would not have been possible without the constant support and encouragement of Nick and my family. They have kept me going when I didn't think it was possible. I am immeasurably grateful to Nick for all he has done (particularly the daily pep-talks to and from university in the 'early' days!). I cannot thank my parents, Kevin and Jayne, sister Katherine and grandparents, Michael, Ann and Anne enough. I cannot imagine a more supportive and encouraging family. This thesis is dedicated to them.

I would like to thank both my supervisors, Professor Shirley Reynolds and Professor Judi Ellis for encouraging and supporting me throughout my PhD. I am especially grateful to Shirley for always pushing me to do better and for being enthusiastic after supervision meetings. This always left me feeling refreshed, optimistic and ready to tackle the days ahead. I am grateful to Judi for being kind, considerate and always taking the time to discuss the self and answering many of my seemingly never-ending questions! I have learned so much. A special thanks to all the adolescents who took part in my research, and the schools for supporting my work and helping me conduct my research. I would particularly like to thank AB for her fantastic co-ordination and support during data collection. I would also like to thank Clare Rathbone and Martin Conway for advice on the self and relevant publications. Thanks also to the MSc and undergraduate students who have helped with data collection and coding during my three years. I am grateful to all my wonderful friends both inside and outside of the University of Reading. They have been there during the good times and the bad (with wine), and I am immensely appreciative.

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Abstract

Adolescence is an important developmental period for the self. It is also a time when young people are particularly vulnerable to depression. Despite this, researchers have neglected to examine how young people spontaneously describe their self and how the self is disrupted in adolescent depression. The aim of the four papers in this thesis is to describe the content of the self in young people and examine associations between the self and depression. Adolescents (n = 822) were recruited from three UK secondary schools, one in Northamptonshire and two in Wiltshire. They completed a measure of self-concept, The Twenty Statements Test (Kuhn & McPartland, 1954) and depression symptoms, the Mood and Feelings Questionnaire (MFQ; Costello & Angold, 1988). A sub-sample (n = 584) completed a measure of the possible self, a variant of the 'I Will Be' Task (Rathbone, Salgado, Akan, Havelka & Bernsten, 2016). Data from the TST were combined and one large dataset is used in all papers included in this thesis. MFQ data were also combined and is presented in Papers 3 and 4 only. Data from the 'I Will Be' Task is described in Paper 4 only. Paper 1 describes data of adolescent generated self-images. They are also presented in a freely available database. The majority of self-images used by adolescents were positive 'Traits'. These data were compared to adult self-images and demonstrated that adults most often used 'Social roles' to describe the self. Paper 2 presents the development of an adolescent-specific classification scheme to categorise self-images into 'aspects of the self'. Young people most often described themselves in relation to their personal attributes, relationships with family members and their peer group. This classification scheme was used in Paper 3. In the application of this classification scheme in Paper 3, the valence of the self rather its complexity was associated with more severe symptoms of depression. This was consistent with the cognitive theory of depression

(Beck, 1967). Adolescents with a more positive self had less severe symptoms of depression. In Paper 4, the possible self and depression symptoms were examined. The valence of possible selves was associated with depression symptoms suggesting that young people with more severe symptoms of depression had a more negative possible self. Together, these results of the four papers suggest that an adolescent 'self' is different from an adult 'self' and presents an adolescent-specific classification scheme devised to use for this population. These findings also provide partial support for the cognitive theory of depression and suggest that improving self-evaluation in the treatment of depression in young people may be helpful.

Thesis Outline

1.1 Overview

The focus of this doctoral thesis is to assess the content of the self in young people and to examine associations between the depression symptoms and the self in adolescents. Although researchers have examined the self and depression in relation to adults, this relationship in adolescence has been neglected. In this thesis, current self-images were elicited by using an open-ended response measures and a new classification scheme was created to classify 'self-aspects'. Using this coding scheme, self-images and possible selves were examined in relation to depression symptoms in young people.

This thesis consists of two related parts. The first section relates to the classification and description of an adolescent self in normative young people. Part two describes associations between adolescent self and depression. Each section contains a separate introduction and two papers A description of these papers is provided in Chapter 1, section 1.12. A final discussion is provided in Chapter 14 which considers the contribution of all papers included in this thesis.

Part One: Self-concept in adolescence

Chapter 1 Part One: General Introduction

1.1 Part one: Self-concept in adolescence

Adolescence is an important period for the development of the self. It involves the laying down of autobiographical memories that endure throughout life and the construction and consolidation of 'the self' (Conway, 2005). It also reflects a time of increasing exploration during which young people search to answer key, fundamental questions such as: Who am I? (Harter, 2012). Understanding the self in adolescences is therefore important because this may inform many aspects of psychology related to typical and atypical development, wellbeing and mental health.

This chapter will provide a description of the self and a synthesis of commonly used self-terms, and critically evaluate the importance of adolescence in the development of the self. Also considered in this chapter is the importance of autobiographical memory in supporting our sense of self. Following this, a critical appraisal of research examining the self in adolescence and commonly used methods of assessing the self in this population is presented.

1.2 Self theory: Defining the self

The self is notoriously difficult to define; there is no clear, universal definition of 'the self' (Strawson, 2000). There are many different definitions of 'the self' (Leary & Tangney, 2003). For example, James (1910, 1967) described 'the self' as the process of reflecting upon oneself, this sometimes described as the 'I-self'. Others have described 'the self' synonymously with personality suggesting that the self includes goals, values and abilities (Tesser, 2002). Other researchers have described 'the self' as the 'me-self' (James, 1910; 1967), which relates to the thoughts, evaluations and beliefs that individuals may have about themselves (Leary 2004; Leary & Tangney, 2003). There is also considerable

debate as to whether the self is real, can be examined or whether it is known (Hattie, 1992). Given that this is a psychology, rather than a philosophy thesis, we assume that the self exists and that empirical investigations are able examine the self (Gecas, 1982).

Thus, in the thesis, it is necessary to define what is meant by 'the self'. The definition that will be adopted is that the self is the sum of thoughts and evaluations an individual may have about themselves (Leary & Tangney, 2003). This is sometimes referred to as the 'self-concept' or 'the self". These terms are considered as synonymous in this thesis. The self is described as an organised structure of self-aspects and evaluations "developed out of the individual's reflective, social, and symbolic activities" (Gecas, 1982, p. 4). Importantly, reflecting on oneself requires cognitive capacity to reflect on an object that is 'me' (Mead, 1934; Oyserman, Elmore, & Smith, 2012). These cognitive structures define who a person was, is and might become in the future, and together form a body of self-knowledge (Oyserman et al., 2012).

This description of the self as an active, multi-faceted construct is an important improvement over more historical conceptualisations of the self as a unitary, stable construct typically reflected by self-esteem, i.e., a positive or negative view of oneself (Rosenberg, 1965). High self-esteem reflected a positive view of the self, whereas low self-esteem represents a negative view of oneself (Rosenberg, 1965). Markus (1977) argued that conceptualising the self as an active, multi-faceted construct allows for a more complex understanding of how the self may be related to or influence complex behaviours. As a multi-dimensional construct, the self is conceptualised as having various self-aspects (Neisser, 1991). These self-aspects are organised bodies of self-knowledge containing descriptions and evaluations about oneself and autobiographical memories. Together these aspects are used to manage the processing of self-relevant information (Campbell et al., 1996; Markus, 1977).

In the self-literature, the term ‘identity’ is frequently used synonymously with ‘the self’ or is collated with the self and described as ‘self-identity’ (Leary, 2004). Therefore, for clarity, it is important to describe how ‘identity’ is conceptualised in this thesis. For the purpose of this thesis, identity is viewed as part of the working self as described by (Markus & Kunda, 1986) The working self includes all the information which has been retrieved at that specific moment i.e., what is available given the current goal and context (see section 1.9.1). In this way, an individual can recall different ‘identities’ depending on the current goal of the working self. This means that an individual may have multiple identities that reflect the multi-faceted nature of self-concept (Markus, 1977; Oyserman, Elmore, & Smith, 2012). These identities can also be overlapping and are not necessarily mutually exclusive (McConnell, 2011), e.g., the self-image “I am a female” could be related to a gender, social and/or academic identity. Given this multiplicity of self-images, it is usually not always clear which self-images are the most salient to an individual. Salient self-images are defined as the “core self-concept” and are sometimes referred to as ‘personal identity’ (Deaux, 1993). This structure and the significance to adolescents in particular, is described in detail in section 1.10.

The conceptualisation of the self as an active, multi-faceted construct has also 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. Wylie (1979, 1989) argued that the existence of so many different self-terms and contradictory

definitions has rendered much of the self literature useless. 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. Therefore, it is important to provide a synthesis of commonly used self-related terms.

1.3 Towards a more parsimonious understanding of the self

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 autobiographical and prospection. The third category described "Self-processes used by the self as an executive agent" and comprised of self-term such as self-evaluation and self-description. The final category contained self-terms such as self-esteem and self-concept, this was classified as "Self-views (content and feelings about the self)" (p.2-5). This general classification, whilst a helpful first step means that 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 related to the term 'self-esteem' in category four. To address this, Morin provided a model that presented self-terms and mapped the relationships between them. However, the focus of this model was to consider how certain self-processes (e.g., self-awareness) then stimulate other self-processes (e.g., self-rumination) which then stimulate further processes (e.g. self-criticism). Morin's model is useful as it highlights conceptually related self-processes and shows how theoretically they interact with each other. However,

he did not consider the overlap or relationship between synonymous self-terms. This model is also not exhaustive as it considers the associations between some but not all of his defined self-terms. Thus, there is a need to provide a more comprehensive list of self-terms, which should be mapped together rather than categorised. This is important, as identifying synonymous or similar terms may lead to a more universal understanding and description of the self.

Additionally, classification systems do not consider the different and sometimes discrepant self-terms used within different disciplines in psychology. The self has been assessed from many sub-disciplines of psychology and this has led to language which is sub-discipline specific and/or used inconsistently. To create a more parsimonious understanding of the self, key terms from different psychology 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.

Therefore, the first aim of this chapter is to address these limitations and to present a broader and more parsimonious synthesis of self-terminologies that consider how terms inter-relate across disciplines. This will build on definitions described within Morin's (2017) classification system, but self-terms presented here are not categorised using his coding scheme. Instead self-terms from five psychology sub-disciplines that are most relevant to this thesis are presented and mapped together. Similar to other classification schemes of 'the self', these lists are not exhaustive. As acknowledged by Morin (2017) terminologies that describe the self may vary according to context and "in the end it may be difficult, if not impossible, to come to a complete definitional consensus" (p.7). However, the main goal here is to synthesis the most relevant literature and key terminologies and to provide a comprehensive framework in which to move forwards.

1.4 A model of the self

The work described in this thesis can be related to five different sub-disciplines within psychology; Cognitive, Social, Developmental, Clinical and Personality psychology. These disciplines are colour coded and relate to figures described in the following sections.

1.4.1 Key researchers investigating the self within each psychological discipline

To identify key researchers, a literature search was conducted using commonly identified self-terms. Figure 1.1. highlights some influential researchers who have investigated the self (or a construct that is closely conceptually related) within each psychological sub- discipline. The aim of this figure is to demonstrate the multi-disciplinary approach taken by some key researchers who examine 'the self'. By taking this approach it is therefore not necessary to highlight all researchers that have examined the self.

Researchers were included in Figure 1.1. if they had either published influential theory/research or published work that related to the self or that had been applied to adolescence. Researchers are not in order or importance, however the researchers in the first row of each sub-disciplines have published highly cited and influential research that continues to be used. A rationale for including these researchers is provided in Appendix 1. Using researchers within the first row (e.g., Conway, Markus, Erikson, Harter Beck and McAdams) a search was also completed to identify important collaborators. Each researcher described here is categorised according to their respective disciplines. 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).

Figure 1.1. Psychology sub-disciplines and researchers investigating the self.

To help contextualise the work of these key researchers in each sub-discipline below is a general summary of how each sub-discipline conceptualises the self. This aim of this is to 'anchor' the researchers and better understand how the self is conceptualised within each sub-discipline in psychology. This overview highlights some overlap between sub-disciplines and how they conceptualise the self.

1.4.1.1 *Cognitive Psychology*

Within the field of cognitive psychology self-concept is conceptualised as mental representations that includes descriptions, specific 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 also suggested that the self contains 'schema' about the self. The concept of 'schema' was first identified by Barlett (1932) who described 'schema' 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 serves to direct attention to relevant information (Markus, 1977).

Other cognitive psychologists have examined the self in relation to autobiographical memory. Autobiographical memories are described as personally important events that contain important information about "me as a person". Conway and Pleydell-Pearace (2000) described autobiographical memories as the 'basis' of the self as they provide real-life examples of 'the self' in action. The relationship between the self and autobiographical memory is explored in detail in section 1.9.

1.4.1.2 *Social Psychology*

Social psychologists have identified that the social environment is important in the definition of the 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. He suggested that the self has an important reference to others and 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 will attend preferentially to the opinions and feedback from individuals 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. Also in social psychology, there is consideration about how the 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, role-specific characteristics, for example they may perceive themselves as 'confident' around family members in the role of a son, but 'shy' at school in the role of a student.

In social psychology the self is conceptualised as a multifaceted structure, this is consistent with other sub-disciplines described in this section. Stanley Klein described the self as a complex and differentiated construct that is difficult to define (Klein, 2012). 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). They further argued that "when psychologists use the terms "self" we thus often lack a clear conception of what the term is attempting to pick out" (p.2).

1.4.1.3 *Developmental Psychology*

The development of the self from birth, through to childhood and adolescence is the focus of developmental psychology. Erick Erikson (1965) was one of the first to suggest that a key developmental task for adolescence is the construction of an 'identity' (or self). He suggested that during adolescence a key challenge is to integrate multiple roles (e.g., 'student', 'sister', 'footballer', 'worker') into a coherent self. As outlined in section 1.8, 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).

1.4.1.4 *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 identity and '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 (1979) one of the leading evidence based psychological treatments. A full summary and critical evaluation of research and theory related to the self in depression is described in detail in Part two of this thesis, see Chapter 6.

Vulnerability to depression has been related to many self-related concepts (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, 20016, 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). Research by LeMoult, Kircanski, Prasad, and Gotlib (2017) recruited women with a history of MDD. They found that more negative self-referential processing at baseline significantly predicted an increased likelihood of an individual experiencing a major depressive episode during the following three years. Therefore, suggesting that a negative view of the self may act as a cognitive bias and also may reflect an important vulnerability/risk factor of depression. A summary of research related to the self in depression is described in more detail in Part two of this thesis, see Chapter 6.

1.4.1.5 *Personality Psychology*

Researchers within the field of personality have taken different approaches to examining the self. One approach has been to examine the self in terms of 'narrative identity' (McAdams, 1985; Singer, 2004). Specifically, the focus here is on 'the story' that

an individual develops about their self (also described as the life story). This conceptualisation of the self based on narrative identity (or life story) has a shared interest in autobiographical memory, which is also a key aspect of cognitive psychology. Narrative identity is suggested to be constructed and based on important, personally experienced 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). This conceptualisation of the self in terms of narrative identity is particularly relevant to this thesis and will be discussed in more detail in section 1.10.2.

Within the sub-discipline of personality psychology, the self is also conceptualised as 'personality'. This term is 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), specifically related to Extraversion, Openness, Agreeableness and Conscientiousness (Goldberg, 1993). The 'Big Five' personality traits have been assessed across the lifespan typically using questionnaires (Digman, 1990).

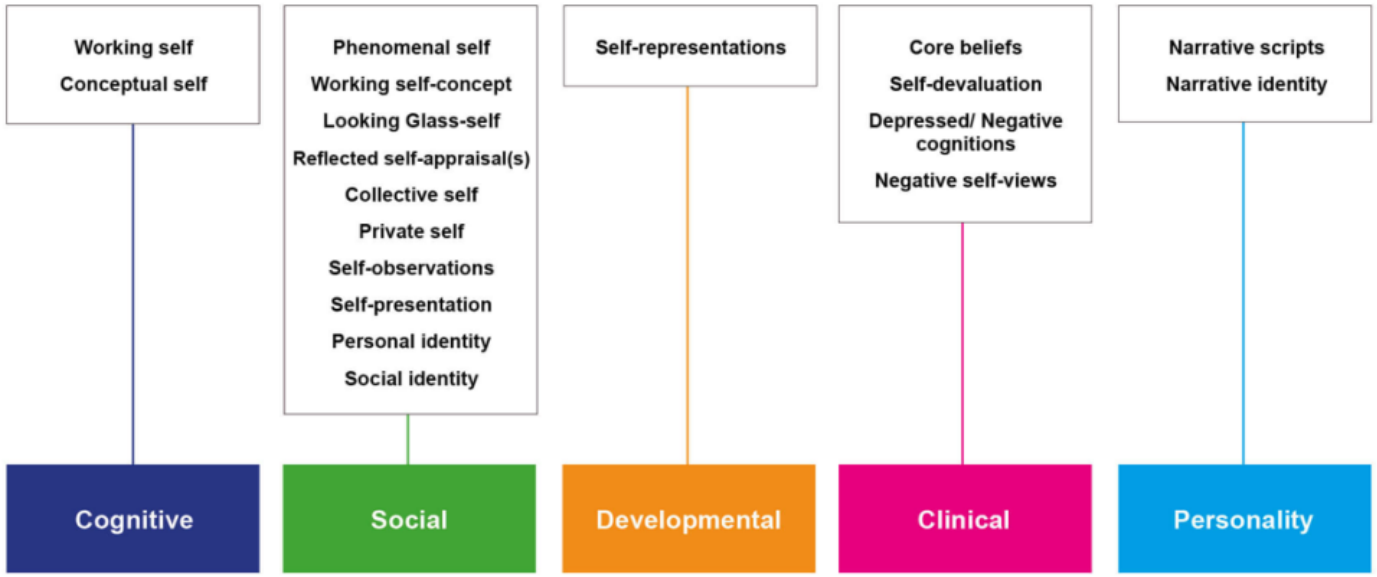
1.4.2 Overlap of self-terms between psychological disciplines.

Figure 1.2. displays self-terms related to different psychological sub-disciplines. At level one, self-terms are discipline-specific (e.g., the term 'self-representations' is commonly used only within developmental psychology). Level two includes terms which are common across two disciplines (e.g., 'life story' is described with cognitive and personality literature). Level three contains self-terms 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 used by all disciplines. Some of these

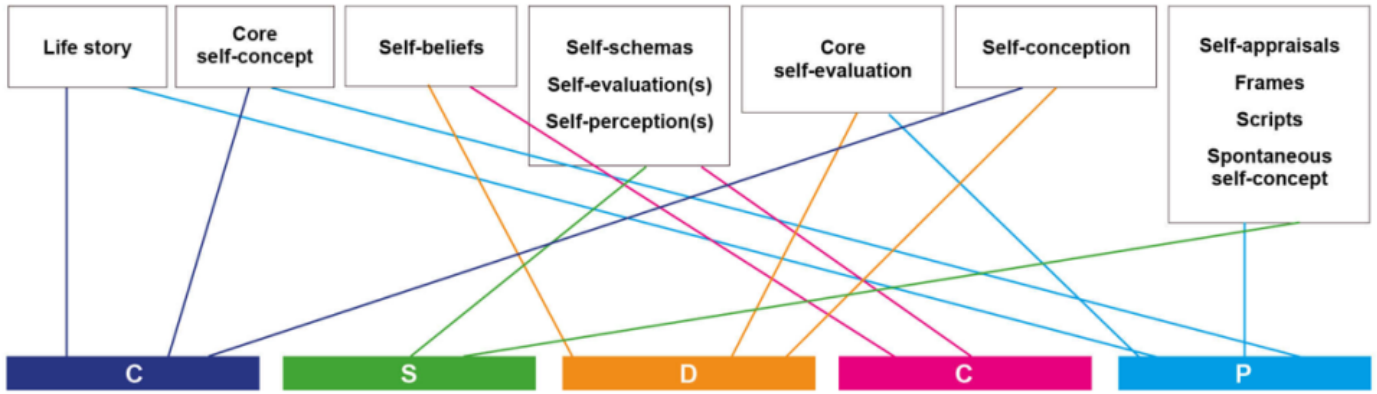
terms are synonymous with each other (e.g., self-worth, self-esteem). These synonymous self-terms are described in section 1.4.3.

Figure 1.2 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 discipline-specific (e.g., self-representations) or relate to more than one area of psychology (e.g., self-conceptions). Many words or terms are synonymous. 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 consistent across as many disciplines as possible.

1


Working self
Conceptual self
Phenomenal self
Working self-concept
Looking Glass-self
Reflected self-appraisal(s)
Collective self
Private self
Self-observations
Self-presentation
Personal identity
Social identity
Self-representations
Core beliefs
Self-devaluation
Depressed/ Negative cognitions
Negative self-views
Narrative scripts
Narrative identity
Cognitive
Social
Developmental
Clinical
Personality

2


Life story
Core self-concept
Self-beliefs
Self-schemas
Self-evaluation(s)
Self-perception(s)
Core self-evaluation
Self-conception
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Scripts
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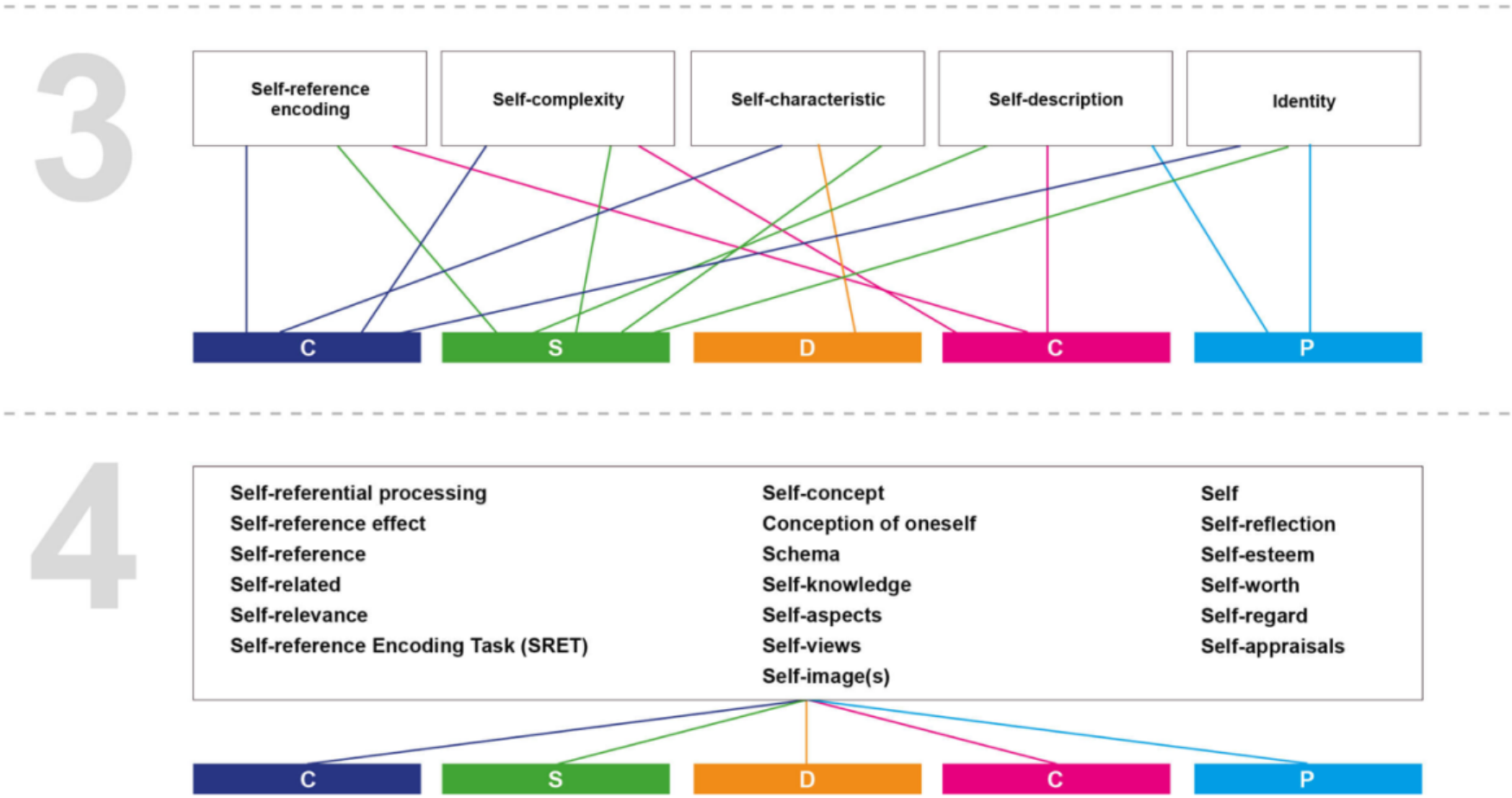

Figure 1.2. Visual representation of self-terms used by psychological sub-disciplines

1.4.3 Glossary of self-terms

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. Therefore, it is important that self-terms are clearly collated, defined and grouped with their synonyms to promote parsimony. Table 1.1 displays some of the most commonly used self-terms, relevant to this thesis. 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 Appendix 2. The aim of this glossary is to provide a more parsimonious glossary to help develop integration across areas of psychology related to the study of the self. The definitions of each self -term presented in this glossary are not exhaustive. As noted earlier, Wylie (1979, 1989) observed that there are many contradictory definitions within the self literature. 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.

Table 1.1. Glossary of self-terms: Extract from Appendix 2.

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 et al., 2012 Gecas, 1982	The self, Me-self, Self-knowledge, Conceptual self,
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	Markus (1977) Piaget and Cook (1952)	Narrative scripts, Self-images, Self-perceptions, Self-representation, Self-descriptions, Scripts, Frames, Self-knowledge,
	According to Beck (1967) maladaptive self-schemas are a cognitive vulnerability for depression.	Markus (1977); Leary (2004) Beck (1967)	Self-appraisals, Self-descriptions, Self-concept, Self-conceptions,
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,

1.5 Self-terminologies for thesis

The focus of this thesis is the 'me-self' described as 'the self'. Given the inconsistencies and overlap of self-terms within the literature, as demonstrated in section 1.4 above, it is important to clarify the 'self' terms used within this doctoral thesis. It is also important that the self-terms used are relevant for each of the sub- disciplines of psychology underpinning this PhD thesis, and that they reflect the most commonly used or universal terms that apply to multiple psychological sub-disciplines. Thus, 'cognitive structures' within the 'me-self' are described here as 'self-images'. This is because the concept of 'self-images' is applicable to the different sub-disciplines of psychology and is based on theories which describe that self-images are derived from past experiences (Conway, 2005; Conway & Pleydell-Pearce, 2000). These past experiences are described as *autobiographical memories* and are discussed in section 1.9. However, it is also important to note that this thesis includes peer reviewed papers and papers I have written that have been published in, or submitted to, journals from different areas of psychology. This means that some of the self-terms used within these manuscripts differ. Thus, the specific self-terms are clarified in each paper/chapter.

1.6 Self-images

Self-images are described as perceptions that an individual has about themselves and can be defined as "I am" statements (Conway & Pleydell-Pearce, 2000; Rathbone, Conway & Moulin, 2008). According to Conway (2005) they are derived from autobiographical memories and describe the self in the past, present and future. Markus (1977) suggested that these perceptions could describe specific events (e.g., "I hesitated before speaking in yesterday's discussion because I wasn't sure I was right, only to hear someone else make the same point" p.64). Self-images can also be derived from more general representations, based on an individual's personal reflections and evaluations of

their own behaviour, and the feedback of others (e.g., “I am kind”). Together self-images act as an information processing filter, controlling which information receives attention (i.e., usually self-relevant) and how this information is interpreted and perceived. Over time, the more information that is perceived and is associated with a particular self-image, the more frequently this self-image is accessed, and the more this self-image becomes stable and salient. These self-images are suggested to reflect stable self-knowledge and become relatively robust to conflicting information (Markus, 1977).

1.7 Self-aspects

Self-images can be about a variety of different things and can describe physical appearance, personal attributes, social roles, relationships with other people etc (Oyserman et al., 2012) . Thus, self-images within a similar theme cluster together and form a ‘self-aspect’ (Neisser, 1988). Figure 1.3 shows a simplified example of self-aspects and associated self-images.

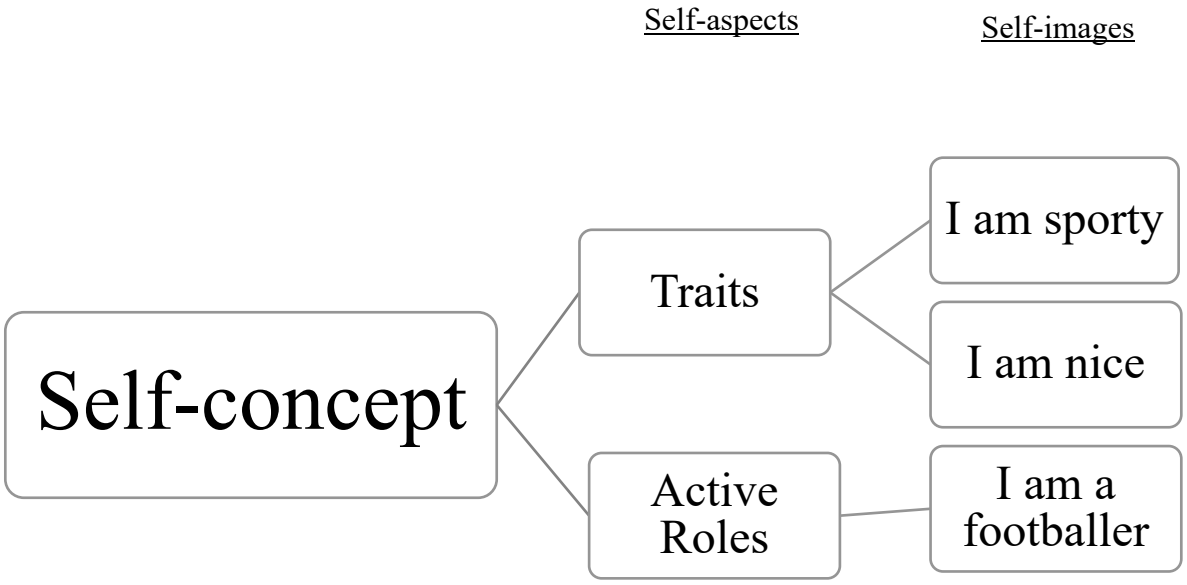

Figure 1.3. Model of self-aspects and associated self-images

Self-aspects have also been described as "categorical identifications" by Damon and Hart (1988) who proposed that they were related to four broad areas, i.e. the 'physical self' (e.g., physical appearance), the 'active self' (e.g., belonging to a sports team), the 'social self' (e.g., family relationships) and the 'psychological self" (e.g., personal attributes). These self-aspects together form a large body of self-knowledge and reflect the multi-dimensional nature of the self (Kuhn & McPartland, 1954; Markus, 1977).

1.8 Development of the self

There is a considerable body of literature that considers the development of the self from early childhood through adolescence and into adulthood (Damon & Hart, 1988; Harter, 1999, 2012; Hattie, 1992). Harter (2012) argued that young children use concrete self-images to describe themselves. However, as children mature the content and structure of their self-descriptions change. 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). Harter (2012) suggested that roles and associated attributes become increasingly differentiated during adolescence, and a key goal of late adolescence and early adulthood is to combine these different types of 'selves' to form a coherent sense of self. Importantly, she 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. Specifically, the latter is important in adolescence and is described in section 1.10.

1.8.1 The self in childhood

The development of 'the self' during childhood and adolescence is related to cognitive development. The construction of self-images (i.e., content of the self) relies on self-awareness (also defined as introspection, James 1910/1968), and the mental capacity to reflect on oneself (Baumeister, 2010). Piaget (1952) suggested that the period from birth to 2 years is described as 'Sensorimotor stage". Towards the end of this stage, between the ages of 18 -24 months, he proposed that children develop mental representations of objects. This has important implications for the development of a rudimentary self-concept i.e., self-awareness, described as the ability to understand self as a separate entity different from other people (Brandl, 2016). This ability is suggested to be present in early infancy. Self-awareness has been assessed using self-recognition tasks including the 'mirror test'. Amsterdam (1972) asked mothers to place a spot of rouge on their children's noses. Children were then placed in front of a mirror and their reaction to their reflection was observed. It was found that infants aged over 18 months (in the second year of their life) reached and touched the rouge spot on their *own* noses. Younger children however did not do this. Therefore, this suggests that by the age of 18 months infants are able to recognise themselves in their reflection and have a sense of self-awareness. Other research has replicated these results by using other stimuli such as placing stickers on toddler's legs (Nielsen, Suddendorf, & Slaughter, 2006). Therefore, there seems to be consistent support for the development of self-awareness before the age of 2 years.

Between the ages of 4-5 years, children develop the ability to link their current self (i.e., the self in the present) with the self in the past, i.e., a self that exists across time, this is described as the 'psychological self'. Povinelli and Simon (1998) recruited 88 children aged 3, 4, and 5 years, and recorded them playing a game (phase 1) while a sticker was secretly placed on their head (this was removed after the game). A week later the same

children were recorded playing a different game (phase 2) while a sticker was secretly placed on their head (this was again removed after the game). One group of children (n = 44) watched the recording from the first game (i.e., the week before), the other group (n = 44) were shown the recording from the second game (i.e., that had just occurred). They found that the majority of 4-5-year-olds touched their own head after watching themselves play a game in phase 2 than phase 1. These results suggest that children aged 4-5 years understood that feedback about the self following a short delay, is relevant to the current self (i.e., they identified the dot on their forehead after playing a game (phase 2) shortly before being shown the recording). However, children of this age also showed that feedback following a long delay is not related to the current self (i.e., children who watched the recording from phase 1 did not touch their head for the 'sticker'.).

The development of self-descriptions across childhood is intimately related with cognitive development. Piaget (1952) described the period between 2 and 7 years as the 'preoperational period'. During this time children are only able to describe 'observable' features of the self (Harter, 2012). Descriptions may be related to physical appearance' (e.g., "I have brown hair"), specific preferences (e.g., "I like chocolate"), behavioural ability (e.g., "I can swim fast"), possessions (e.g., "I have a goldfish") and membership groups (e.g., "I am a boy"). During childhood, self-images tend to be unrealistically positive e.g., "I can count to 100", even when they cannot (Harter, 2012). Harter, (1999; 2012) suggested that this may be because children engage in all or nothing thinking and are unable to consider more negative perceptions, and tend to disregard them e.g., "I am never sad".

During early childhood, children tend to focus on their own perceptions of their self as they are not able to consider the perceptions of others. This is because their cognitive skills have not yet advanced enough to consider the perspective of another person. Piaget

(1952) described children aged 2 to 7 years as 'egocentric' as they are only able consider their own perspective, but around the age of 7 years, he suggested that children begin to consider the perspectives of others and this increases in later childhood. However, more recent research suggests that children as young as 4-5 years have a rudimentary understanding that others may have representations different from their own (i.e., a theory of mind), as they have passed simple false belief tasks (e.g., Sally-Anne tasks; Baron-Cohen, Leslie & Frith, 1985). This ability is described as 'Theory of mind' and was first highlighted by Premack and Woodruff (1978). They stated that "In saying an individual has a theory of mind, we mean that the individual imputes mental states to himself and to others" (p.515). Theory of mind is typically assessed using false-belief tasks (Baron-Cohen, Leslie, & Frith, 1985). These false belief tasks include the Sally-Anne task. Participants are shown a step by step scenario, where Sally places a marble in a basket in front of Anne, Sally goes out the room, and Anne moves the marble to the box. The participant is then asked a theory of mind question: 'Where will Sally look for the marble?'. The correct answer (e.g., the basket) indicates they have passed this false belief test and therefore have an understanding that others act on the basis of their beliefs rather than reality. This is important because theory of mind enables self-reflection and the conceptualisation of different mental states, therefore this suggests that the self may develop gradually rather than in specific stages.

As children move through middle to late childhood (7-11 years) there are significant advances in cognitive ability. Piaget (1952) described this period as the "concrete operational stage". He suggested that during this time children develop the ability to use logical thought, enabling them to form higher-order concepts of themselves that relate to personal characteristics rather than observable features of the self (Harter, 2012). For example, 'Traits' (e.g., "I am funny') are constructed based on their behaviours with others

(e.g., “always making people laugh”; Fischer, 1980; Damon & Hart, 1988). Therefore, meaning is drawn from specific behaviours. Thus, the self becomes more sophisticated and reflects an overall *person* rather than distinct perceptions. Piaget (1952) also suggested that during this stage, the development of logical thought enables children to organise specific objects into specific classifications. Thus, older children also begin to develop a basic capacity to integrate opposite perceptions (e.g., ‘nice’ vs ‘mean’; Harter, 2012). This is due to developments in working memory that enable two concepts to be held in mind simultaneously (Griffin, 1992). Scarlett, Allan, and Crockett (1971) proposed that between the ages of 6 – 11 years there is a decrease in concrete and ‘egocentric’ descriptions (i.e., relating to themselves only), and an increase in abstract and non-egocentric descriptions. However, this research was conducted only with boys. This may be problematic because there are plausible gender differences in the nature of self-descriptions. For example, girls tend to describe more descriptions relating to relationships with other people e.g., “I am really happy playing with my baby dolls with my friends”, (p. 30; Harter, 2012) whereas boys are reported to describe their skills and activities (Fivush & Bucker, 2003).

In later childhood, children also become more aware that they themselves, are evaluated by other people (Harter, 2012). This is due to the development of social perspective taking which is described as the ability to take the perspective of another individual into account. This information is then used in social comparison. This is an important method of feedback which is increasingly used by older children (Damon & Hart, 1988). Due to more sophisticated cognitive skills, children are able to consider how others may perceive them (see ‘looking-glass self’; Cooley, 1902). They also pay attention to the opinions of others. These opinions may be adopted and function as self-guides (this may be an ideal self, i.e., what an individual may hope to become; Higgins, 1987; Markus & Nurius, 1986). However, research suggests that social perspective taking develops

primarily during adolescence. Tamnes et al. (2018) examined social perspective taking in a sample of children and young people aged 7 – 26 years. To assess social perspective taking the Director Task was used (Apperly et al., 2010). This task involved showing participants an image of a shelving unit with a series of items placed on them. A man was on the other side of the shelves and the participants were asked to move specific objects to the baskets. Participants were also shown the 'director views' i.e., what the man on the other side of the shelves could see. Participants were asked to state an object that only they could see (i.e., the director couldn't because of their 'viewpoint), and an give an example of an object both the participant and the director could see. Children made more errors on this task than adolescents and adults suggesting that the skill of 'perspective taking' develops mainly during adolescence.

1.8.2 The self in adolescence

1.8.2.1 *Adolescence as an important developmental period*

Adolescence is characterised by dramatic physical, psychological and social change as young people transition from childhood (Sebastian, Burnett, & Blakemore, 2008). During this time young people undergo pubertal changes, cognitive abilities advance and the social brain, which refers to brain regions responsible for understanding other people, develops (Blakemore, 2008). There are many key biological changes that occur during this time due to puberty. Specifically, there are significant increases in reproductive hormones which are responsible for physical growth, changes in body proportion and promote 'secondary sex characteristics' (Ladouceur, Peper, Crone & Dahl, 2012; Sisk & Foster, 2004). Also, during this time, young people undergo significant changes to their physical appearance (Shirtcliff, Dahl & Pollak, 2009).

There are considerable brain changes that occur during adolescence. One of the brain regions that changes most significantly during adolescence is the prefrontal cortex

(Blakemore & Choudhury, 2006). These brain changes are suggested to occur due to "pubertal maturation" (Ladouceur et al., 2012). In particular, Peper et al. (2008), found that hormones such as Lutenizing Hormone (LH) a pubertal hormone influenced the density of white matter in the brain in males and females. White matter is described as myelination of axons and increases in density between childhood to adolescence. This increase in myelination is thought to increase the transmission of electrical impulses between neurons (Blakemore & Choudhury, 2006). Thus, adolescence is characterised by faster transmission of neural impulses between neural regions than childhood (Ladouceur et al., 2012).

Other brain changes in adolescence include a non-linear decrease in grey matter volume in the prefrontal cortex (Blakemore & Choudhury, 2006). Gray matter contains cell bodies, axon terminals of neurons and is important for the development of muscle control, sensory perception in the early years, and higher order abilities such as decision making and self-control. Gogtay et al., (2004) conducted anatomical MRI scans every 2 years on 13 healthy children aged 4-21 years over a period of 8-10 years. They found that there was a decrease in grey matter volume during this time. This loss of grey matter is thought to occur due to synaptic pruning. This is important because this reduction in synapses is suggested to make the brain more efficient by strengthening existing synapses and eliminating infrequent connections, therefore 'fine-tuning' brain tissue (Blakemore & Choudhury, 2006).

Taken together, these brain changes i.e., increases in white matter and decreases in grey matter are suggested to refine the adolescent brain and contribute to more complex cognition (Bava et al.. 2010). Specifically, in relation to the prefrontal cortex, maturation of this region is responsible for improvements in complex cognition described as executive function. Executive functions include abilities such as planning, decision making, self-

control, inhibition and risk-taking, and social interaction including self-awareness and in the understanding of other people (Blakemore & Choudhury, 2006). Anderson et al., (2001) found that in a sample (n = 138) of young people aged 11-17 years, working memory was signifcantly and linearly associated with age. However other research has found that improvements in executive function such as selective attention and working memory are non-linear. Specifically, McGivern, Anderson, Byrd, Mutter & Reillly (2002) asked participants to make a Yes/No decisions as quickly as possible about a whether the emotion expressed on a face matched the emotion word (e.g., 'Angry'). The reaction time to make the decision was recorded. Results showed that 11-12 year-olds performed more slowly than younger children (aged 10-11 years). From age 13 years however, performance improved until by age 16-17 years, reaction time was better than 10-11 year-olds. This 'dip' in cognitive performance was suggested to occur due to the surge of white matter during puberty (i.e, at 11-12 years). The abundance of synapses during this time was argued to dilute electrical signals making cognitive performance less efficient. However, after puberty it was argued that synaptic pruning occurred and therefore this abundance of synapses was suggested to decrease significantly, therefore resulting in fewer but more efficient and specalised synapses and therefore, improved cognitive performance.

Taken together, adolescence is an important period characterised by significant development. There are important biological changes that occur due to puberty such as increases in hormones, alterations in physical appearance and physical growth. Simultaneously, considerable brain development occurs during adolescence and this has significant implications for the development of more complex cognition.

1.8.2.2 *The development of the self in adolescence*

The significant biological, neurological and cognitive changes that occur during adolescence are important for the development of the self. Erikson (1968) stated that the

development of a personal identity (or 'the self') is a key task for young people. He suggested that adolescence represents a critical time period during which young people are in the process of identity confusion and exploration and must answer key questions such as "Who am I?". Importantly, during adolescence, young people also become more able to link their specific life experiences with their self. This is important because, for the first time, young people are able to consider how past experiences have influenced their knowledge about the self, such as specific qualities, personal characteristics, likes and dislikes (Habermas & Kober, 2015; Habermas & Paha, 2001). Therefore, the self in adolescence becomes more complex and autobiographical memory is important in the development of the self in this population. The role of autobiographical memory supporting the self is discussed in section 1.9 and the importance of adolescence in relation to autobiographical memory is evaluated in section 1.10.

During adolescence, young people become increasingly able to think abstractly. Inhelder and Piaget (1958) described this as the 'formal operation stage' which is suggested to begin between the ages of 12 and 15 years. During this stage they suggested that adolescents develop the ability to consider abstract concepts. This cognitive development is important for the development of the self. The construction of self-images (i.e., content of the self) relies on self-awareness (also defined as introspection, James 1910/1968), and the mental capacity to reflect on oneself (Baumeister, 2010). Thus, these cognitive advances allow adolescents to focus their attention internally and stimulates self-reflection. This development of personal self-reflection during adolescence is also supported by neuro-imaging research. Specifically, areas of the brain such as the dorsal medial prefrontal cortex are activated when adults engage in self-reflection (e.g., reflect on personal traits; Jenkins & Mitchell, 2011). These brain regions have been found to undergo significant structural development during adolescence (Sherman et al., 2014). Thus, as

these brain regions develop so does the ability to reflect on the self (Andrews-Hanna, 2011).

The development of abstract thought also enables adolescents to construct more complex descriptions of the self. Harter (2012) suggested that there is a transition from more concrete terms used to describe the self to more abstract descriptions, such as psychological perceptions. Habermas and Bluck (2000) suggested that adolescents are also able to consider more complex perceptions such as their philosophical or personal beliefs In line with this, the self during adolescence also becomes more differentiated as adolescents consider other aspects of their self (Shavelson, Hubner & Stanton, 1976). Marsh (1989) conducted a factor analysis of aspects of the self identified by adolescents using the Self-Description Questionnaire (SDQ; Marsh, 1990). This assesses multiple aspects of the self (i.e., Appearance, Physical, Parents, Verbal/reading, Math, School and a Global, total score of their overall 'self-concept') in young people. Children (i.e., pre-adolescence) identified fewer aspects of the self than adolescents suggesting that the self becomes more differentiated in adolescence. This is consistent with research that suggests teenagers also begin to understand that their image of themselves may differ according to situations. Therefore, the self in adolescence becomes increasingly differentiated. For example, adolescents may think they are 'confident' e.g., in a social situation with their best friends, but 'shy' in a room full of strangers (Harter, 2012). Harter (1992) asked 60 participants aged 13-17 years to describe "What am I like..." when with their parents, friends, in the classroom and in romantic relationships. Participants generated up to 6 statements (e.g., "I am …. with my friends). The similarity of descriptions between each role (e.g., family, friend, classroom and romantic relationship) was coded. There was less overlap between the descriptions in older participants. This suggest that the self becomes more differentiated and role-specific. However, it is important to be cautious about the

generalisability of these results give that this study was restricted in sample size, thus this requires replication with a larger sample and ideally a longitudinal study to look at change over time.

Adolescents also become more concerned about the opinions of others. This has important implications for the development of the self. Blakemore (2008) suggested that the onset of puberty is associated with increased responsiveness to the social environment and this coincides with the development of perspective-taking during adolescence (Pfeifer & Peake, 2012). This cognitive ability is considered as an advancement of theory of mind skills in childhood (Ying & Liang. 2015) and is responsible for the awareness that other people can evaluate 'me' (Sebastian et al., 2008). The development of perspective-taking enables adolescents to construct 'reflected appraisals' (i.e., "how am I perceived by others"). Therefore, young people are more able to consider themselves from different viewpoints, for example "what do others think about me and where do I fit in" (Pfeifer & Peake, 2012, p.56). Thus, young people engage in social comparison and learn more about their own capabilities, attributes, beliefs and where they fit in social situations (Stangor et al., 2014). Pfeifer et al. (2009) compared neural activity in areas of the brain associated with direct and reflected self-appraisals in adolescents aged 11-14 years and adults aged 23-30 years. There was greater activity in adolescents' brain areas related to direct self-appraisal and reflected self-appraisals than adults.

As well as becoming more aware of how others appraise ourselves, adolescence is also when this becomes, much more important (Larson & Richards, 1991). Young people form more complex relationships with their friends and are highly sensitive to rejection or acceptance from their peers (Steinberg & Morris, 2001). Peer relationships are especially important in the construction of reflected self-appraisals. Romund et al. (2017) conduced fMRI scans and presented adolescent participants (aged 14-16 years) with 30 adjectives.

Participants were asked to identify whether the word described themselves, their friends, their teachers or politicians. Results showed that brain regions associated with the processing of self-related information showed similar activation in the 'friend' condition. However, there was no difference between teachers and politicians. Therefore, this research suggests that the processing of stimuli relating to peers is perceived as more relevant than familiar and unfamiliar adults. Therefore, this may highlight the importance of the feedback of peers during adolescence and is consistent with experimental findings (e.g., Steinberg & Morris, 2001). However, it is important to note that this research is cross-sectional and therefore conclusions about when this change of importance occurs – i.e., higher importance placed on friends rather than on adults, is unknown. Also, other research suggests that it is more complex; as adolescents have been found to retain some importance on their parent's appraisals, particular in relation to academic achievement (Bouchey & Harter, 2005).

Therefore, it is clear that there is considerable development of 'the self' during adolescence. The advancement of more complex cognitive skills enables more abstract perceptions of the self to develop. Together, this and the increasing importance of the social environment, stimulates the development of perceptions that consider the opinions and views of others about the self. The self developed in adolescence may also have an enduring effect throughout life. The importance of adolescence in the development of the self is discussed in section 1.10.

1.9 Autobiographical memory and the self

According to Conway & Pleydell-Pearce, (2000) memories form the basis of the self. Past experiences that reflect personally important events and situations and include information about the self are described as *'autobiographical memories'* (Brewer, 1986; Conway, 2001) . It is impossible to have an understanding of 'me as person' without

having access to personal experiences, as they shape 'who I am'. Specifically, self-images (e.g. "a footballer", "a student", "a nice person") that are constructed during adolescence are not considered to be independent bodies of self-knowledge but to relate directly to autobiographical memory (Singer, Blagov, Berry & Oost, 2013; Conway & Pleydell-Pearce, 2000; Conway, 2001). This section provides a brief overview of the concept and research on autobiographical memory. It will demonstrate how autobiographical memory plays a central role in developing and supporting self-images, and how adolescence is a critical period for the development of the self.

1.9.1 The self-function of autobiographical memory

Conway and colleagues (Conway, 2001, 2005; Conway & Pleydell-Pearce, 2000) explicitly used the term 'autobiographical memory' to describe memories related to *personal* recollections of the past. Thus, these memories are distinct from more general episodic memories which include experienced events without any personal reference. For example; recalling that there were X shops in a particular shopping centre is an episodic memory but recalling a conversation with a shop assistant is an autobiographical memory because this has a personal reference (i.e., to the individual themselves; Baddeley, 1992). Conway proposed that autobiographical memory plays an important role in supporting and developing a sense of 'self' (Conway, 2001). He suggests that it 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.

Conway and Pleydell –Pearce (2000) developed the 'Self Memory System (SMS) model to illustrate the bi-directional relationship between the self and autobiographical memory. They proposed that memories define the self and the self, defines the accessibility of memories. In the most recent version of the SMS, Conway and Loveday (2015) suggested that the SMS consists of three main components; autobiographical memory,

episodic memory and the working self (see Figure 1.4). Autobiographical memory contains factual knowledge, organised hierarchically. At the top of the hierarchy is the 'life story, this contains some of the most relevant and important self-information. Within the life-story there are 'themes' (e.g., education, family). Next step down in the hierarchy are 'lifetime periods', (e.g., 'when I was at primary school', 'when I was in the football team'). Further down the hierarchy there are general events associated with episodic memories.

These memories provide the ‘event-specific knowledge’, which is rich in detail and forms ‘images’ in an individual’s mind.

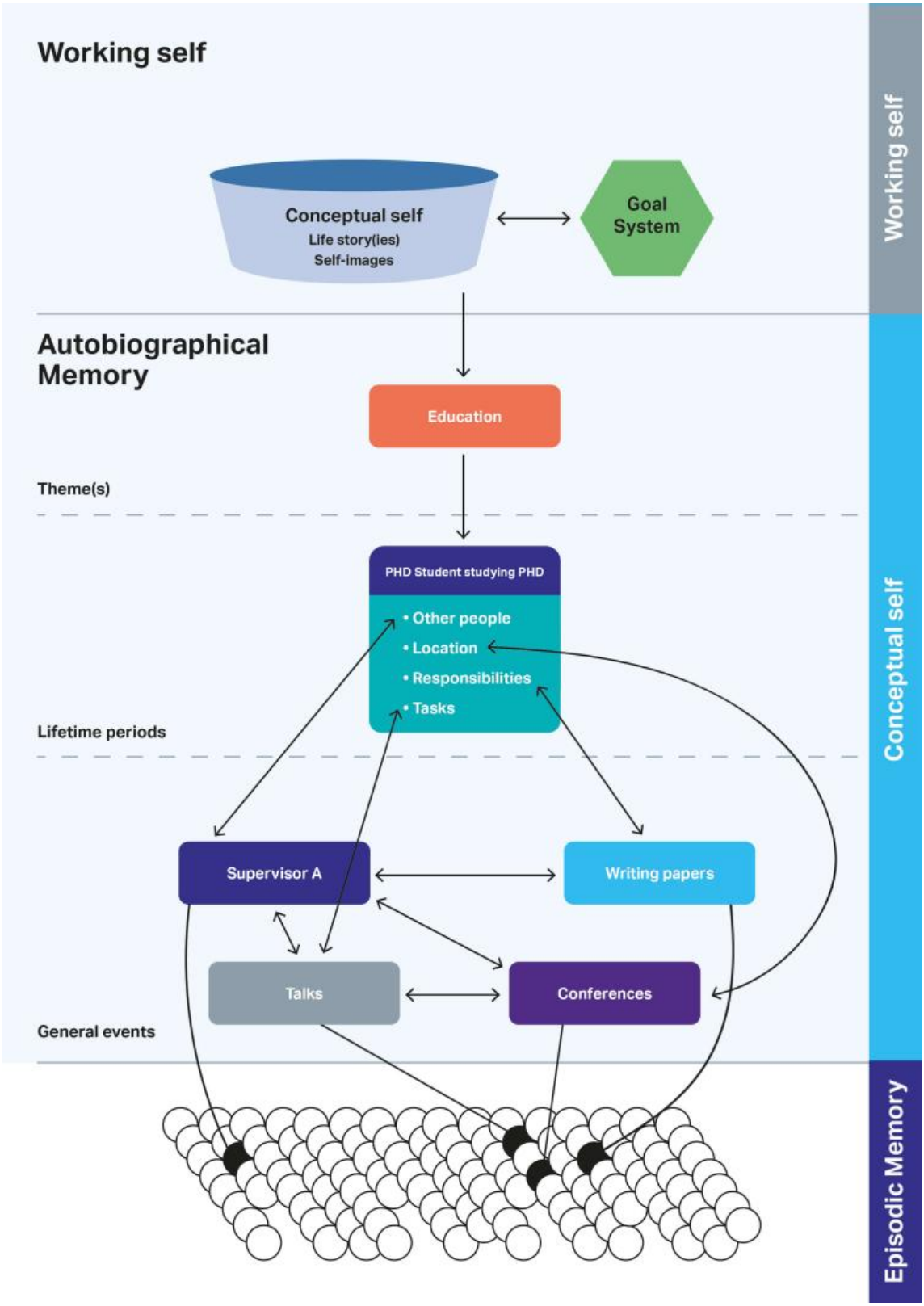

Figure 1.4. Self-memory system (based on Conway & Loveday, 2015, p.3)

Conway and Loveday (2015) described that the accessibility of 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. Therefore, the working self facilitates the construction (and retrieval) of autobiographical memories by helping or preventing access to certain memories. This reflects the intimate relationship between the self and autobiographical memory (Conway, 2001) . The accessibility of memories and the implications for adolescents is discussed in section 1.10.

Research has highlighted the importance of autobiographical memory in supporting a sense of self. Addis and Tippett (2004) examined autobiographical memory and identity (i.e., 'the self') with individuals with Alzheimer's Disease. Autobiographical memory was assessed using the Autobiographical Memory Interview and other methods. The Autobiographical Memory Interview provided information about personal semantic memory during three life periods, childhood, early adulthood and recent adulthood. The Twenty Statements Test (Kuhn & McPartland, 1954) was one of the measures used to assess identity in this study. The Twenty Statements Tasks asks individuals to respond to the stem "I am…" by completing up to 20 statements. Individuals with AD generated significantly fewer events within all life periods compared to healthy controls matched for age. Also, the AD group generated significantly fewer statements on the Twenty Statements Test and generated more responses categorised as 'Abstract' than the control group. However, it is not clear what these 'abstract' statements were. The definition suggests these statements were more generic and less specific statements about the self, however no clear examples were provided therefore it is difficult to verify conclusions

about ‘deficits in identity’ reported by this research. This study also found that a poorer performance on the Autobiographical memory task was associated with fewer self-images on the TST. Therefore, deficits in autobiographical memory in individuals with AD may be related to deficits in identity. Therefore, highlighting the relationship between these two constructs – the self and autobiographical memory. However, this study did not control for cognitive ability, this is important because performance on the autobiographical memory task and TST is strongly associated with cognitive ability, which in AD is by definition impaired.

Other research has examined the relationship between self-images and memories in adults. Rathbone et al. (2008) developed the ‘I am’ task to examine the relationship between self-images and autobiographical memories. The task was a modification of the TST. Participants were asked to generate 10 “enduring I am statements they felt defined their identity” (p.1405) and identify three self-images that were the most personally significant to them. Each self-image was then used to cue 10 memories. Memories were dated and participants were asked to identify their age when they felt each of the three statements became a “defining part of their identity” (p.1405). Memories generated using the self-images clustered around the same time of the formation of a specific self-image. This suggests that self-images are associated with similar themed, accessible autobiographical memories.

The IAM task has also been used to examine how memories and identity may be disrupted in individuals with schizophrenia (Bennouna-Greene et al., 2012). Consistent with the research by Rathbone et al (2008) the construction of a self-image coincided with a cluster of autobiographical memories around the same time period. Further analysis was conducted to examine the themantic organisation of memories within self-images; i.e., whether memories related to the same ‘I am” statements were more alike to each other in

terms of characteristics, than memories cued by other "I am" statements. Individuals with schizophrenia had a weaker themantic link between self-images and cued autobiographical memories than controls. This suggests that schizophrenia the organisation of thematic memories is poorer, therefore this disorder characterised by a disruption to a person's identity, may also influence autobiographical memory.

1.10 Adolescence: A critical period for the development of the self.

1.10.1 Accessibility of memories

Self-images and associated autobiographical memories vary in how accessible they are (i.e., how easily they are brought to mind) and on their importance (i.e., how much they reflect core parts of oneself). According to Conway and colleagues this variability is controlled, in part, by the working self (Conway, 2005; Conway & Loveday, 2015). They suggest that experiences related to important self-images are likely to be more deeply processed. This is because they are consistent with currently active/important 'self-images' and enduring concerns within the working self. Memories may also be changed or distorted to support the working self. This process shapes how accessible these memories are and is important to promote self-coherence (Conway, 2005).

This association between autobiographical memory and the self is described as "self-event connection" (Pasupathi & Mansour, 2006, p.799). Self-images viewed as important (e.g., "I am black and proud") and corresponding autobiographical memories are more likely to reflect some of the most salient and enduring self-knowledge (Singer, Blagov, Berry & Oost, 2013) . These important memories are described as *self-defining* (Conway, 2005; Fitzgerald, 1988, Singer & Salovey, 1993) and are vivid, emotionally intense and well-rehearsed. Self-defining memories link with many other similar-themed memories (Singer & Blagov, 2004) and can be formed during any particular life period. However, the distribution of self-defining memories is not consistent across the lifespan. Instead,

self-defining memories tend to date disproportionately from adolescence to early adulthood. This suggests that important experiences during this time have an enduring effect across the lifespan (Fitzgerald, 1988; Singer & Salovey, 1993). This is a phenomenon described as the 'reminiscence bump' (Rubin, Wetzler, & Nebes, 1986) and describes adolescence as a critical period for the development of the self.

1.10.1.1 *The reminiscence bump*

The reminiscence bump is a robust phenomenon in autobiographical memory research. It was first identified by Rubin et al. (1986) who found that adults (over the age of 40) 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). This phenomenon is part of the lifespan retrieval curve displayed in Figure 1.5. This curve contains three sections, childhood amnesia from birth to five years of age, the reminiscence bump, and the recency period which dates from 30 years of age to the present day. Memories retrieved from each of these sections relate to the age of the person when they encoded the memory, rather than the age of the memory (Brewer, 1986; Rathbone, et al., 2008).

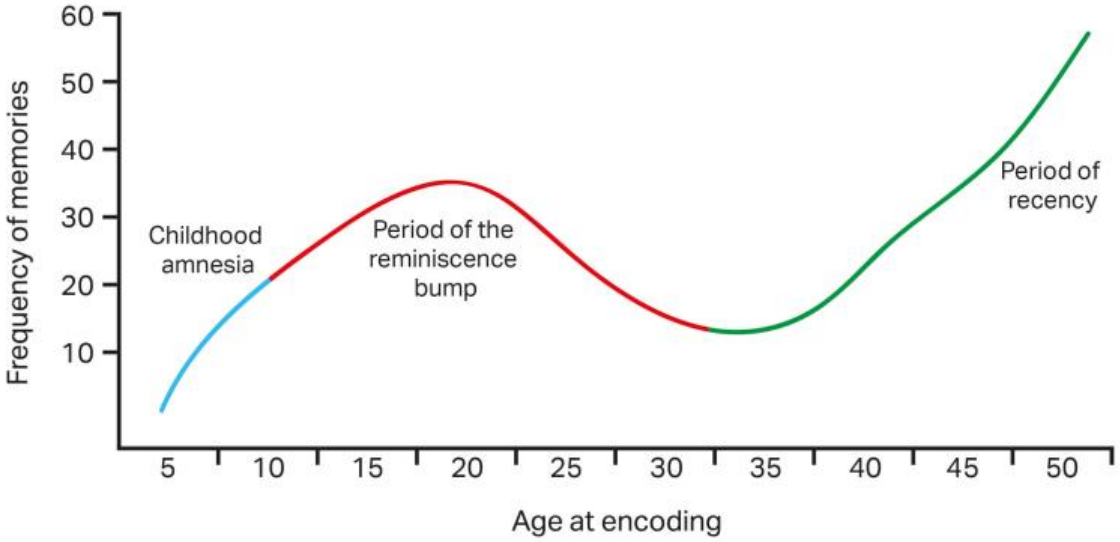

Figure 1.5. The lifespan retrieval curve

There are a few different explanations for the reminiscence bump. Firstly, a cognitive theory suggests that during the period of 15-30 years individuals experience many experiences for the first-time (Robinson, 1992). These novel experiences, such as a first date or first kiss, may be recalled when similar events occur in later life. Therefore, novelty may explain why there is enhanced memory recall from this period (Koppel & Rubin, 2016; Munawar, Kuhn, & Haque, 2018). However, empirical data does not support this explanation - few memories from this time contain novel events (Fitzgerald, 1988). Janssen and Murre (2008) used a cue-word technique to examine personal events and concluded that fewer than 33% of experiences that were recalled were rated as novel within the reminiscence bump.

Secondly, the life-script theory suggests that more transitional events occur during this time period. Specifically, when individuals recall important memories there is a 'bump' for positive events (e.g., graduation, wedding, birth of a child; Berntsen & Rubin, 2002; Berntsen & Rubin, 2004; Rubin & Berntsen, 2003). Berntsen and Rubin (2002)

suggested that this occurred because autobiographical memories are organised according to life-scripts. Cultural norms predict when certain life-events, such as marriage, are more likely to occur (Berntsen & Rubin, 2004). Given that positive events are the focus of life-scripts, they suggest that there is a bump during ages 15-30 when individuals are more likely to experience these events.

An alternative view suggests that the reminiscence '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). This perspective suggests that, during adolescence, events that relate to salient parts of the self are more likely to be encoded. This is because a goal of the working self during this time is to develop a coherent sense of self. Thus, memories which relate to the self, developed during this time, may have a privileged position and reflect enduring self-knowledge within the self.

There is considerable empirical support for this theory. For example, Fitzgerald (1988) found that memories from this time are rated as more important and judged as being part of one's sense of self. Additionally, Conway and Haque (1999) found support for the 'bump' when examining recalled memories. However, importantly they also found an additional 'bump' between the ages of 35-55 among Bangladeshi participants. This second bump occurred at the same time as national conflict between East and West Pakistan that led to Bangladesh (East Pakistan) becoming independent. Therefore, memories related to this period of time were highly salient, emotionally intense and vivid. Therefore, the existence of an additional bump in this particular population suggests that these self-defining experiences may have a privileged position and a direct influence of an

individual's self (e.g., by forming new self-images). This provides additional support for the role of self-defining memories in supporting the self (Conway & Pleydell-Pearce, 2000). Taken together these studies suggest that during adolescence, events which relate to salient parts of the self are more likely to be encoded.

1.10.2 Development of a life story: Adolescence as the critical 'chapter'

The life story is suggested to be central part of identity (McAdams, 1985), and the construction of a life story helps to address key questions such as "Who am I? How did I come to be? Where is my life going" (p. 235, McAdams & McLean, 2013). A life story is described as a collection of self-defining memories that are organised into a narrative and separated into lifetime periods (Conway, Singer & Tagini, 2004). It reflects a story of ourselves that we may tell others (Reese, Yan, Jack, & Hayne, 2010). A life story is the combination of narratives of autobiographical memories to form an overarching, coherent life story. This is different from the recall of a specific autobiographical event (e.g., "I got lost in a supermarket and couldn't find my mum, so I went to a checkout and a shop assistant made an announcement over the tannoid and then my mum came and found me"; Bohn & Bernsten, 2008).

Adolescence is perceived as an important period in the life story (also described as narrative identity; McLean, 2008; McAdams & McLean, 2013). It reflects a time when the life story develops (McAdams, 1985). Habermas and Bluck (2000) argued that from middle childhood to adolescence young people develop the ability to recall a coherent past, thus from the age of 15 years, young people are able to construct a life-story. There is empirical support for this; Bohn and Berntsen (2008) examined the age at which children and adolescents can describe a clear, coherent life story. They asked participants in grades 3, 5 and 8 (aged between 9 and 14 years old) to describe the story of their life. Participants were advised that they could include important things that had happened from when they

were born until the present day. The stories were scored for coherence. Adolescents (aged 14 years) described significantly longer and more coherent life stories than children (aged 9 and 11 years). Younger children, i.e., aged 9 years, were not able to describe a coherent life story; 28% reported a single autobiographical event rather than a life story. Children aged 11 years were able to describe some past events in detail and in a chronological order, however adolescents described a clearer life story with more detail, better coherence and more often described past events in chronological order than children.

Difficulties that younger children have in constructing a life story are probably best understood in relation to their cognitive development. Constructing a life story is an effortful process and relies on higher order cognitive skills such as autobiographical reasoning, believed to develop during adolescence (Habermas & Bluck, 2000). Autobiographical reasoning is described as a process of reflecting on and thinking about an individual's personal past that involves making links between the present self and the future self (Habermas, 2010). Using this ability individuals also associate personal memories to the self and shape this into a 'meaningful story.' Therefore, the life story is more than just a list of personally experienced events. These events are organised temporally and help to provide a purpose to one's life (Habermas & Bluck, 2000; Habermas, 2010). Autobiographical reasoning is suggested to be 'essential' for the development of the self and to ensure self-continuity (Habermas & Bluck, 2000). The development of autobiographical reasoning during adolescence and integration of events to the self was assessed by Habermas and Paha (2001). They examined life stories in 12 individuals aged 12, 15 and 18 years. These were coded these for various features including links between events described and the self (e.g., "I hit Bob because I am ill-tempered" and "After the age of ten I became quite shy because the separation of my parents made me distrust others" p.4). Self-event connections increased between the age of

12, and 15 and between 15 and 18 years. However, given the very small sample size these findings may not generalise and requires replication with larger samples.

The methods used to assess life stories in young children have been criticised. Reese et al. (2010) argued that children can describe a life story but that the method of asking children to describe their life story is not developmentally appropriate. They proposed that a more structured format is needed to assess if children have access to a life story, or if this ability develops in adolescence. Habermas and de Silveira (2008) used a more structured format to help children and young people to describe their life story. Participants aged 8-20 years were asked to identify 7 important events in their lives. They were then asked to tell their story of their entire lives to researchers. Using this procedure, children as young as 8 years old could describe their life story. This suggests that the children have constructed a life story but may lack the cognitive capacity to construct a clear and coherent narrative. However, the length and the complexity of life stories did improve with age. In addition, whilst most 12-year-olds (75%) attributed past experiences to their personal characteristics, few children under 12 years (20%) were able to make this link.

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 (i.e., the reminiscence bump; Rubin et al. 1986). This is important because self-defining memories are suggested to relate to important parts of the self, and therefore appear in an individual's 'life story'. Singer et al. (2013) proposed that these memories influence the whole life story. They suggested that these memories connect with other significant memories across the lifespan and reflect 'life-story memories.' Over time, the life story becomes more complex as different 'chapters' are added. However, given that the number of self-defining memories date

disproportionately from adolescence and early adulthood, this is suggested to be one of the most important 'chapters' within the life story (Singer et al., 2013). However, it is important to note that the life story (or narrative identity) is not fixed, as it is suggested to continually evolve and adapt in relation to new experiences over time (Singer et al., 2013).

To summarise, adolescence reflects an important time within the construction of the life story. During adolescence, autobiographical reasoning and global coherence of the life story improves significantly, enabling young people to be able to construct a clear, life story with chronologically ordered important events for the first time. Young people also develop the ability to make self-event connections and associate personally experienced events to aspects of their self. The adolescent period of the life story is also suggested to have a lasting impact across life given that the self-defining memories are more often recalled during this period of time.

1.11 Adolescence and the self: Background literature

This section describes and critically evaluates theory and research evidence about 'the self' in adolescence. A range of different research methods and techniques have been used to elicit and examine 'the self'. For example, recall of personal events have been used to study the reminiscence bump and standard questionnaire measures are used to assess global measures of the self, such as self-esteem. In some areas a domain-specific approach has been used (such as examining a specific aspect of the self). Most research in developmental psychology that examines the content of self-descriptions has used measures that use Likert scale or methods that require participants to endorse items. endorsed measures. There is also an idiographic measure of self-concept which relies on self-generated descriptions, the Twenty Statements Test (Kuhn & McPartland, 1954). In this review of the literature, 'the self' will be referred to as 'self-concept', to ensure

consistency with previous literature. However as described earlier, these terms (i.e., the self and self-concept) are considered as synonymous in this thesis.

1.11.1 Studies assessing self-esteem

Some of the research examining self-concept in young people has taken a global construct of the self – self-esteem – and assessed it using self-report questionnaires. Typically, self-esteem increases (i.e., becomes more positive) from early to late adolescence (Bachman, O'Malley, Freedman-Doan, & Trzesniewski, 2011; Maldonado et al., 2013; O'Malley & Bachman, 1983). However, there is also evidence that self-esteem is lower during adolescence than at any other period of life from age 20 to age 80 (Robins & Trzesniewski, 2005). There are also significant gender differences; adolescent boys have more positive self-esteem than girls (Chubb, Fertman, & Ross, 1997; Kling, Hyde, Showers, & Buswell, 1999; Quatman & Watson, 2001).

The implications of high and low self-esteem in adolescents have also been examined. A positive view of the self (high self-esteem) is associated with increased life satisfaction (Leung & Leung, 1992), increased problem solving abilities (Dumont & Provost, 1999), well-being (Neff & McGehee, 2010), resilience (Olsson, Bond, Burns, Vella-Brodrick, & Sawyer, 2003) and popularity amongst peers (Baumeister, Campbell, Krueger & Vohs, 2003). Contrastingly, low self-esteem is a central feature of depression (Beck, 1979) and is also a risk factor for the development of eating disorders (Mantilla & Birgegård, 2015), alcohol and/or substance abuse (Zimmerman, Copeland, Shope, & Dielman, 1997), reduced social and interpersonal functioning (Trzesniewski et al., 2006), delinquency (Fergusson & Horwood, 2002), and also predicts engagement in higher education (Trzesniewski et al., 2006). Thus, there seems to be considerable research investigating self-esteem as a global measure of self-concept and the positive and negative implications related with this.

1.11.2 Gender differences in self-concept

Other research has examined specific areas of self-concept in adolescents, specifically in relation to gender differences. One area that has been examined is social relationships. Goodenow (1993) reported that adolescent girls placed higher importance on social relationships than adolescent boys. Helsen, Vollebergh, and Meeus (2000) examined social support in a sample of 2918 young people aged 12-24 years. They found that teenage girls reported more support from their peers than boys, whereas boys are had more superficial friendships. Other research suggests that adolescent girls describe more friendships than boys (Blyth, Hill, & Thiel, 1982) and have more serious, intimate relationships with their peers (Fischer, Sollie & Morrow, 1986). Wilgenbusch and Merrell (1999) conducted a meta-analysis to examine gender differences in self-concept. Results demonstrated that boys more often described their academic ability in Mathematics, Physical appearance, Athletic and Emotional affect than girls. Girls more often described a higher verbal academic ability than boys. Gender differences have also been observed in relation to young people's self-concept in relation to their physical appearance. Research has found that teenage boys place more importance on their physical abilities in terms of their athletic competence and having a 'muscular body' (Frost, 2003). Adolescent girls however place more importance on their physical attractiveness and weight (Jones, 2001). While these studies are useful as they provide detail about specific aspects of self-concept, relevant to young people, it is important that research takes a global and holistic view of the self-concept in adolescence. This approach would help to identify which aspects of self-concept are commonly described by young people and would provide more insight into how young people conceptualise their self-concept. Therefore, there is a need to consider other aspects of self-concept, rather than focusing on one particular aspect of self-concept in detail.

1.11.3 Content of self-concept and age effects

Age differences in adolescent self-concept have also been documented. Shavelson et al. (1976) suggested that self-concept becomes more differentiated with age during childhood and adolescence. Specifically, they examined research and theory and developed a multifaceted model of self-concept. He identified the self-concept as split into 'Academic' and 'Non-academic domains'. Academic was then further broken down into school subjects (e.g., 'English' and 'Maths') and non-academic domains were split into 'social emotional 'and 'physical domains'. However other models of self-concept in adolescents have suggested that this is separated into six areas; 'Academic', 'Family', 'Physical', 'Competence', 'Affect' and 'Social'. Together these areas overlapped and formed a global self-concept (Bracken, 1992).

Other research has also highlighted age differences in self-concept. Marsh (1989) used the Self-Description Questionnaire (SDQ; 1988) to assess aspects of self-concept in 7954 young people aged 7 – over 21.5 years (the exact age of older participants is not included). Three different versions of the SDQ were used to ensure they were age appropriate. The SDQ-I assessed 8 aspects of the self-concept; 'Physical abilities', 'Physical appearance', 'Peer relationships', 'Parent relationships', 'General', 'Verbal/Reading', 'Math' and 'School'. Sixty-four items were positively worded and rated on a 6-point Likert scale. The SDQ-II assessed an additional 3 aspects of self-concept including Emotional stability, and Peer relationships was broken down into, 'Opposite-sex relationships', 'Same-sex relationships', 'Honest/trustworthiness'. The SDQ-III included 13 aspects of self-concept, with two extra aspects of self-concept than the SDQ-II; 'Problem solving' and 'Spiritual values/Religion'. Six areas of self-concept (i.e., described in SDQ-I) were commonly accessed across all adolescents. Results demonstrated that for preadolescents there was a significant decline in the mean responses given across all self-

concept domains on the SDQ-I. During adolescence (12-16 years) the mean responses given on domains of self-concept including 'Physical', 'Same sex', 'Honesty', 'Parents', 'General' and 'Math' using the SDQ-II showed a 'U' shaped pattern – they initially decreased (i.e., between the ages of 12-15 years) but then increased between 15-17 years. The mean responses given by older adolescents and early adults on across 11/13 domains of the SDQ-III (apart from 'Parents' and 'Verbal') significantly increased with age. Therefore, this suggests there is a change in how strongly specific domains of self-concept are endorsed across age, therefore suggesting that self-concept is multi-dimensional and becomes more differentiated across age. However, this study did not find that self-concept became linearly differentiated across adolescence. This is not consistent with theory (e.g., Shavelson et al., 1976).

Other methods have also been used to examine the content of the self-concept in adolescence. Harter (1982; 1988) examined self-concept domains in children and adolescents. She first devised the Perceived Competence Scale for children (Harter, 1982). This scale asses perceived competency in relation to three domains, these included; 'Cognitive competence' in relation to current academic performance (e.g., "doing well with school work), 'Social competence' related to relationships with peers (i.e., "having a lot of friends" and 'Physical competence' (e.g., "doing really well at sports"). Harter also included a final overall score – 'General self-worth' (e.g., "how much the individual likes himself or herself as a person", p.88). Participants were asked to decide which type of child are they like (e.g., "some kids often forget what they learn" vs "other kids can remember things easily) and endorse either 'Really true for me' or 'Sort of true for me' for the most applicable statement. In the application of this method, Harter also reported that the mean scores for each of these domains was consistent across ages 9 - 14 years indicating these aspects of self-concept were consistent across age. This is surprising given

research and theory (e.g., Shavelson et al., 1976; Marsh 1988). The Perceived Competence Scale has also been advanced more recently and is described as the 'Perceived Competency Scale' and includes 5 domains; Scholastic competence, Social competence, Athletic competence, Physical appearance and Behavioural conduct (Harter, 1985). This version of the measure has also been adapted for adolescents – 'The Perceived Competency Profile for Adolescents' (Harter, 1988). This measure includes all domains identified in the child measure but includes an additional 3 domains; Job competence, Close friendship and Romantic appeal. Using this measure, Shapka and Keating (2005) examined development of self-aspects over a period of two years in young people aged 14 to 18 years. The results demonstrated that all areas of self-concept – apart from scholastic competence increased with age. However, it is important to note that Harter's scales were developed using small samples in Denver, and therefore have "failed to meet psychometric standards for clinical use" (Bracken, Bunch, Keith & Keith, 2000, p.485).

1.11.4 Measures of self-concept

Other measures of self-concept in adolescents have also examined the multi-dimensional nature of the self in adolescence (Butler & Gasson, 2005). The Tennessee Self-Concept Scale (TSCS; Fitts, 1965; Fitts & Warren, 1996) is one such measure. The most recent version of this measure provides 76 descriptions. that assesses six domains; 'Physical', 'Moral', 'Personal', 'Family', 'Social' and 'Academic'. The most recent version of this measure provides 76 descriptions. Participants are asked to rate the extent to which these items are true or false (e.g., 'Always false', 'Mostly false', 'Partly false', 'Partly true', 'Mostly true', 'Always true'). However, this measure was not constructed specifically for adolescents, therefore it is not clear whether the items are appropriate for this population. This is important because they may not consider the ongoing cognitive development, language development and the increasing ability to understand concepts

(Butler & Gasson, 2005). These factors may all influence how young people understand their self-concept and therefore influence how young people understand these measures.

Other measures have included young people in the construction and development of questionnaire measures to assess self-concept in adolescents. The Self Image Profile (SIP; Butler, 2001) assesses 'self-images' described as the descriptive component of self-concept described as how an individual perceives their self (Butler & Gasson, 2005). This measure has two versions – one for children (SIP-C) aged 7-11 years and one for adolescents (SIP-A) aged 12-16 years. Both versions have 25 self-descriptions including 1 neutral, 12 negative and 12 positively worded items. Participants are requested to rate 'how they consider themselves to be' and 'how they would like to be' for each item. The total score of self-image score is calculated by the sum of ratings related to 'how they consider themselves to be', self-esteem is reflected by the discrepancy between the two ratings. A strength of this measure is that the items were constructed using adolescents and children, specifically, they were asked to describe themselves in three ways and the most commonly generated descriptions were used to inform the items on the scales (Butler & Gasson, 2005). Another measure which also has based items on research with children is the Self Concept Scale (SCS; Piers, 1969). The most recent version of this measure (Piers-Harris 2, Piers & Hrzberg, 2002) includes 60-items which ask participants between the ages of 7-18 years to consider "The Way I Feel About Myself" (p. 3) by indicating 'yes' or 'no' to a series of statements (e.g., 'I am dumb'). This measure assesses six domains of self-concept; Behavioural adjustment, Intellectual and school status, Physical appearance and attributes, Freedom from anxiety, Popularity, and Happiness and satisfaction. These domains were constructed using work by Hersild (1952) who asked children to describe what they liked and disliked about themselves. Their responses were classified into 9 categories; Physical characteristics and appearance, Clothing and grooming, Health and

well-being, Home and family, Enjoyment of recreation, Ability in sports and play, Academic performance and attitudes towards school, Intellectual abilities, Special talents, Just me myself, Personality characteristics and inner resources and emotional tendencies. Items in these categories were initially used, however after various pilot studies, the domains and items were reduced to 80 (i.e., in the original Piers-Harris, this was further reduced to 60 in the most recent version).

The majority of measures used to examine self-concept in adolescence have used standardised measures that ask participants to endorse items or statements as descriptive of themselves (e.g., Rosenberg Self-Esteem Scale, Rosenberg, 1965; Self-Description Questionnaire, Marsh, 1988; Self-Perception Scale, Harter 1985; 1988). Also measures of self-concept typically include self-aspects that are pre-defined by a researcher. For example, the Self Attributes Questionnaire (Pelham & Swann, 1989), provides pre-defined self-aspects e.g. and asks participants to write self-descriptions under each aspect. This is problematic because some important aspects of self-concept may not be considered or included in standardised methods of assessment. Other methods such as the Card-Sort Task (Linville, 1985) asks participants to sort 33 pre-defined traits into as many aspects of the self as they liked. However, while the self-aspects are not pre-defined in this task, the self-descriptions are. Thus, while these methods are useful, because they information about aspects of self-concept, they may not consider important or more accessible descriptions about the self (or areas of the self). This is essential because important aspects of self-concept may exert a greater influence on overall self-esteem (Harter, Marold, & Whitesell, 1992). Therefore, information about these aspects (i.e., through feedback of others) may be more likely to be attended to, processed and remembered (Markus, 1977).

Other questionnaire measures that include items that have been developed using responses of young people may also be problematic given that they assess a specific type

of self-description such as ‘The Way I Feel About Myself’ (e.g., Self-Concept Scale, Piers, 1969), or typically ask young people to rate positive or negative self-descriptions (e.g., Self-Image Profile, Butler, 2001). These measures may not reflect more general descriptions that may be important to young people, such as social roles (Thomaes, Brummelman, & Sedikides, 2017). Montemayor and Eisen (1977) argued that by using endorsed measures it is difficult to fully assess different areas of self-concept. Therefore, it is not clear how adolescents spontaneously describe their self. Thus, future research should use an open-response measure to examine the content of self-concept in adolescents and how young people describe their ‘self’.

1.11.5 An idiographic measure of self-concept: The Twenty Statements Test

A frequently used open-response measure of self-concept is the Twenty Statements Test (TST; Kuhn & McPartland, 1954). This method enables respondents to generate their own, personally significant self-images, rather than rating standard statements or items for likeness to themselves (Addis & Tippett, 2004). After participants generate responses these can be coded. The original coding scheme (Kuhn and McPartland (1954) proposed two categories – consensual, which referred to social roles (e.g., “I am a boy”) and sub-consensual which described traits (e.g., “I am funny”).

Many other coding schemes for the TST have been developed for use with adults. This is primarily due to the TST being used to examine how individuals view themselves within a specific domain. Rhee, Uleman, Lee, and Roman (1995) examined the role of culture and group membership on self-concept. They presented a detailed coding scheme that included eight main categories with 33 sub-categories. These categories included: ‘Traits’, ‘Social identities’, ‘Specific attributes’, ‘Evaluative descriptions’, ‘Physical descriptions’, ‘Emotional states’, ‘Peripheral information’ and ‘Global descriptions’. Responses were also classified as ‘Abstract or Specific’ and ‘Social or Autonomous’ (p.

145). Other classification schemes such as McCrae and Costa (1988) have also been used to examine the influence of culture on self-concept (e.g., Watkins & Gerong, 1997). This classification included seven categories: 'Abstract', 'Social roles', 'Physical appearance', 'Abilities', 'Personality traits', 'Life circumstances', 'Activities' and 'Attitudes'. Cross-cultural differences in the self was also examined by Bochner (1994) who used four categories to classify TST. These were: 'Idiocentric' (personal characteristics e.g., "I am funny"), 'Large group' (membership with large groups e.g., "I am a hockey player"), Small group (memberships with small groups e.g., "I am a wife") and 'Allocentric' (interdependence e.g., "I am very sociable"). This classification scheme has been applied to examine the role of culture on self-concept (e.g., Watkins et al., 2003). Other studies (e.g., Cousins, 1989) have presented 16 categories: 'Physical', 'Relationships', 'Social memberships and roles', 'Preferences', 'Goals', 'Activities', 'Short-term activities', 'Qualified traits', 'Psychological attributes', 'Attitudes', 'Abilities', 'Self-references', 'Immediate situation', 'Other's judgments', 'Possessions' and 'Miscellaneous'. Other research has examined the role of gender on self-descriptions. Mackie (1983) presented six categories: 'Gender', 'Martial status', 'Parental status', 'Family generally', 'Household work' and 'Outside work'. Madson and Trafimow (2001) instead categorised TST responses into three categories; 'Private', 'Collective' or 'Allocentric'. Gabriel and Gardner (1999) proposed a different approach to examine the influence of gender on self-concept. They defined three categories; 'Independent', 'Collective' or 'Non-self-statement'.

Due to the many coding schemes within the adult literature it is problematic to decide which coding scheme to use when assessing self-concept in adolescent populations. Also, these coding schemes may not be appropriate given that they have been developed to assess the influence of a specific context or domain on the self. To my knowledge only one

study has examined the general content of self-concept in adolescence using the TST. Montemayor and Eisen (1977) recruited 262 adolescents aged between 9-18 years, who all completed the TST. An adult coding scheme devised by Gordon (1968) was used to code responses. Responses were classified into 30-categories including, 'Sex', 'Age', 'Social Status', across the ages 10, 12, 14, 16 and 18 years, there was an increase in the proportion of participants who identified themselves in the following categories: 'Occupational role' (e.g., "hoping to become X"), 'Existential' (e.g., "I am me"), 'Interpersonal style' (e.g., "I am kind"), 'Psychic style' (e.g., "I am relaxed"), 'Sense of determination' (e.g., I am driven), 'Sense of unity' (e.g., "I am mixed-up) and 'Ideological and belief references' (e.g. "I am a liberal"). There was a decrease in 'Territorially' (e.g., "I live in X town"), 'Possessions' (e.g., "I am a dog owner") and 'Physical self' ("e.g., I am fat"). These results suggest there was an overall increase in abstract descriptions (e.g., 'Ideological and belief references') with age. However, there was also a 'U-shaped' relationship found in the following categories; 'Sex', 'Name', 'Kinship role' (e.g., "I am a son"), Membership in an abstract category (e.g., "I am a human"). This demonstrated that the use of these categories peaked at age 12, declined until age 14 and then increased. These results suggest that the use of some concrete descriptions (e.g., 'Sex', 'Name') does not simply decrease, and abstract description increase with age as suggested by theory (e.g., Harter, 2012). Therefore, authors concluded that some concrete descriptions (e.g., 'Sex' and 'Name') may remain important to adolescents Also, the number of categories did not significantly increase across age suggesting that the self did not become more differentiated across childhood and adolescence, contrary to research and theory (Shavelson et al., 1976). However, applying an adult coding scheme to an adolescent population may not be appropriate because this specific coding scheme was developed for an adult not an adolescent, self-concept. This is important because there are age-developmental

differences in the self in adolescence and adulthood. The self in adolescence undergoes significant change and reflects a multi-faceted differentiated self (Shavelson et al., 1976). However, the self in adulthood is more coherent and consolidated as adults have a clearer of "Who I am" (Harter, 2012). Also, the type of descriptions generated by young people may differ from adults. Early adolescents are suggested to describe abstract perceptions of the self, similar to adults (e.g., Harter, 2012), however as their developing cognitive abilities continue to develop across adolescence (Piaget, 1952). Thus, the types of perceptions may become more complex across age and therefore descriptions generated by early adolescents may not be similar to that of adults.

In summary, it is clear that adolescence is a critical period for the development and construction of the self. It reflects a period of significant change - physically, emotionally, physiologically and psychologically. It is also a time of increased self-exploration and a stage when young people become highly sensitive to their social environment and the feedback of others. All these factors have been identified as having an important influence on the self in adolescence. Important, personal experiences during adolescence associated with important self-images also have an enduring effect across life. Therefore, how an adolescent perceives themselves may have an implication across the lifespan. However, despite the importance of this time in the development of the self, this population has been largely neglected in research specifically within autobiographical memory research for example. Therefore, despite the importance of this period, more research is needed to better understand how the self is described. Specifically, when assessing the research that has assessed the self in adolescences it is clear that a variety of different measures have been used, however these measures tend to rely on questionnaire designs or provide participants with researcher-defined traits (e.g., Linville, 1985). Given the issues with this type of method, it is important that research examines the content of the self in adolescence

using spontaneous self-descriptions. This will provide a better understanding of how young people describe their self, and also which aspects of the self young people identify when left to generate their own personal descriptions.

1.12 Outline of papers

The four papers presented in this thesis aim to address some of the gaps in the literature relating to the content of the self-concept in adolescents, and in the relationship between self-concept and depression severity in young people. The following section briefly describes the aims and objectives of each paper.

1.12.1 Paper 1: Memories of the self in adolescence: Examining 6,558 self-image norms.

The 'self' in adolescents has been assessed by standardised self-report questionnaire measures to examine self-esteem, or self-images within a particular domain (e.g., 'Physical appearance'). However, these measures rely on content that has been pre-selected by researchers, rather than content that is self-generated by adolescents. Thus, these data therefore may not be exhaustive and therefore may not reflect the content of an adolescent self. Therefore, given that adolescence has consistently been identified as a critical time for the development of the self it is important that research examines how young people describe their self. Additionally, given that adolescence is characterised by significant development, it may be that the nature of adolescent self-images is different from adult self-images. Further work is needed to compare these images of the self in the two populations and to examine potential differences in the self between adolescence and adulthood.

The first paper in this thesis provides normative data on adolescent self-images and compares these to adult data. This paper is also the first to collate and present self-images in a freely-accessible, adolescent-specific database. The paper describes the demographics

and recruitment of adolescents aged 13 to 18 years from three UK secondary schools. Self-images were collected from 822 adolescents using the Twenty Statements Test (TST; Kuhn & McPartland, 1954). The paper describes how the statements were coded and explores gender and age effects on the number of self-images generated. Adolescent self-images are also compared to those obtained from a sample of adults (Rathbone & Moulin, 2017). The results are discussed and implications for the development of the self in relation to the reminiscence bump are considered.

1.12.2 Paper 2: Who am I? Classification and description of adolescent self-concept

Conway, (2005) and Harter (2003) suggest that important information about an individual's self, develop during adolescence and that this influences self-esteem. Adolescent self-images may also reflect enduring self-knowledge across the lifespan. However, data from previous research has been primarily collected using standardised and fixed response measures where participants are asked to endorse items or self-images as like or unlike themselves (e.g., Harter, 1988). These measures may not capture the full content (or the most important) aspects of an adolescent self. Therefore, there is a rationale to examine adolescent self-concept using a free-response measure. This will allow us to elicit self-images that adolescents use to describe themselves and to examine if and how this may differ between genders and age. The results of paper 1 suggested that there may be subtle differences in descriptions of 'the self' that are generated by adolescence and adults. Therefore, applying coding schemes that were developed with adult participants may not be appropriate. In this paper therefore, the development of an adolescent-specific method for coding adolescent self-images is described.

Responses to the Twenty Statements Test (TST) were used to develop a new reliable coding scheme. The most common and salient self-aspects across adolescence are described and gender and age effects are analysed. The results are discussed and

implications for the measurement of the self and underpinnings of self-esteem are considered.

1.12.3 Paper 3: Negative self-concept in adolescent depression

Papers 1 and 2 provide data and an adolescent-specific categorisation method to assess 'the self' in young people. This may be used to answer a number of research questions. For example, it provides a method to examine if and how the adolescent 'self' concept is disrupted in relation to psychological disorders in such as depression, anxiety, psychosis for example. The focus of this paper and the one that follows is 'the self 'in the context of adolescents with elevated symptoms of depression (Papers 3 and 4).

A negative view of the self is suggested to be both a core feature (Beck, 1967) and is a common symptom of depression in adolescence (LeMoult et al., 2017; Orchard, Pass, Marshall, & Reynolds, 2017). The cognitive theory of depression states that negative thoughts about the self, the future, and the world make individuals vulnerable to the development of depression and once low mood is activated, lock them into a vicious cycle that maintains depression and low mood (Beck, 1967). In contrast, self-complexity theory (Linville, 1985, 1987) depression is linked not to the valence of self-images, but to the way they are structured and organised. Self-complexity theory proposes that having multiple and separate self-aspects offers protection against depression.

The association between negative self-evaluation and depression in young people has been assessed using a variety of perspectives. Many studies have focused on '*self-referential processing'* i.e., the process whereby that depressed individuals typically endorse more negative and fewer positive words as 'like-me' (i.e., 'self-referent;' Auerback, Stanton, Proudfit, & Pizzagalli, 2015; Connolly, Abramson & Alloy, 2016). In contrast only limited research has examined self-complexity in respect to adolescence, and

to date support is mixed (Abela & Véronneau-McArdle, 2002; Cohen, Spiegler, Young, Hankin, & Abela, 2014; Evans, 1994; Jordan & Cole, 1996).

A limitation of research that has tested both the cognitive model of depression and self-complexity theory is the reliance on self-report measures of the self using standard questionnaires. As discussed above, these fixed items may not reflect the content of adolescent self-images or reflect more core and salient perceptions of the self. This is important given the suggested enduring effect of important adolescent perceptions (Conway, 2005).

Paper 3 evaluates hypotheses arising from two theories of the relationship between the self and depression. Responses generated by the TST were coded in two ways. The number of self-aspects using the classification scheme in Paper 2 was used as an index of self-complexity. Self-evaluation was assessed by coding the valence of self-images (positive or negative). The aim of this paper is to examine which is the strongest predictor of depression severity in young people – self-complexity or self-evaluation.

1.12.4 Paper 4: 'Envisioning the future: Possible selves and depression symptoms in adolescents'

Adolescence reflects a time when young people are able to increasingly consider their personal future i.e., their 'possible self' (Molina, Schmidt & Raimundi, 2017). However, there is minimal research that examines how young people think about their possible self and how this may be disrupted in depression. A negative view of the future is a key component of the cognitive theory of depression described within the cognitive triad (Beck, 1967). Roepke & Seligman (2016) also proposed that the presence of a 'negative view of the future' is the most important factor of the triad, and that this 'drives' depression (Roepke & Seligman, 2016). There is evidence that appraisal of 'the self' and 'the future' are intimately related. Specifically, perceptions an individual has about

themselves in the future, defined as 'the possible self' is constructed using information that is informed by an individual's current 'self' (Markus & Nurius, 1986). The results of paper 3 (above) highlighted that more negative self-evaluation was associated with increased depression severity in adolescents. Therefore, it would follow that adolescents with more severe depression symptoms may also construct negative, possible futures, as predicted by the cognitive model of depression.

To date, no research has examined the possible self in adolescent depression. Other research with adolescents has examined future thinking more broadly. Studies have demonstrated that depression severity is associated with a general negative view of the future (Braet, Wante, Van Beveren & Theuwis, 2015; Jacobs & Joseph, 1997; Becker-Weidman et al., 2009). It is important to explore how 'possible selves' held by young people are related to depression because our 'possible self' is believed to direct future behaviour (Markus & Nurius, 1986) and because negative perceptions of the future are thought to be the most important factor that maintains depression (Roepke & Seligman, 2016).

Thus, Paper 4 examines possible selves in adolescents using an open response measure, a variant of the 'I Will Be Task' (Rathbone, Salgado, Akan, Havelka & Berntsen, 2016). On the basis of previous work and following the findings from paper 3, it was hypothesised that a more negative possible self would be associated with more severe depression symptoms. This paper will also compare whether the valence of the possible self or current self-evaluation is the strongest predictor of depression symptoms in young people.

1.13 Conclusion

Collectively, these papers have the aim of increasing our understanding of the adolescent self and how this may be disrupted in adolescent depression. Specifically, these

papers seek to examine (i) how adolescents describe themselves and how this may differ from adults, (ii) the content of an adolescent self by providing a novel coding method and reporting the results obtained using it. Using the novel coding method proposed in this thesis, these papers also aim to examine (ii) associations between the self and depression in young people. A summary of research findings and implications will be discussed in each section of the thesis – Part one and Part two. There will be a more general discussion in the final chapter of this thesis.

1.14 References

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Chapter 2 Paper 1: Memories of the self in adolescence: Examining 6,558 self-image norms

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Memories of the self in adolescence: Examining 6,558 self-image norms.

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Abstract

Adolescence is a critical developmental period. It involves the construction and consolidation of 'the self' and the laying down of autobiographical memories that endure throughout life. There is limited data that examines how young people spontaneously describe their 'self'. The aim of the current study is to provide normative data of adolescent generated self-images and present this in a freely accessible database. A secondary aim is to compare adult and adolescent self-images. Young people (n = 822) aged 13-18 years completed the Twenty Statements Test a task that requires participants to generate their own self-images. Data were coded into 'Self-image norms' according to the method devised by Rathbone and Moulin (2017). Descriptive data showed that positive 'Traits' were most often used by adolescents to describe 'the self'. There were few gender differences, but boys generated fewer self-images than girls. Adolescents were more likely to use 'Traits' to describe their 'self' and adults were more likely to use 'Social roles.' These data are the first set of self-images generated by adolescents, collated in a freely accessible database. They can be used to understand how 'the self' is described by adolescents and will be useful for cueing autobiographical memories in young people.

Keywords: Adolescents; Autobiographical memory, Personality, Self, Self-images,

Introduction

Although adolescence is acknowledged as the critical period for the development of self-concept (Habermas & Bluck, 2000) we have relatively little knowledge about how adolescents describe or see themselves or their 'self' This is important because concepts of 'the self' inform many aspects of psychology related to normal and abnormal development, wellbeing and mental health. Specifically, within autobiographical memory research, these self-images may be used to cue autobiographical memories. They may also be used to better understand the relationship between autobiographical memory and the self. In this paper our objective is to describe a set of normative data that captures spontaneous self-images generated by young people aged 13-18 years. We will highlight some key features of adolescent self-image and compare how adolescents and adults describe their 'self'.

During adolescence the ability to evaluate oneself and construct self-images (e.g. "I am bossy") becomes increasingly complex (Damon & Hart, 1988). Self-images are suggested to be derived from autobiographical memories (personally important memories) and describe the self in the past, present and future (Conway, 2005; Conway & Pleydell-Pearce, 2000). Images of 'the self' that relate to adolescent experiences appear to have a lasting impact; adults over the age of 40 disproportionately recall key autobiographical memories that date from the ages of 15 to 30 years (Rubin & Schulkind, 1997; Rubin, Wetzler, & Nebes, 1986). This is referred to as the 'reminiscence bump'. This 'bump' coincides with a period of self-concept development during adolescence and early adulthood (Erikson, 1968). Conway (2005) suggested that experiences recalled from this period may be 'self-defining' and reflect vivid, emotionally intense memories (Singer & Salovey, 1993). Thus, adolescent self-images reflect an important pool of self-knowledge, which can last a lifetime.

There is no clear, universal definition of the self (Strawson, 2000). Historically, two aspects of the self - the "I-self" and the "me-self" were identified (James, 1910/1968). The "I-self" includes the mental capacity of thinking about oneself (Owens, Robinson, & Smith-Lovin, 2010). The "me-self" relates to the mental content that describe how individuals perceive themselves now, in the past, and in the future (Oyserman, Elmore, & Smith, 2012; Sebastian, Burnett, & Blakemore, 2008). Self-concept includes self-images defined as "I am" statements (e.g. "I am happy"; "I am female"; Conway, 2005; Rathbone, Moulin & Conway, 2008). The Twenty Statements Test (TST; Kuhn & McPartland, 1954) can be used to elicit self-images. The TST consists of 20 incomplete sentence stems, "I am…" Self-images can capture different aspects, including 'Traits' (e.g. "I am shy"), 'Physical appearance' (e.g. "I am blonde"), and 'Roles' (e.g. "I am a footballer"). Collectively these self-images are referred to as "self-knowledge", which is used to understand the world and help to identify, and then focus on, specific personal goals (Oyserman & Markus, 1998).

Self-concept develops across the lifespan. Beginning at 18 months, infants have a rudimentary sense of who they are, described as 'self-awareness' (i.e. I-self). By the age of 3-4 years, infants can describe themselves (i.e., Me-self) in concrete terms (e.g., I am a girl; Harter, 2006). During early to middle childhood, children become increasingly able to evaluate themselves as either 'good' or 'bad'. During adolescence, cognitive development and the ability to engage in abstract thinking, self-reflection and social-comparison, facilitates a more sophisticated sense of self. Adolescents can engage in more thoughtful and higher-order conceptualisation of 'who they are' (Harter, 2012). They also begin to understand that their image of themselves may differ according to situation. New aspects of self-concept that involve different roles, relationships and associated perceptions emerge (e.g., self as a swimmer, friend, sister etc.). Thus, a key developmental task in late

adolescence and early adulthood is to synthesise these and develop a coherent sense of self (Damon & Hart, 1988; Donahue, Robins, Roberts & John, 1993; Harter, 1998).

There are different approaches to the study of adolescent self-concept. Researchers have used self-esteem as a global measure of self-concept, reporting an increase during adolescent years (Erol & Orth, 2011; O'Malley & Bachman, 1983). Gender differences suggest that teenage girls consistently have a more negative view of themselves than teenage boys (Kling, Hyde, Showers, & Buswell, 1999; MaÔano, Ninot, & Bilard, 2004). Adolescents also develop specific components of self-concept (McLean & Syed, 2015) such as physical appearance, academic skills, and social relationships (DuBois, Tevendale, Burk-Braxton, Swenson & Hardesty, 2000; Harter, 2012). Compared to younger children and adults, adolescents place importance on their physical appearance and the degree to which they are satisfied with their appearance is highly related to their overall self-worth (Harter, 2006). On average teenage girls describe more social relationships than boys (Blyth, Hill, & Thiel, 1982; Fischer, Sollie, & Morrow, 1986) and boys focus more on athletic abilities and job competence (Wilgenbusch & Merrell, 1999). Marsh (1989) found that in early adolescence perceived physical ability, appearance, social and academic self-concept decreased and then became more positive in later adolescence.

A key limitation of the research on adolescent 'self' is that methods of assessing 'the self' use standardised questionnaire or self-report methods populated with constructs generated by researchers. Therefore, the results of studies about the components and development of adolescent 'self' may not represent or capture adolescents' own views or self –images (McGuire & Padawer-Singer, 1976). Idiographic data obtained from an open-response measure of constructs generated by young people could provide a more valid representation the self-images that adolescents themselves hold. Thus, the primary aim of this paper is to provide normative data about how young people think about their 'self'.

Understanding self-concept in adolescents has important theoretical value. The Self-Memory System (SMS; Conway & Pleydell-Pearce, 2000), a seminal theory of autobiographical memory has highlighted the important, bi-directional relationship between the self and autobiographical memory. Importantly, Conway (2005) stated that self-images (e.g., "I am a student") reflect semantic representations in autobiographical memory. Specifically, his hierarchical memory model proposes that semantic knowledge about life-time periods (e.g., 'secondary school') are used to inform the retrieval of episodic memories that contain event-specific knowledge (e.g., 'winning my first science competition'). Therefore, self-images (e.g., "I am a student") are associated with specific, episodic memories. Consequentially, memories are organised according to specific self-images. Given the importance of self-images in memory, providing data describing adolescent self-images may provide insight into the content of the self and subsequently – autobiographical memory in young people.

Normative data relating to self-images in young people also has important methodological value. Self-images can be used as research stimuli. For example, personally generated self-images have been used to cue autobiographical memories, to understand the relationship between 'the self' and memory. Research has found that when older and younger adults constructed a new self-image, it was associated with relevant memories reflecting that particular self-image (Rathbone, Conway & Moulin, 2008; 2011). Salient self-images are also associated with highly accessible autobiographical memories (Rathbone & Moulin 2014). Self-images have also been analysed to understand the loss of self-knowledge associated with neuropsychological disorders such Alzheimer's disease (AD). For example, Addis and Tippet (2004) found that individuals with AD generated fewer self-images and they were less specific than healthy controls. Similarly, research using self-images has highlighted that knowledge about the self is disrupted in individuals

who have Asperger's syndrome (Tanweer, Rathbone, & Souchay, 2010) schizophrenia (Bennouna-Greene et al., 2012), PTSD and social anxiety disorder (Krans et al., 2017). Specifically, in the case of depression, deficits in executive functioning may influence the accessibility of self-images and the generation of self-descriptions. Research suggests that adolescents with more severe depression have poorer verbal fluency and working memory and experience difficulties retrieving specific memories than those with less severe depression (Fisk, Ellis & Reynolds, 2018).

Rathbone and Moulin, (2017) used a variant of the TST, the 'IAM task' to elicit self-images from 238 adults aged 19 – 88 years (mean age = 30.84). The 'IAM task' asks participants to generate self-images, these are then used to cue autobiographical memories (Rathbone, Conway & Moulin, 2008). Rathbone & Moulin (2017) coded self-images and found that in their sample, participants most often generated self-images related to social roles. The most common social roles were 'Friend', 'Sports player', and 'Student'. These social roles may reflect the age profile of participants in this sample, i.e., 80% were aged 18-30 years. Participants who were older or younger may hold different images of their 'self'. This is because a key period during which the self develops begins earlier, during adolescence. Thus, it is important to investigate self-images generated during this period.

The aim of this study is therefore to present a database of adolescent self-images, to describe the self-images used most frequently by young people, and to highlight any key gender or age differences. A secondary aim was to compare the frequency of adolescent generated self-images to those generated by the adult sample collected and coded by Rathbone & Moulin (2017).

Materials and Methods

Participants

Young people aged 13-18 years from three UK secondary schools (n = 1688) were invited to take part in the study. Ten schools were approached, and three schools agreed to take part in the research. Data were collected between June 2015 – October 2017. School 1 was in Northamptonshire, and schools 2 and 3 were in Wiltshire. In total, 919 adolescents were recruited and provided consent/assent to take part in the research. Missing data (i.e., blank TST measures) were removed (n = 97). The final sample consisted of 822 young (48.7% of those invited to take part; 450 females, 54.7%, mean age = 14.85, SD = 1.44). The ethnicity of the sample was 84.5% White British.

There was no gender difference in participants from the three schools, χ (2) = 6.52, $p < .05$.; school 1 n = 207 (61.4% females), school 2, n = 248 (55.6% females) or school 3, n = 367 (50.4% females). There was also no difference in participants' age across the three schools, F (2, 819) = 2.63, p = .07; (school 1, mean age = 15.02, SD = 1.49; school 2, mean age = 14.72, SD = 1.50; school 3, mean age = 14.81, SD = 1.38). However, there was a significant difference in ethnicity across schools, (χ (2) = 29.84, $p < .001$; there were more White British adolescents in school 3 (92.4%) compared to school 1 (79.7%) and school 2 (77.8%).

Task

Self-concept. This was assessed by the Twenty Statements Test (TST; Kuhn & McPartland, 1954). The TST provides 20 unfinished statements each beginning "I am…" Participants are asked to describe themselves by writing down responses to the question "Who am I?" by completing as many statements as possible. Because the TST has not been widely used with adolescents we sought feedback from six young people aged 13-18 years and amended the instructions on the basis of their feedback. They recommended that to

increase clarity and reduce uncertainty that participants should be told "not think too much about their responses and not to worry about the order/importance of statements." On completion of the TST a sub-sample (n = 258) identified up to three self-images that "were the most important to them and best defined them as a person". These data were collected and analysed in another research study. All instructions were written on paper questionnaires and clarified verbally by the researcher. Adolescents completed the TST in approximately five minutes.

All adolescents completed paper questionnaires in a classroom setting (approximately 30 students per class) during timetabled tutorial periods or Personal, Social, Health and Education (PSHE) classes. Adolescents who did not want to take part or for whom parental consent (if under 16 years) was not provided, were given an alternative activity.

Coding

To compare data from this adolescent sample and the adult sample reported by Rathbone and Moulin (2017) the 6,558 self-images were coded using the method devised by Rathbone and Moulin (2017). Responses that included concepts or words that were mentioned by at least two participants were coded as a category. For example, the category "Irritating" included three self-images ("irritating" "irritating at times" "somewhat irritating"). These categories were then defined as norms consistent with the adult database (Rathbone & Moulin, 2017). Self-images that were mentioned only once were coded as "Unclassified".

This method generated 443 self-image categories (including "Unclassified") defined by Rathbone and Moulin (2017) as 'norms'. These are shown in the Supplementary Material, with the count of self-images per category, the gender ratio and mean age of each norm (see Appendix 3). Following Rathbone and Moulin (2017) all responses that

incorporated one or more concepts were coded based on the first concept mentioned (for example “African and proud” was coded as ‘Nationality’, “occasionally shy and quiet” was coded as ‘Shy’). Coding was conducted independently by two researchers (EH and JF). Reliability analysis was conducted on a random sample of 10% of data (670 statements); agreement was excellent (k = .98, 98.5 %).

Database Websites

The database is publicly accessible within the UK Data Service ReShare Repository under Hards & Fisk, 2018 at http://reshare.ukdataservice.ac.uk/853128/. DOI: 10.5255/UKDA-SN-853128. Also available is a description of the dataset, explaining each variable within the excel database.

Ethics Statement

This research was approved by the University of Reading Ethics Committee. To invite young people from each of the schools, head teachers were contacted by email with information about the research and an invitation to take part. Following approval from head teachers, information packs describing the study and opt-out consent forms were distributed to all students in the target age group and to their parents. Students under 16 years provided informed, written assent and students aged 16 and over gave informed, written consent. For students under 16 years parental consent was required and was obtained via an opt out procedure; parents were asked to state if they did not want their child to take part in the research by returning a written, opt-out form to the school. They could also contact the school or researchers by email or telephone. If parents did not get in contact via any of these methods, they were deemed to have given consent for their child to take part. Young people who did not want to take part or for whom parental consent (if under 16 years) was not provided, were given an alternative activity to complete in class while data was being collected. All adolescents who took part in the study were entered

into a prize draw, in which 10 young people (per school) had the chance to win a £10 amazon voucher. All identifying information (e.g. participants name in the form, I am XXXX, or the names of other people or places) was removed when preparing the database.

Results

Number of self-images generated

Participants generated a mean of 8.05 self-images (SD = 4.69). Preliminary analyses were performed to identify any violations of assumptions; the number of self-images was positively skewed, so bootstrapping was used (Field, 2013). On average, females generated significantly more self-images (M = 8.74, SD = 4.83) than males (M = 7.22, SD = 4.37; $t(820) = 4.66$, $p < .001$, 95% BCa Cl [-2.15, -.88], $d = 0.33$). There was no association between participant's age and the number of self-images they generated (r = .001, 95% BCa Cl [.04, -.06], $p = .97$).

Content of self-concept

Table 2.1 shows the 20 categories that young people most often generated. The majority (14 out of 20) of these described traits (e.g., I am funny), the remaining six categories described social roles (e.g. son/daughter, student, sports player, friend). The most commonly generated self-image among adolescents was 'Happy'; this was generated by 31% of all adolescents. Other positive traits were often generated, the most common were; 'Funny' (21%), 'Kind' (16%) and 'Friendly' (14%). The most common negative traits generated by young people were 'Tired' (12%), 'Worried' (6%) and 'Annoying' (5%). Adolescents tended to describe themselves in positive terms.

Overall, there were few gender differences in the proportion of self-images generated by boys and girls. Girls generated significantly more self-images related to 'Son/Daughter', 'Friend', 'Brother/Sister', 'Appearance', 'Tired', 'Caring', 'Love', 'Shy'

and ‘Quiet’ than boys. Boys described themselves in relation to ‘Sports player’ and ‘Sporty’, significantly more than girls.

Table 2.1. Most common 20 adolescent self-images norms.

Self-image Norm (count)	Male %	Female %	Chi-square analysis
Happy	13%	18%	$\chi(1) = 1.37$, $p = .241$
Son/Daughter	8%	16%	$\chi(1) = 14.15$, $p = <.001$
Funny	11%	10%	$\chi(1) = 4.05$, $p = .044$
Student	7%	13%	$\chi(1) = 7.76$, $p = .005$
Sports player	12%	8%	$\chi(1) = 20.47$, $p < .001$
Friend	5%	12%	$\chi(1) = 12.27$, $p < .001$
Brother/Sister	6%	11%	$\chi(1) = 9.52$, $p < .002$
Kind	8%	9%	$\chi(1) = 6.48$, $p = .011$
Friendly	5%	9%	$\chi(1) = 2.74$, $p = .098$
Appearance	4%	9%	$\chi(1) = 10.32$, $p = .001$
Height	6%	6%	$\chi(1) = .47$, $p = .491$
Tired	3%	9%	$\chi(1) = 12.50$, $p < .001$
Sporty	7%	5%	$\chi(1) = 12.23$, $p < .001$
Caring	3%	8%	$\chi(1) = 18.20$, $p < .001$
Confident	4%	7%	$\chi(1) = 1.20$, $p = .274$
Age	6%	5%	$\chi(1) = 2.66$, $p = .103$
Love	2%	7%	$\chi(1) = 12.75$, $p < .001$
Smart	5%	4%	$\chi(1) = 2.94$, $p = .086$
Shy	2%	7%	$\chi(1) = 16.19$, $p < .001$
Gender	4%	3%	$\chi(1) = 3.41$, $p = .065$
Quiet	1%	6%	$\chi(1) = 16.66$, $p < .001$

NB. Bonferroni correction applied, adjusted p-value was p =.003

To examine the difference between adolescent and adult self-concept we compared the proportion of self-images generated by adolescents and adults. In total, adolescents generated 433 categories (excluding 'Unclassified"). Adult generated fewer than this (270 categories excluding 'Unclassified"). The 12 most frequently generated self-images for adolescents were selected (see Table 2.2). Chi-square analyses indicated that adolescents were significantly more likely to describe themselves as 'Happy', 'Funny', 'Kind', 'Tired' than adults. Adolescents also described significantly more self-images related to 'Appearance' and 'Height' than adults. Conversely adults were significantly more likely to describe themselves within roles e.g. 'Son/Daughter', 'Friend', 'Sports player', 'Student' and 'Brother/Sister'.

Table 2.2 Proportion of self-images in each commonly generated category, by population.

Self-images	Adolescent %	Adult %	Chi-square analysis
1. Happy	31%	18%	$\chi(1) = 15.33, p < .001$
2. Son/Daughter	24%	34%	$\chi(1) = 9.67, p = .002$
3. Funny	21%	5%	$\chi(1) = 32.81, p < .001$
4. Student	20%	29%	$\chi(1) = 8.80, p = .003$
5. Sports Player	20%	29%	$\chi(1) = 8.80, p = .003$
6. Friend	17%	32%	$\chi(1) = 25.26, p < .001$
7. Brother/Sister	17%	32%	$\chi(1) = 27.65, p < .001$
8. Kind	16%	5%	$\chi(1) = 19.70, p < .001$
9. Friendly	14%	16%	$\chi(1) = .74, p = .388$
10. Appearance	13%	2%	$\chi(1) = 25.30, p < .001$
11. Height	12%	4%	$\chi(1) = 12.30, p < .001$
12. Tired	12%	2%	$\chi(1) = 22.26, p < .001$

NB. Bonferroni correction applied, adjusted p-value was p = .004

Discussion

Although adolescence is believed to be a crucial time for the development of self-concept, very little is known about the content of adolescents' self-concept. These data are the first set of adolescent-generated self-images. They were collected using the Twenty Statement Test (Kuhn & McPartland, 1954) and are available in a freely accessible database.

Adolescent boys generated fewer self-images than girls. This is consistent with general gender differences on cognitive tasks such as memory performance and verbal ability. Girls tend to outperform boys on verbal tasks (Temple & Cornish, 1993) and memory tasks (Lowe, Mayfield & Reynolds, 2003).

The most common self-images generated by adolescents related to their personal traits or attributes. This is consistent with broader ideas in developmental psychology, which suggest that during adolescence, young people become increasingly focused on their "psychological interior" and engage in self-reflection. Thus, their internal attributes are the focus of their attention (Harter, 2006, 2012). Heightened self-focused attention is also associated with mental health problems such as depression and social anxiety (Clark & Wells, 1995) both of which typically emerge during adolescence. Thus, the heightened self-awareness that we observe in young people is a potential risk factor for the development of common mental health problems and may explain why adolescence is a period of particular risk.

In this context then it is of particular interest that the self-images generated by this large sample of young people were overwhelmingly positive. Young people, despite the significant physical, psychological and social changes associated with their period of development, described themselves as 'Happy', 'Funny', 'Kind' and 'Friendly'. Adolescents also generated some negative self-images, but these were less frequent than

positive self- images. Given general concerns about adolescent mental health and well-being (Gunnell, Kidger, & Elvidge, 2018) this finding is both striking and reassuring.

Using the same method of classification as Rathbone and Moulin (2017) allows us to compare self-images generated by young people with those generated by adults. In the adult sample self-images that were generated most frequently described 'Social roles' (e.g., I am… "a student", "a sports player" etc.). In comparison, adolescents most frequently generated self-images that reflected personal (positive) 'Traits' (e.g., I am… "happy", "friendly", "funny"); 'Social roles' were also generated but less frequently. Our data are cross sectional so cannot capture change within individuals; however, they suggest that the most accessible aspects of self-concept may change between adolescence and adulthood consistent with self-concept theory. This proposes (e.g. Damon & Hart, 1988; Donahue et al., 1993; Harter, 1998) that early adolescence is characterised by increased attention to personal traits which reflect 'who I am'. However, by early adulthood, 'Traits' are organised into role-specific selves (e.g., 'I am confident around my friends, but shy when I am at school'). Thus, social roles may be more accessible and important among adults than adolescents. If replicated, these data also reflect important developmental differences in self-concept during the critical period of self-concept development, described by 'the reminiscence bump' (Rubin & Schulkind, 1997; Rubin et al., 1986).

The data reported here were collected from a large sample of young people in the UK. They will be influenced by the specific context (e.g., place, time) of data collection. There is evidence that females in a room of males are more likely to generate self-images related to gender (McGuire & Padawer-Singer, 1976). All data here were collected from individuals in a class at school and this may have influenced the self-images that were generated (e.g., "I am a student"). Rathbone & Moulin (2017) collected data from adults

using online and paper questionnaires and this difference of context may influence the content of the self-images in unknown ways.

Using a consistent classification scheme presented by Rathbone and Moulin (2017) enables comparisons to be made between adolescent and adult data. However, a limitation of the classification system is that some self-image categories are close or exact synonyms (e.g. ‘Happy’, ‘Cheerful’, ‘Smiley’). Therefore, this method exaggerates the number of different self-images and under represents broader constructs.

This database provides the first attempt to collate self-images directly from adolescents. These data have several important implications. Firstly, it will provide a resource for researchers across disciplines who are interested in investigating the development of the self in adolescents. For memory researchers specifically, these self-images may be used to cue autobiographical retrieval in young people. They may be used as research stimuli to better examine the relationship between self-images and autobiographical memory in adolescents. Secondly, these data contribute to the understanding of the self in adolescence. This is important because self-images derived during adolescence have a lasting impact. Particularly, self-images associated with self-defining memories – as these typically endure across the lifespan (Conway, 2995; Singer & Salovey, 1993). Thirdly, these data may be used to examine the disruption of the self and autobiographical memory in depression. Deficits in executive function in depression may influence the number and content of self-generated descriptions. Clinical characteristics of young people were not accessed in this study. Therefore, future research should examine self-images and how they are influenced by this clinical variable.

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Disclosure of interest

The authors report no conflict of interest.

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Chapter 3 Afterword for Paper 1

3.1 Summary of findings

Since adolescence is a suggested to be a critical period for the development of the self, it is important that research examines the content of adolescent self-images. These data presented in this paper provided normative data about how young people aged 13 to 18 years described themselves using a self-generated idiographic method. These norms can be used by researchers across many sub-disciplines in psychology.

Young people most often described themselves in terms of their 'Traits' (i.e., their personal attributes) and adults most often describe themselves in relation to 'Social roles'. Thus, there may be a shift in the nature of accessible of self-images between adolescence and adulthood. Specifically, personal attributes may be more salient to young people, and social roles may be more important to adults, this suggestion is consistent with research because during late adolescence and early adulthood, there is a shift in the self and self-images become organised according to social contexts or social roles and therefore become 'role specific' (Damon & Hart, 1988; Diehl & Hay, 2007).

These results suggest important differences in the self across adolescence and adulthood. Thus, these findings, combined with the limited research examining the self in adolescence, suggest that there is a clear need to develop and use adolescent specific measures of the self. It may not be appropriate to apply adult measures. Self-generated descriptions of 'the self' using an idiographic measure of the self – the TST – have often been assessed using adult coding schemes. Thus, it may be important to develop an adolescent specific classification scheme to classify 'aspects of the self' that young people spontaneously describe. This may be important because these results could be compared to aspects of the self that have been identified by researchers in questionnaire methods (e.g.,

Shavelson et al., 1976; Marsh, 1988; 1989) and therefore highlight important areas of convergence or conjunction.

Additionally, Paper 1 also suggested that ‘Traits’ are most commonly used by young people; however, it would be useful to examine further the content of the self in adolescents to assess what other aspects of the self are commonly described by young people. This would improve our understanding of how young people describe their self and this may be achieved using the Twenty Statements Test and an adolescent coding scheme.

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Who am I? Classification and description of adolescent self-concept

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Abstract

Adolescence reflects a critical period for the development of 'the self'. Important, adolescent self-images are suggested to remain highly accessible across the lifespan. It is therefore important to examine how adolescents typically describe their 'self'. However, research has typically relied on methods that present pre-specified aspects of self-concept for adolescents to endorse or rate. The aim of the current study was to examine self-images generated by adolescent participants. To do this 822 adolescents completed the Twenty Statements Test (TST; Kuhn & McPartland, 1954) and generated 6,558 self-images. We developed a new coding scheme with 12 categories (self-aspects) using a random sample of 10% of the self-images. Four categories accounted for 82% of all self-images generated by adolescents, these were; 'Traits', 'Demographics', 'Family relationships' and 'Peer relationships'. After accounting for synonyms, the most common self-images in the 'Trait' self-aspect described positive attributes. A sub-sample of participants (31%) identified 'Traits', 'Physical appearance' and 'Peer relationships' as most important. These data suggest that adolescents perceive themselves in relatively positive terms and spontaneously describe themselves in relation to their personal attributes and relationships with their family and peer group.

Key words: adolescence, autobiographical memory, self-concept, self-images, twenty statements test,

Adolescence has been identified as an important period for the development of 'the self' (Habermas & Bluck, 2000). This period of life coincides with a period of rapid neural development in pruning of neutral connectivity and sophisticated cognitive processing abilities (Spear, 2013). These developing cognitive abilities such as abstract thinking, enable more complex representations of the self to be constructed (Damon & Hart, 1988; Fischer, 1980; Harter, 2012). Self-images that are positively or negatively valenced and perceived as 'important' may inform one's self-esteem (Harter, 2012).

Salient adolescent self-images (and corresponding memories) may have a privileged position in self-concept and remain stable across the lifespan (Conway, 2005). This is demonstrated by the finding that autobiographical memories from adolescence and early adulthood (i.e., 10-30 years), remain highly accessible in middle and later life. This phenomenon is known as the 'reminiscence (Rubin, Wetzler, & Nebes, 1986). Importantly, memories from this period are more likely to reflect 'self-defining' experiences than memories from other life-time periods (Singer & Salovey, 1993). However, despite the important role that adolescent self-images have in developing self-esteem and defining 'the self' throughout life, little is known about the content of self-images amongst adolescents, or which self-images young people identify as the most salient or important.

Research about 'the self' has been carried out in different sub-disciplines in psychology and sociology. This has led to inconsistent and interchangeable use of definitions of 'the self' (Strawson, 2000). Two distinct components of 'the self' have been identified and used with some consistency – the 'I-self' and the 'Me-self' (Gecas, 1982; James, 1910/1968). The 'I-self' is described as the reflectivity capacity of thinking about oneself (Owens, Robinson, & Smith-Lovin, 2010). The 'Me-self' is described as 'self-concept' and refers to information that a person knows about their own past, present and future (Oyserman, Elmore, & Smith, 2012). This knowledge (i.e., within the 'Me-self') has

been described using many different terms (e.g., self-representations, self-images, self-perceptions, self-descriptions). For clarity, in this paper we will use the term 'self-images' to refer to 'I am' statements (e.g., "I am clever", "I am brunette"; Conway & Pleydell-Pearce, 2000). We will use the term 'self-aspect' to refer to self-images that relate to a similar domain (e.g., 'Physical appearance') and cluster together to reflect knowledge about the self in a specific area (Neisser, 1988).

Research about 'the self' in adolescence has also been conducted using different theoretical approaches and methods. For example, memory researchers have tended to focus on when remembered events occurred in the life course, e.g., the reminiscence bump in relation to positive events (Berntsen & Rubin, 2004; Rubin & Berntsen, 2003; Walker, Skowronski & Thompson, 2003), personally important or vivid memories (e.g., Fitzgerald, 1988), and favourite books, films and music (e.g., Janssen, Chessa & Murre, 2007). In clinical psychology the global construct of 'self-esteem' (i.e., the positive or negative evaluation of 'the self'; Rosenberg, 1965) during adolescence has been examined in relation to mental health outcomes including depression (Orth, Robins, & Roberts, 2008) and anxiety disorders (Maldonado et al., 2013). Negative self-evaluation is a highly significant predictor of depression in adolescents (Orchard & Reynolds, 2018). From a developmental psychology perspective, interpersonal aspects of self-concept appear to shift during adolescence, with young people placing increasing importance on relationships with peer and romantic partners and relatively less importance on relationships with their parents (Carlo, Fabes, Laible, & Kupanoff, 1999). Adolescents also become more aware of and concerned about their physical appearance (Bucchianeri, Arikian, Hannan, Eisenberg, & Neumark-Sztainer, 2013) perhaps, reflecting an increasing awareness of their 'self' in a social context.

Researchers have suggested that the self becomes more differentiated across childhood and adolescence (Shavelson, 1976). Thus, researchers have developed methods of assessing various domains (or aspects of the self-concept) in young people and examine age effects. Initially, Shavelson (1976) identified that self-concept contains either 'Academic" or 'Non-academic domains'. The 'Academic' domain, was further divided into school subjects, the 'Non-academic domain' was further sub-divided into 'Social', 'Emotional" and 'Physical' domains. Using this theory, Marsh presented the Self-Description Questionnaire (SDQ; 1988) and examined how aspects of self-concept changed across childhood to early adulthood using three different versions of the SDQ (Marsh, 1989). Three variants of the SDQ were used to ensure they were developmentally appropriate (e.g., 'Spiritual values/Religion' was added to SDQ-III only as this was appropriate for older adolescence and early adults). Six aspects of self-concept were common across all SDQ variants, these included 'Physical abilities', 'Physical appearance', 'Peer relationships', 'Parent relationships', 'General', 'Verbal/Reading', 'Math and School'. Results showed that there was a significant decrease in the mean responses on all six aspects of self-concept during pre-adolescence this was consistent across gender. The mean responses given on self-concept domains included on the SDQ-II such as 'Math', 'Parent relationships' decreased between 12-15 years and increased between 15-17 years. Responses given by late adolescents and early adults on the majority of domains on the SDQ-II significantly increased in line with age (two exceptions were; 'Parent' and 'Verbal). This suggests that self-concept becomes more differentiated across development. However, other researchers (e.g., Bracken, 1992; 2000) have suggested that six aspects of the self are relevant to young people; 'Academic', 'Family', 'Physical', 'Competence', 'Affect' and 'Social'. Therefore, given this discrepancy between

researchers, it not clear how many or which aspects of self-concept adolescents spontaneously describe

Most studies assessing self-concept have used researcher-defined responses or asked participants to endorse pre-defined statements generated by researchers (e.g., Marsh, 1988) in relation to a series of domains. Thus, aspects of 'the self' that adolescents themselves use, are salient, or can access may not be elicited (Thomaes, Brummelman, & Sedikides, 2017). An alternative method of examining adolescent self-concept is to ask participants to generate their own self-images. This has been achieved using The Twenty Statements Test (TST; Kuhn & McPartland, 1954). This measure asks participants to respond to the question 'Who am I?'. Self-images generated using the TST have been coded using a number of different coding schemes developed using adult generated self-images (e.g., Kanagawa, Cross, & Markus, 2001; Kuhn & McPartland, 1954; Rhee, Uleman, Lee & Roman, 1995).

Montemayor and Eisen (1977) used a coding scheme developed by Gordon (1968) to categorise self-images generated by participants aged 9-18 years. They found a relationship between the age of young people and the frequency with which they used different categories. 'Occupational roles' and complex self-images (i.e., 'Beliefs' and 'Values') were more often generated by older adolescents and 'Physical appearance' was more often generated by younger adolescents. Some categories were rarely endorsed by young people, e.g. fewer than 4% of adolescent self-images were categorised as 'Political affiliation' and 'Social Status' (Montemayor & Eisen, 1977), compared with 65% of adults (Gordon, 1968). Also, more recent research has also highlighted developmental differences in the nature of commonly generated self-images described by adolescents and adults (Hards, Ellis, Fisk & Reynolds *in press*). Thus, this highlights important developmental changes in self-images and imply that using a coding method developed for (and with)

adults may mean that concepts that are more specific or unique to young people may not be included, and thus cannot be captured.

A methodological limitation of the TST is that self-images may be influenced by context. Therefore, it is not clear which aspects of the self classified within the TST coding schemes are most important. For example, some self-images (e.g., "I am a student") may be more easily generated in some contexts (e.g., a school; McGuire & Padawer-Singer, 1976). Thus, self-images may reflect elements of the immediate social or physical environment. To account for this, participants should identify the self-images that are most important to them. This may help identify which aspects of 'the self' may reflect stable and enduring knowledge about the self-concept.

The current study examines the content of adolescent self-concept using self-images generated by young people aged 13 to 18. The main objective of this study was to develop a new coding scheme to capture the content of self-images generated by adolescents. In addition, we aimed to examine the reliability of the new classification system and to address three research questions:

1. What aspects of 'the self' are most frequently generated by adolescents and are these associated with gender or age?
2. What 'Trait' self-images are most often generated by adolescents?
3. What self-aspects do adolescents identify as most important?

Methods

1.1 Participants

The current study uses data which is available in a freely accessible database the UK Data Service ReShare Repository under Hards & Fisk, 2018 at http://reshare.ukdataservice.ac.uk/853128/. doi: 10.5255/UKDA-SN-853128

Adolescents aged 13-18 years (n = 1688) from three publicly funded schools in the UK were invited to take part in the study. One school was in Northamptonshire and two were in Wiltshire. Head teachers were approached via email with information about the research. A researcher then met the senior leadership team in each school and discussed the aims of the study and what demands the study would place on the school. Following approval from headteachers and senior management teams, information packs describing the study were given to all students aged 13 to 18 and to their parents.

Consent/assent to take part in the research was obtained from 919 adolescents (54.4%). Participants with missing data (e.g., blank TST measures) were removed (n = 97). The final sample included 822 young people (48.7% of those invited to take part; 450 females, 54.7%). Their average age was 14.85 years (SD = 1.44). The sample was primarily White British (84.5%). A sub-sample of 258 adolescents who were all recruited from one of the schools (48% female, Mean age = 14.72, SD = 1.35) rated the importance of the self-images they generated.

1.2 Measures

Self-concept Participants completed the Twenty Statements Test (TST, Kuhn & McPartland, 1954). The TST provides 20 "I am.." sentence stems. Participants were asked to complete as many statements as possible by responding to the question "Who am I?". Participants were told not to think too much about their responses or to worry about the order of their answers. They were instructed to write down responses as they came to mind. Adolescents were not given any specific examples of responses they could include, they were told that they could include any way of describing themselves that they felt were important to them.

Importance ratings. Participants (n =258) were also asked to circle up to three self-images that "were the most important to them and best defined them as a person".

1.3 Procedure

Ethical approval was obtained by the University of Reading Department Research Ethics Committee. Parental consent was required from adolescents aged under 16 years and was provided via an opt-out method. If parents did not want their child to take part in the study, they were asked to return a written opt-out form to the school. They could also contact researchers or the school via email or telephone. If parents did not get in touch using any of these methods, they were deemed to have given consent for their child to participate in the research. All participants gave written informed consent or assent. Students under 16 years provided informed written assent and those over the age of 16 provided informed, written consent. If parental consent was not provided or adolescents did not want to take part, an alternative activity was provided to complete in class while data were being collected. Adolescents who took part in the research were entered into a prize draw, in which 10 young people (per school) had the chance to win a £10 amazon voucher.

Adolescents completed the Twenty Statements Test on paper (and where relevant importance ratings) in their class (n = 30) during the school day, either during tutorial time or timetabled Personal, Social, Health and Economic (PSHE) classes. All research was undertaken in the presence of a researcher.

1.4 Development of classification scheme to code self-images

Participants generated 6,558 self-images using the TST. An initial classification was generated with a random sample of 10% of responses. Statements were printed on individual cards and two researchers (EH & SR) working independently, initially sorted self-images into groups. This resulted in 13 categories or aspects of 'the self'. Nine categories were identified independently by both researchers and were labelled as follows; 'Core identity', 'I am unique', 'Academic self', 'Aspirations', 'Demographics', 'Family

relationships', 'Peer relationships', 'Physical appearance', 'Traits'. Four of these categories; 'Aspirations', 'Peer relationships', 'Physical appearance' and 'Traits' were further sub-divided into 'Positive', 'Negative' and 'Neutral' by both researchers independently. Four categories were identified by only one researcher; EH identified 'Extra-curricular activities'; SR identified 'Active roles', 'Hobbies', and 'Emotional self-reflection'. Following discussions, a common group of codes were agreed; Extra-curricular activities was separated into 'Active roles' (e.g., "I am a footballer") and 'Hobbies and interests' (e.g., "I am interested in dance"). 'Emotional self-reflection' was included as an additional category (e.g., "I am aware on my constantly changing mood"). The final classification included 12 categories, 4 of which were further sub-divided as 'Positive', 'Negative' or 'Neutral'.

Researchers (EH & SR) then classified a different random subset of 10% of self-images into the draft coding scheme. Disagreements were discussed, and most were resolved. Unresolved self-images included adolescent slang (e.g., "I am a G", "I am spicy") or were ambiguous in terms of their valance (e.g., "I am a perfectionist").

Definitions of each category were created. Next six young people aged 13-18 years helped to validate the classification system. They were asked to read a sample of self-images and allocate each to one of the categories. They were asked to discuss the categories and self-images and to suggest ways of improving them either by changing or adding to them. This resulted in some minor adjustments and the addition of an 'un-codable' category on the basis that the young people could not elicit the meaning or described them as "not serious responses". The final coding scheme is shown in Table 4.1.

Inter-rater reliability of the final iteration of the coding scheme was assessed. EH and SR independently classified another 10% of data. Inter-rater reliability was good (84.6% agreement, $\varkappa = 0.80$). Two independent judges who had not been previously

involved in discussing or developing the coding scheme also coded a random sample of 10% of the items using the definitions that had been developed; their inter-rater reliability was excellent 90.8%, $\varkappa$ = .87. A full description of each code in the classification scheme is provided in the Supplementary Material (see Appendix 4).

1.5 Coding synonyms

Within the category 'Traits' many of the self-images were synonyms. Two coders independently identified groups of synonyms to identify broader concepts used by young people to describe their personal traits or characteristics. Eight young people aged 13-17 years were also asked to review groups of synonyms and 'un-codable' self-images and were asked to amend or create new groupings. This feedback resulted in slight adjustments (e.g. "Never relaxing" was combined with "Restless"). The final classification of synonyms was made by EH and an independent judge; inter-reliability was excellent ($\varkappa$ = 0.85, 87%).

2. Results

2.1 Preliminary analyses

Un-codable self-images (n <0.5%) were removed from all analyses. All other data were screened according to parametric assumptions. Where data violated normality bootstrapping was used, heterogeneity was overcome by running Welch tests (Field, 2013).

Before answering our research questions, we examined if there was variability in the *number* of self-images generated by young people. The average number of self-images generated was 8.05 (SD = 4.69), and the range was 1 to 20. Girls generated significantly more self-images (M = 8.74, SD = 4.83) than boys (M = 7.22, SD = 4.37; $t(820) = 4.66$, $p < .001$, 95% BCa Cl [-2.15, -.88], $d = 0.33$). Therefore, to examine the research questions that considered the relative frequency of self-images, we calculated the proportion of self-images in each category in relation to the total number of self-images generated by each

participant. This meant that data were not independent. Therefore, multiple t-test were used, and the Bonferroni correction was applied (see Table 4.1, 4.2 and 4.4).

2.2 Content of self-concept

Table 4.1 shows how often each category was generated as a proportion of the total number of self-images. Four categories accounted for 82% of the self-images generated by young people. Of these the most common category was 'Traits'. More than half of all self-images that were generated by this sample of young people reflected their personal characteristics or attributes (e.g., "I am a dreamer"). As Table 4.1 shows, most of the personal 'Traits' were positively valenced. The other main categories of self-images were 'Family relationships (e.g., "I am a daughter")'- 6%, 'Peer relationships' (e.g., "I am a friend") - 6% and 'Demographics' (e.g., "I am a girl", "I am 17 years old") - 8%.

Aspects of the self that adolescents rarely generated (i.e., fewer than 2% of data) included images related to their 'Academic self', such as "I am a student", and 'Aspirations' ("I am hoping to be a doctor").

We compared gender and age differences in the use of self-aspects using t-tests to (see Table 4.1). Although there were few gender differences overall girls more often described themselves in relation to: 'Family relationships' ($t(820) = 2.89$, $p < .008$, 95% BCa Cl [-.05, -.01], $d = 0.15$ and 'Peer relationships' $t(820) = 3.14$, $p < .008$, 95% BCa Cl [-.03, -.01] $d = 0.20$). Adolescents were grouped into 'younger' – aged 13-15 years, and 'older' aged 16-18 years to examine age effects. There were few age differences; older adolescents described themselves in relation to their family more often than younger adolescents; 'Family relationships' $t(820) = 3.53$, $p < .008$, 95% BCa Cl [-.06, -.01], $d = 0.29$.

Table 4.1. Proportion scores for each self-aspect

Categories and subcategories	All	Male	Female	13-15	16-18
Traits	**62%**	**64%**	**60%**	**62%**	**62%**
Positive (kind, funny)	61%	66%	60%	38%	40%
Neutral (shy, quiet)	13%	11%	12%	7%	8%
Negative (tired, not intelligent)	19%	19%	20%	12%	11%
Negative emotions (angry, anxious)	7%	4%	8%	4%	3%
Demographics (age, student, female)	**8%**	**9%**	**8%**	**8%**	**8%**
Family relationships (sister, brother)	**6%**	**5%**	**7%***	**6%**	**8%***
Peer relationships	**6%**	**5%**	**7%***	**7%**	**5%**
Positive (a good friend, loved)	50%	60%	57%	42%	3%
Neutral (a friend)	17%	20%	14%	29%	1%
Negative (a bad friend, ignored by others)	33%	20%	29%	29%	1%
Physical appearance	**5%**	**5%**	**5%**	**5%**	**5%**
Positive (good looking, handsome)	20%	20%	20%	20%	20%
Neutral (blonde, blue-eyed)	40%	60%	40%	40%	40%
Negative (spotty, speccy)	40%	20%	40%	40%	40%
Active roles (footballer, basketball player)	**4%**	**4%**	**4%**	**4%**	**4%**
Emotional self-reflection (aware of my constantly changing mood)	**2%**	**2%**	**3%**	**2%**	**2%**
Hobbies and Interests (interested in fashion)	**2%**	**2%**	**2%**	**2%**	**2%**
Core Identity (African and proud)	**2%**	**2%**	**1%**	**1%**	**2%**
Academic self (enjoying school)	**1%**	**1%**	**2%**	**1%**	**1%**
I am unique (me)	**1%**	**1%**	**1%**	**1%**	**1%**
Aspirations	**1%**	**<1%**	**<1%**	**<1%**	**<1%**
Positive (looking forward to my future)	1%	<1%	<1%	<1%	<1%
Neutral (not sure what to do in the future)	0%	0%	0%	0%	0%
Negative (not looking forward to the future)	0%	0%	0%	0%	0%

NB. Self-aspects above the line indicate "Most common self-aspects"
**p < .008, Bonferroni correction applied.*

2.3 Content of 'Trait' self-images

Table 4.2 shows the most frequently generated 'Trait' self-images, including synonyms. Most young people generated multiple 'Trait' self-images that were classified as positive. The most common synonym group, generated by 46% of participants, was "Happy". The second most commonly generated synonym group generated by 40% of participants was "Kind". The 10 most commonly generated synonym groups are shown in Table 4.2; eight were positive, one was coded as neutral - "Shy" (17%) and one was coded as negative - "Tired" (14%)

To examine age-related changes in self-concept, we compared the most commonly generated 'Trait' self-images between young (13-15) and older (16-18) adolescents (Table 4.3). There were few age differences in the frequency of commonly used 'Trait' self-images. Younger adolescents generated significantly more self-images (or synonyms) for "Funny". Older adolescents generated significantly more images related to the attribute "Motivated" than young adolescents.

Table 4.2. Most common trait self-images

Trait synonym groups	%	Percentage of participants
Happy	45%	Happy (30%), Cheerful (6%), Positive (4%), Excited (2%), Joyful (1%), Smiley (1%), Optimistic (1%), Barely ever sad (1%), *[<1% Enjoying life, Never bored, In a good mood, Entertained, Jolly]*
Kind	40%	Kind (17%), Friendly (14%), Nice (4%), Outgoing (2%), Polite (2%) *[<1%, Sweet, Warm, Benevolent, Patient, Charming]*
Funny	36%	Funny (22%), Fun (4%), Bubbly (2%), Energetic (2%), Playful (1%), Always laughing (1%), Joker (1%), Excitable (1%), Hyper (1%), Lively (1%) *[<1%, Comical, The life of the party, Humorous, Entertaining, Giggly, Amusing, Witty, Upbeat]*
Smart	21%	Smart (7%), Intelligent (5%), Clever (3%), Academic (1%), Talented (1%), Skilful (1%), Logical (1%), *[<1%, Knowledgeable, Information seeking, Scientific, Bright, Mathematical, Wise, A quick thinker, Capable, Educated, Intellectual, Rational]*
Sporty	20%	Sporty (12%), Active (3%), Healthy (3%), Athletic (1%), Fast (1%) *[<1%, Agile]*
Caring	19%	Caring (10%), Loving (6%), Compassionate (1%), Empathetic (1%) *[<1%, Well-tempered, Warm-hearted, Sympathetic]*
Good	18%	Good (3%), Lovely (2%), Cool (2%), Awesome (2%), Amazing (1%), Godlike (1%), Lucky (1%), Great (1%), Legend (1%), Special (1%) *[<1%, Class, Thrilling, Always right, The best, Desirable, Fabulous, Spiffing, Funky, Wacky, The big I am, Colourful, Fantastic, Super boy, Brilliant, Adorable, Cute, Better, The bees knees, Perfect, Exciting, Wonderful]*
Shy	17%	Shy (8%), Quiet (7%), Unsociable (1%) *[<1%, Conservative, Closed person, Self-enclosed, Guarded, Passive, Secretive, Not outgoing, Withdrawn]*
Confident	16%	Confident (8%), Loud (5%), Bossy (1%) *[<1%, Cocky, Known for being a smart-arse, Over-confident, Arrogant, Boastful, Noisy, Dominant, Alpha male, Sassy, Bold, Cheeky, Stuck up, Blunt, Straight to the point, Socially confident, Charismatic]*
Tired	14%	Tired (12%), Sleepy (1%) *[<1%, Lethargic, Exhausted, Insomniac]*

Table 4.3. Most common synonym groups

	Young adolescents %	Older adolescents %	Chi-square analysis
Happy	47%	41%	$\chi(1) = 2.25$, $p = .134$
Kind	41%	38%	$\chi(1) = .65$, $p = .421$
Funny	39%	28%	$\chi(1) = 8.77$, $p = .003$
Smart	23%	17%	$\chi(1) = 3.69$, $p = .055$
Sporty	20%	18%	$\chi(1) = .38$, $p = .536$
Good	20%	14%	$\chi(1) = .4.09$, $p = .04$
Caring	19%	19%	$\chi(1) = .00$, $p = .992$
Shy	18%	17%	$\chi(1) = .15$, $p = .70$
Loud	15%	19%	$\chi(1) = 2.02$, $p = .16$
Tired	12%	19%	$\chi(1) = 6.69$, $p = .010$
Motivated	5%	19%	$\chi(1) = 39.69$, $p = <.001$

NB. Percentage of adolescents who generated trait self-images. [1]*Chi-square analysis is computed on synonym categories, with Bonferroni correction applied, adjusted p-value was p = .005*

2.4 Most salient self-images

A sub-group of participants (n = 258) were asked to identify up to 3 self-images that were the most salient or important to them. They rated a mean of 2.65 self-images as most salient (n = 684; See Table 4.4). These were most often coded as 'Traits' (66%), 'Peer relationships' (8%) and 'Physical appearance' (7%). The majority of 'Trait' self-images and 'Peer relationships' were positive. In contrast, self-images in the 'Physical appearance' category were coded as negative (43%) or neutral (43%). There were no gender or age differences in the categories of self-images that were identified as salient.

Table 4.4 Most salient self-aspects

Categories and subcategories	All	Males	Females		13-15	16-18	
Traits	**66%**	**66%**	**67%**		**64%**	**71%**	
Positive	68%	71%	66%	$t(231) = .66$, $p = .513$	70%	65%	
Neutral	10%	8%	12%	$t(231) = 1.38$, $p = .17$	10%	11%	$t(231) = 1.21$, $p = .23$
Negative	22%	21%	22%		20%	24%	$t(231) = .48$, $p = .63$
Peer relationships	**8%**	**7%**	**8%**		**9%**	**5%**	
Positive	63%	57%	75%	$t(43) = 1.58$, $p = .12$	56%	60%	$t(43) = .77$, $p = .44$
Neutral	12%	14%	0%		11%	20%	
Negative	25%	29%	25%		33%	20%	$t(43) = .31$, $p = .31$
Physical appearance	**7%**	**6%**	**6%**		**7%**	**6%**	
Positive	14%	17%	0%		14%	17%	
Neutral	43%	50%	33%	$t(37) = .33$, $p = .75$	43%	50%	
Negative	43%	33%	67%	$t(37) = 2.37$, $p = .02$	43%	33%	

NB. Bonferroni correction applied, adjusted p-value was p = .006

3. Discussion

To our knowledge this is the first study to elicit self-images from a large sample of young people and to develop and evaluate a classification system specifically for adolescents, and with the involvement of adolescents. Using this coding scheme, we were able to identify how a community sample of boys and girls aged 13 to 18 years described themselves. In a sub-sample of participants, we also identified the aspects of self-concept that young people felt were the most important or salient.

Our coding scheme had 12 categories and could be coded reliably by two researchers and by naïve independent raters. We used young people as participant researchers to make sure that the categories were meaningful to young people. The majority of these categories converge with existing literature based on predefined items instruments. For example, aspects of self-concept described within the current classification scheme including; 'Academic', 'Emotional self-reflection', 'Physical appearance' are identified with the model of self-concept proposed by Shavelson et al. (1976). Also, aspects of self-concept identified in the current classification scheme including 'Family relationships', 'Peer relationships', 'Physical appearance' and 'Academic self' are consistent with Marsh's Self-Description Questionnaire (Marsh, 1988; 1989). The aspects of self-concept also map closely to Bracken's Multidimensional Self-concept Scale (1992), specifically 5/6 aspects (e.g., 'Academic', 'Family', 'Physical', 'Affect' and 'Social'). This convergence on results is obtained from different methods in psychology are important and suggest that endorsed measures may be assessing relevant aspects of self-concept that young people spontaneously describe.

Then, using the coding scheme we established which self-images were most often used by young people. Four aspects of 'the self' accounted for 82% of all self-images that were generated. Self-images relating to 'Traits' i.e., personality characteristics or

emotional states, were most often generated. These were followed in frequency by 'Family relationships', 'Peer relationships' and 'Demographic' characteristics. There were very few differences in the self-images that were generated by boys and girls, or by young and older adolescents.

The high frequency with which young people generated 'Trait' self-images is consistent with research and theory suggesting that during adolescence young people actively engage in self-reflection. According to Harter (2012) the attention of adolescents turns 'inward' to answer fundamental questions such as "Who am I?". Simultaneously, young people develop the ability to think abstractly, and therefore are more able to construct more complex self-images which relate to internal, psychological information about the self, i.e., personal attributes (e.g., "I am sensitive"; Damon & Hart, 1988; Harter, 2012). The majority of 'Trait' self-images generated by young people were positively valenced. This finding is in contrast to reports that adolescence is characterised by problems adjusting to significant psychological, emotional, physical and social changes associated with the transition to adulthood (Jaworska & MacQueen, 2015) and low self-esteem (Robins and Trzesniewski, 2005). The strength and frequency of the positive self-images generated by the majority of young people in this large sample is therefore particularly important, given the well-publicised reports that suggest and increase in the prevalence of mental ill-health among young people (Pitchforth et al., n.d.).

Young people identified self-images that were most salient or important to them. These were 'Traits', 'Physical appearance' and 'Peer relationships'. These important aspects of 'the self' are consistent with previous research (e.g., Shavelson et al., 1976; Harter, 1982; Marsh, 1988). Of interest is the finding that the most common personal 'Traits' were related to interactions with others (e.g., "I am kind"), or attributes that may enhance social relationships (e.g., "I am funny"; "I am bubbly"; Damon & Hart, 1988).

This is in-line with research and theory which suggests that adolescents place importance on their social environment and become increasingly concerned with how they appear and are evaluated by others (Damon & Hart, 1988; Harter, 2012). As reported by many other researchers (e.g., Carlo et al., 1999), adolescents in this study rated relationships with their peers as salient more often than family relationships. The importance of self-images related to 'Physical appearance' is also consistent with the literature (e.g., Voelker, Reel & Greenlead, 2015). Pubertal changes in adolescence are also suggested to focus adolescents' attention to the 'physical domain' (e.g., 'How I look') and may make self-images related to body weight and general physical appearance particularly salient due to this increased focus (Markus, Hamill & Sentis, 1987). Of interest is that adolescents identified mostly *negative* and *neutral* self-images about their physical appearance, but *positive* images relating to their 'Traits' and 'Peer relationships'.

This research has a number of important implications for assessing self-concept during adolescence. Firstly, identifying which aspects of 'the self' are generated by and important to young people may provide a better understanding of self-esteem in young people. It is plausible to assume that salient aspects of 'the self' have a greater influence over self-esteem (Harter, 2012). Our data may suggest that how positively or negatively an adolescent perceives their 'Traits', 'Physical appearance' and 'Peer relationships' is likely to influence their overall self-esteem in a more direct way than their evaluation of less central or salient aspects of the self (e.g., 'Hobbies and Interests').

Secondly, the classification scheme developed here could help the assessment of mental health difficulties in young people. Disturbances or difficulties with self-concept, (typically described as 'self-evaluation') is a symptom of several mental health disorders. For example, negative self-evaluation is a common symptom of depression in adolescents (Orchard, Pass, Marshall, & Reynolds, 2017) and is a key component of the cognitive

theory of depression (Beck, 1967). Similarly, psychological models of eating disorders and body dysmorphia place a focus on how individuals appraise aspects of their physical appearance (e.g., weight, shape or attractiveness). This study provides normative data from a large sample of young people against which self concept of young people in clinical settings could be compared. The coding school could be used to examine how adolescent self-concept contributes to the development or maintenance of mental health problems. For example, using the TST is may be possible to identify what comes to mind of the adolescent spontaneously, thus helping to identify recurrent themes or dysfunctional thoughts present in psychopathology (i.e., negative valenced-self-images in the case of depression for example).

Thirdly, the classification scheme could be used to compare aspects of 'the self' in adolescents from different cultures. In collectivist cultures (e.g., southern European countries) 'the self' is suggested to be defined primarily in relation to other people, and contrasts with 'the self' in individualistic cultures (e.g., United States of America) which, it is suggested, is focused on the individual and their personal attributes, values and beliefs (Markus & Kitayama, 1991). However, little research has examined the development of self-concept in adolescents from different cultures. This is important because 'the self' is proposed to act as a control system (Conway & Pleydell-Pearce, 2000) that directs attention (i.e., to self-relevant information, Tacikowski & Ehrsson, 2016), influences motivation (i.e., to achieve goals, Conway, 2005) and is implicated in affect (i.e., self-esteem, Rosenberg, 1965). Therefore, if culture influences the content of self-concept this may highlight important cross-cultural differences in self-esteem and the type (or content) of information perceived as self-relevant.

This study had some important strengths and limitations. The design of the study was cross-sectional. Thus, self-aspects categorised here reflect aspects of 'the self'

generated by adolescents at a single point in time. Longitudinal research would be helpful to assess self-concept over time and to track developmental changes across adolescence. The testing environment may have also influenced the types of self-images generated. Adolescents completed measures in a classroom seated next to their peers, in the presence of a researcher. Therefore, personal or 'private' self-images may have been supressed. The use of online data collection to reduce the effect of external factors and may help overcome this potential bias but might introduce different contextual influences. The data were collected from a large sample of young people from different regions in the UK. Also, young people were involved in the construction and validation of the coding scheme. Thus, the aspects of the self reported here are likely to reflect an adolescent self-concept, in this cultural context, at this point in time.

4. Conclusion

This exploratory study using a large sample of adolescents aged 13 – 18 elicited adolescent generated self-images and coded these using a new classification system. The most frequently generated self-images were 'Traits', 'Demographics', 'Family relationships' and 'Peer relationships'. There was minimal impact of age or gender on the frequency with which self images were generated. Adolescents rated 'Traits', 'Peer relationships' and 'Physical appearance' as the most salient aspects of the self. Further research is required to examine how these self-aspects are integrated within self-concept and investigate how self-concept is related to the development and maintenance of affective disorders including depression.

Conflicts of interest

The authors report no conflicts of interest

Financial disclosure

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Chapter 5 Afterword for Paper 2 (i)

5.1 Clarification of the type and use of data presented in Paper 2

Self-images obtained using the Twenty Statements Test (Kuhn & McPartland, 1954) from the full sample of young people (i.e., n = 822) was used in Paper 2. This is the same data presented in Paper 1 but analysed differently. In Paper 2, a novel coding scheme was presented. This classifies aspects of the self and considers the different domains within an adolescent self-concept. This is different to Paper 1 which used an existing coding scheme that had been developed for adults to produce a count of commonly used self-images referred to as 'Norms'. Also presented in Paper 2 are importance ratings of self-images generated by young people using the TST, this is novel data only presented in this paper.

5.2 Unique contribution of the classification scheme presented in Paper 2

To further highlight the unique contribution of the classification scheme presented in Paper 2 it is important to compare the methods of coding from Papers 1 and 2. In Paper 1, data were classified into 'Norms', with a frequency count of how often each self-image was generated by young people. While this is useful, this coding scheme does not consider what domains or aspects of the self are typically present within an adolescent self-concept. However, this is achieved by the classification scheme in Paper 2. This new coding scheme collated similar themed self-images and data were organised by content. Using this coding scheme allows researchers to observe the aspects of the self typically described by young people. This is important because research investigating the self has tended to neglect adolescence and focus primarily on adulthood, despite the suggested importance of adolescence in constructing a sense of self. Therefore, using the classification scheme in Paper 2, enables researchers to observe the aspects of the self generated by adolescents and

therefore reflects the content of the self and multi-dimensional nature of the self in this population.

The classification scheme in Paper 2 also considers synonymous self-images. This was not considered in the method of coding presented in Paper 1 and therefore, many constructs are under-represented. However, in the coding scheme presented in Paper 2, a method for classifying related constructs (e.g., 'Happy', 'Cheerful') is presented which therefore provides more accurate information on how common these self-images are and how often they are used by young people to describe their self.

The classification scheme presented in Paper 2 also has important utility within the self literature more broadly. Specifically, as described in Chapter 1, there is limited research examining the self in adolescence and this consistent across many domains in psychology such as cultural, clinical or cognitive psychology. Typically, conclusions about the content of the self in adolescence rely on endorsed measures or use adult measures. Therefore, it is important that when examining an adolescent self-concept research across psychology uses methods that has been verified by young people themselves, given that conclusions drawn reflect this population. For this reason, the use of the classification scheme in Paper 2 is useful to domains of psychology that focus on spontaneous self-descriptions or how young people describe their self more broadly. In cultural psychology, this coding scheme could be applied to examine cross-cultural differences in how young people spontaneously describe their self. For example, the frequency and type of self-aspects could be compared between adolescents from individualistic and collectivist cultures. This would provide more insight into the importance of the culture and the social environment in shaping how young people view and describe their self as their sense of self.

Also, in relation to psychopathology, using the classification scheme presented in Paper 2, it would be possible to examine how the content of the self (i.e., self-aspects) may differ in respect to mental health disorders. For example, in relation to depression, it may be that adolescents who describe fewer self-aspects are at risk of depression. This is because they may have a less complex sense of self that is easily 'overwhelmed' by negative life experiences as described by the self-complexity theory (Linville, 1985; 1987). Thus, using this classification scheme may identify key differences in the content of the self in respect to depression in young people. This may have important clinical implications, for example, if young people with depression were found to describe fewer self-aspects in relation to specific domains, encouraging social participation in valued activities that are important to their sense of self may boost these domains and therefore may improve their depression.

Also, given that synonymous self-images are identified in the classification scheme presented in Paper 2, it would also be possible to examine commonly generated self-images and how they may differ across psychopathology. For example, in relation to depression, anxiety or eating disorders it would be possible to identify common dysfunctional perceptions. This is important because spontaneously generated self-images are likely to reflect important and therefore more stable perceptions of the self. Thus, identifying commonly generated self-images in relation to these disorders may therefore provide evidence to suggest how psychopathology may influence perceptions about the self.

Chapter 6 Afterword for Paper 2 (ii)

6.1 Additional analysis of data presented in Paper 2.

Further analysis was conducted to examine the positioning of self-images selected as 'the most important' by a sub-group of participants (n = 258). This was because the first self-image generated by participants using the TST is often suggested to reflect the most accessible and therefore important perceptions about the self. This is because important information about the self is suggested to be highly accessible, as it is active in the working self (Conway, 2005) and therefore is easily retrieved; this is described in more detail in Chapter 1, section 1.10.1.

However, it may be that these first self-images generated by young people may not reflect salient perceptions of the self, but instead may have reflected accessible perceptions about the self, cued by the testing environment. For example, McGuire and Padawer-Singer (1976) found that a female in a room of males was more likely to use 'gender' when describing herself. Thus, to assess this further, analysis was conducted to examine the order of items selected as most important.

Table 5.1 shows the proportion of importance ratings for each position on the TST made by adolescents. Overall, the first self-image generated by young people was most often identified as important, this did not differ by gender ($\chi(1) = 1.98$, $p = .166$) or age ($\chi(1) = 1.32$, $p = .251$). Few adolescents identified any self-images between the 15th-20th position as important. Self-images generated earlier in the TST tended to be rated as salient more often than those appearing later. Thus, these results are consistent with the idea that the first self-image generated by young people using the TST is likely to reflect the most important and therefore accessible perceptions of an adolescent self.

Table 5.1. Importance ratings for each self-image position on the TST

Positioning of self-image	Full sample	Males	Females	13-15	16-18
1	26%	28%	23%	27%	23%
2	16%	16%	16%	15%	16%
3	15%	15%	14%	15%	13%
4	11%	11%	12%	12%	11%
5	7%	6%	9%	7%	9%
6	7%	6%	7%	7%	7%
7	6%	6%	6%	6%	7%
8	4%	3%	4%	3%	6%
9	3%	4%	2%	2%	5%
10	2%	2%	2%	2%	1%
11	1%	1%	2%	1%	1%
12	1%	1%	1%	1%	1%
13	0%	1%	0%	0%	1%
14	1%	0%	1%	1%	1%
15	0%	0%	0%	0%	0%
16	0%	0%	0%	0%	0%
17	0%	0%	0%	0%	0%
18	0%	0%	0%	0%	0%
19	0%	0%	0%	0%	0%
20	0%	0%	0%	0%	0%

6.2 References

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Chapter 7 Part One Summary

7.1 Overview

Adolescence is a suggested to be a critical period for the development of the self and it is therefore important that research examines the content of adolescent self-images. The overall aim of Papers 1 and 2 was to examine the content of the self in adolescents. These studies used a self-generated method - The Twenty Statements Test and asked adolescents to describe themselves using the stem "I am …". This method was used because previous research has either used global measures of self-esteem, endorsed measures, or examined a specific aspect of the self in isolation. Thus, using an open-response measure enabled the examination of easily accessible images of the self, and allowed adolescents to use their own descriptions of the self.

In Paper 1 we found that the most commonly generated self-images differed between adolescents and adults. Adults used more social roles. This may highlight important differences between the self across these two populations. Since these differences were observed, it might not be appropriate to apply adult measures or coding schemes to adolescents. Thus, it is important to develop adolescent specific measures of the self. Therefore, in Paper 2, a new adolescent coding scheme for the TST to categorise self-aspects in young people was presented.

The findings from both papers suggest that the most commonly generated self-images were personal 'Traits'. Overall, these were predominately positive. Therefore, despite the significant physical, psychological and social changes associated with adolescence as a period of development, most adolescents described a positive self. Since, there are significant concerns about adolescent mental health and well-being (Gunnell, Kidger & Elvidge, 2018) this finding is both surprising and comforting.

The classification scheme presented in Paper 2 may be applied to examine a number of psychological phenomena. This may include examining cross-cultural differences in the self or examining how the self is disrupted in psychological disorders such as anxiety, depression, psychosis and schizophrenia for example. The applications of this method are discussed further in the Chapter 14, General discussion, section 14.3.3. One important application of this classification scheme is to better understand associations between the self and depression in young people. This is the focus of part two of this thesis. Adolescence reflects a period of life when depression disorders tend to emerge (NHS Digital, 2018). This is important because increased self-awareness and self-focused attention is associated with adolescence and is sometimes assumed to be negative. Depression is associated with excessive self-focused attention on the self (Mor & Winquist, 2002; Sloan, 2005) and is characterised by negative self-evaluation and a negative view of the future (Beck, 1967). Negative self-evaluation and a negative view of the future are described as key features of depression in young people and are suggested targets in psychological therapy. However, to date, no research has examined whether adolescents spontaneously generate negative self-evaluation and negative possible selves (i.e., 'the self' in the future). It is important that research examines this as this will improve our understanding of depression in this population and ultimately help improve current treatment for adolescent depression.

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Part Two: Self-concept in Adolescent Depression

Chapter 8 Part Two: General Introduction

8.1 Overview

Part one of this thesis examined the content of the self in adolescents and presented a novel classification method. Using this adolescent specific classification scheme, it may be possible to examine how the self is disrupted in depression. Thus, the aim of the second part of this thesis is to examine associations between the self and depression in young people. Specifically, this part of the thesis contains two papers: Paper 3; 'Negative view of the self and symptoms of depression in adolescents' and Paper 4; 'Envisioning the future: Possible selves and depression symptoms in adolescents". Following these papers, a general discussion is also provided which reviews the findings and implications of all the papers presented in this thesis.

This chapter includes a critical appraisal of relevant research and theory related to 'the self' in adolescent depression. Additionally, for the first time in this thesis, this thesis will consider the future component of the self– i.e. the possible self (Markus & Nurius, 1986), in relation to depression. Major depressive disorder (MDD) is defined, and the prevalence and main features of this disorder in adolescents are described. Importantly, one of the most influential psychological theories of depression – the cognitive model (Beck, 1967), is discussed. Following this, clinical research related to two key features of adolescent depression – 'negative view of the self' and 'negative view of the future' will be critically evaluated.

Given the clinical focus of this section, terms used to describe the self differ from the terms used previously throughout this thesis. The most commonly used terms of 'the self' used by clinical researchers are *self-evaluation* and *self-referential processing*. These self-terminologies will be defined in the following sections.

8.2 Depression in adolescence

Major depressive disorder (MDD) is the leading cause of disability worldwide and is a major contributor to the overall burden of disease according to World Health Organisation (WHO, 2016). Depression is a common, mental health disorder with over half of all cases experiencing their first depressive episode during childhood or adolescence (Zisook et al., 2007). There is an estimated prevalence rate of 2.7% - 4.8% among 11-19-year old's in the UK (NHS Digital, 2018). Depression in young people is a major risk factor for suicide, and suicide is one of the leading causes of death in young people aged 15-19 years (Windfuhr et al., 2008). Depression in young people is associated with substance abuse such as smoking (Glied & Pine, 2002), and has many detrimental effects including loss of cognitive, social and interpersonal functioning (Kupferberg, Bicks, & Hasler, 2016). Adolescents with depression are more likely to engage in risky sexual behaviours (Ramrakha, Caspi, Dickson, Moffitt, & Paul, 2000) and have a poorer mental-health in adulthood, with increased risk of depression and anxiety disorders (Johnson, Dupuis, Piche, Clayborne, & Colman, 2018).

Major depressive disorder refers to a collection of specific symptoms associated with impairment which is prolonged and severe (Hammen & Watkins, 2008; Thapar, Collishaw, Pine, & Thapar, 2012). A clinical diagnosis of depression according to the Diagnostic and Statistical Manual (DSM-5 APA, 2013) requires five (or more symptoms) to be present all (or most of the day), over a period of two weeks. These symptoms must reflect a change from a person's baseline or 'normal'. Core symptoms must include either depressed mood (or irritability in adolescents) or loss of interest/anhedonia in nearly all activities. Other symptoms of depression include sleep disturbances such as insomnia, fatigue, difficulty concentrating and indecision, suicidal ideation or suicide attempts, appetite disturbances such as increased or decreased appetite, weight loss or increases in weight (>5%),

psychomotor agitation or retardation, negative self-perceptions such as worthlessness and inappropriate or excessive feelings of guilt. Importantly, to receive a diagnosis, these symptoms should be 'clinically significant'. They must cause distress or impaired functioning in important areas of a person's life (e.g., social life such as relationships, or occupation such as school or a job; Hammen & Watkins, 2008).

Adolescent depression onset is suggested to be a more severe form of adult-onset depression. Specifically, the onset of depression in adolescence is associated with higher rates of co-morbidity compared to adult depression (Alpert et al., 1999). Depression in adolescence is also associated with more suicidality, depression symptoms are more severe, and depressive episodes are longer than depression in adulthood (Zisook et al., 2004). Perhaps even more importantly, between 54-60% of young people with remitted depression may experience later depressive episodes within 6 years (Emslie et al., 1997; Kovacs, 1996).

8.3 Cognitive theory of depression

The cognitive theory of depression (Beck, 1967) is one of the most influential psychological models of depression. Beck examined clinical material from psychotherapy with 50 depressed patients. He examined differences between these patients and healthy controls who also received psychotherapy and concluded that there were important differences in negative thinking. Depressed individuals tended to have depressed cognitions, which he hypothesised were causal factors in depression, rather than a by-product of low mood and depression. He also proposed that depressed cognitions are activated in response to an interpretation of an event, rather than the event itself. The type and content of depressed cognitions is discussed in more detail in section 8.4.

8.3.1 The cognitive triad

The cognitive triad Beck (1967), describes negative cognitions held by individuals with depression. These negative cognitions relate to three areas; the self, the future and the world.

8.3.2 Negative view of the self

Beck argued that individuals with depression hold a pervasive negative view of their personal qualities and characteristics. For example, they tend to attribute the cause of any adverse event (e.g., getting a low mark in a maths test) to themselves ("I am no good at maths", "I am a complete failure", "I am no good at all"). This event becomes the focus of attention and is magnified, and an individual is unable to consider other perceptions or evaluations of themselves. For example, an individual who describes themselves as "bad at maths" may then describe themselves as "stupid" or "thick", and may automatically discount any contradictory evidence, for example, being good at English.

8.3.3 Negative view of the future

Beck (1967) suggested that depressed individuals also have a negative view of the future. As individuals view themselves negatively, using terms such as 'worthless' ("defeated, deprived, or deprecated"; Beck & Alford, 2009, p. 231) therefore the future is consequently observed as depressing and hopeless. Importantly, Beck argued that both long term and short-term views of the future are equally negative, thus the future is viewed with pessimism with no chance of improvement.

8.3.4 Negative view of the world

This component of the triad refers to the interpretation of negative interactions with the environment as reflecting 'defeat' or 'deprivation'. Individuals may perceive their lives are full of hurdles and burdens and the general world as containing conflict and war (Beck, 1967). Depressed individuals tend to make automatic, negative interpretations of an event,

even though other explanations may be more plausible (Beck & Alford, 2009) . Situations are moulded to fit in with the pre-existing negative conclusions, thus causing exaggerated self-depreciation. For example, a friend may not have said "hello" when walking into work. The negative interpretation may be that the friend doesn't "like me" or "I've upset her". However, the more plausible explanation may be that the friend had their headphones in and was looking at their phone, oblivious. However, in depression, the latter is ignored and the negative interpretation (i.e., "I've upset my friend") is believed.

8.4 Depressed cognitions

8.4.1 Types of depressed cognitions

Beck (1967) identified a number of characteristic 'thinking errors' that are made by people with depression. *Arbitrary inference* was described as an interpretation of an event or situation in a particular way, without any supporting evidence. An alternative interpretation (which may be more plausible) is not considered. *Selective abstraction* was defined as an excessive focus on particular details of a situation or event, and describing the event using those details only - while ignoring other more important features. For example, getting predominately positive feedback on an assessment, but one negative comment, and thinking "I did poorly in my assessment". *Overgeneralisation* is described as making a generalisation about the self (i.e., an individual's ability or performance) based on one event or situation. For example, scoring a below-average mark in an A-Level test and having thoughts such as "I am going to fail my A-Levels" or "I am a not going to get the grades I need for university." *Magnification and minimization* are defined as either an underestimation of an individual's performance/ ability (e.g., "I won't be able to do that, I am no good at X task"), or an exaggeration of a minor negative event (i.e., as a catastrophe). *Inexact labelling* is related to magnification and minimalization. It is the description of an event which reflects the "affective reaction" (Beck & Alford, 2009, p.

205) rather than the actual situation. For example, an individual may have received feedback from their manager following a small error they had made but misinterpreted how the feedback was given (magnified the event) and subsequently felt they had been 'attacked' (an example of *inexact labelling*).

8.4.2 Features of depressed cognitions

Beck (1967) suggested that depressive cognitions are *automatic, intrusive,* and *involuntary*. They typically reflect the first thing that 'springs to mind' and occur without any prior thought or reflection. Importantly, depressed cognitions are suggested to occur even when an individual is trying to avoid them. Depressed cognitions are described as *plausible*, i.e. the individual tends to believe and therefore accept the cognition as a fact. These thoughts are also suggested to have the common feature of *perseveration*. Individuals tend to show the same (or similar) depressed cognitions when interpreting many different situations and events. These thoughts are suggested to occupy the forefront of an individual's mind in the form of rumination.

Despite the similar features of depressive cognitions, Beck (1967) suggested that they varied on the level of cognition. Three levels were identified. *Automatic thoughts* refer to words or images that are 'brought to mind' in response to an event or situation, for example an upcoming examination may trigger thoughts such as "I will fail" or "this is too hard". Automatic thoughts reflect the most superficial level of cognition (Beck, 2011). The identification and modification of these thoughts is the focus of early session in Cognitive Behavioural Therapy. The next level of cognition includes *Dysfunctional assumptions* (Beck, 1967). These assumptions also include personal attitudes and rules. They are often not realistic and set the individual up for failure. For example, the assumption "If I don't do well in everything I do, then I have failed", is not realistic as it is impossible to 'do well' all the time. The highest level of cognition is *core beliefs. They* are described as

stable, inflexible, and overgeneralised thoughts about the self, the world and/or the future (Beck, 1967; Beck, 2011; Dobson, 2012). Importantly, when a core belief is inaccurate or unhelpful (e.g., "I am useless") it is suggested to have a large effect on an individual's self-worth.

According to Beck (2011) core beliefs (e.g., "I am a failure") have a direct influence on an individual's assumptions (e.g., "Even if I try my best on difficult things, I will fail. If I avoid doing them, I will be alright"). These beliefs also influence how events or situations are interpreted (e.g., an upcoming A-Level exam is viewed as impending doom), and trigger automatic thoughts (e.g., "I can't do the exam, "I will fail", "I will never get into university"). This influences how an individual feels (e.g., hopelessness and despair) and behaves (e.g., avoiding revising for the exam or not going to school). Thus, when a core belief is activated (e.g., "I am a failure"), all interpretations of situations or events (e.g., scoring a below-average mark in an examination) are perceived through this lens (e.g., this examination results occurred because "I am a failure", rather than other more plausible explanations).

8.5 Self-evaluation and depression: Background literature

The cognitive theory of depression (Beck, 1967; 1979) suggested that negative cognitions influence how an individual thinks, feels, behaves and how they interpret situations. Therefore, how a depressed individual thinks about their self may be pervasively negative (Beck & Alford, 2009) . Specifically, Beck (1967) defined a negative view of the self as a key feature of depression. Beck and Alford (2009) described that depressed individuals "often express negative feelings about themselves" (p.19). Importantly, they suggest that these thoughts are different from more general negative thoughts because they are specifically related to the self. In mild depression they suggest that patients are "disappointed in themselves", whereas in more severe depression, patients

may “hate themselves” (p.19). This may be observed by individuals using statements such as “I am an awful person”, “I hate myself”.

The relationship between self-evaluation and depression has been assessed from different perspectives. Negative self-evaluation is both a commonly identified symptom of depression and a predictor of depression diagnosis in adolescents. Orchard, Pass, Marshall, and Reynolds (2017) examined data from diagnostic interviews with 100 young people aged 13-18 referred with a suspected diagnosis of depression. Of the 43 adolescents that received a clinical diagnosis of depression the most common symptoms were low mood or irritability (100%), followed by negative self-evaluation (86%) and suicidal ideation (86%). Less common symptoms included psychomotor changes (19%) and fatigue (43%). However, it is important to note that this sample of young people, who were being assessed in the context of an NHS mental health service, may not be representative of all young people with depression. Young people with mild symptoms or those who presented with immediate risk were not included and therefore, caution is needed when generalising from these data.

Other research has assessed the relationship between self-esteem (a form of negative self-evaluation) and depression in young people. Beck & Alford (2009) found that low self-evaluation was observed in 81% of severely depressed individuals, and that a distorted ‘self’ was evident in 66% of severely depressed individuals. There is also some evidence that negative self-evaluation may play a causal role in the development of depression. Trzesniewski et al. (2006) assessed self-esteem, and depression in 359 adolescents at ages 11, 13, 15 and 26 years. They concluded that adolescents with low self-esteem were more likely to develop clinical depression or anxiety in adulthood (i.e., by age 26) than adolescents with higher self-esteem. Orth, Robins, and Roberts (2008) assessed self-esteem and depression severity in 2403 young people at four time points (ages 15, 17, 19 and 21

years). Low self-esteem at time 1 predicted higher depression severity across all time points, i.e., time 2, 3 and 4. Interestingly, elevated depression severity did not predict subsequent low self-esteem at any of the time points. These results were replicated in a second study, also described in Orth et al. (2008). In a sample of 359 young people who were assessed annually from 18 years to 21 years, elevated depression predicted low self-esteem at all time 4 points, but low self-esteem did not predict depression at any of these time points.

Other studies examining the relationship between 'the self' and depression have focused on 'self-referential processing'. This is conceptualised as a cognitive bias in which depressed individuals tend to attribute more negative characteristics to their 'self', compared to healthy controls (Lemogne et al., 2010). To assess self-referential processing the self-referential encoding task (SRET) is often used. This task includes positive (e.g., 'happy') and negative adjectives (e.g., 'boring') and participants are asked to decide whether or not each item describes them. The number and type of adjectives used in the SRET task varies across studies, for example 60 adjectives were used by Derry and Kuiper (1981), whereas 40 adjectives were used by LeMoult, Kircanski, Prasad, and Gotlib (2017). Following this there is a distractor task and then a surprise recall task when participants are asked to recall as many words as they can (LeMoult et al., 2017). Connolly, Abramson, and Alloy (2016) assessed negative self-referential processing and depression symptoms in a community sample of adolescents. Individuals with more symptoms of depression endorsed more negative words and fewer positive words as describing their self. During the free recall task, individuals with elevated symptoms of depression were quicker at recalling negative words but took longer to recall positive words than adolescents with lower depression symptoms. In addition, recalling fewer positive words (at baseline) predicted an increase in depression symptoms 9 months later.

However, it is important to note that the sample of young people who completed measures at Time 2 may be biased. Adolescents who did not take part in Time 2 (n = 203) had significantly higher depression symptoms at baseline. Therefore, this sample of young people who completed measures at Time 2 is biased towards those with lower levels of depression symptoms.

Auerbach, Stanton, Proudfit, and Pizzagalli (2015) examined self-referential processing in 30 healthy and 22 clinically depressed female adolescents. Depressed adolescents endorsed significantly more negative adjectives and healthy adolescents endorsed significantly more positive adjectives. During the recall task depressed female adolescents recalled significantly fewer positive words than healthy female adolescents. However, this research (i.e., Auerbach et al. 2015) focused on female adolescents exclusively. This is problematic because males are under-represented in depression research (Chuang et al., 2017). This is primarily because there are fewer males with depression and males are less likely to seek help for their mental health and often hide or struggle to report their symptoms (Smith, Mouzon, & Elliott, 2018). Thus, males may be harder to recruit than females. However, it is important that research uses samples which consider each gender where possible.

Orchard and Reynolds (2018) examined negative self-evaluation using the negative self-referential paradigm with community adolescents (n = 212) and adolescents referred for depression (n = 84). Self-evaluation was assessed using the Self-Description Questionnaire (SDQ; Kelvin, Goodyer, Teasdale & Brechin, 1999). This measure includes 24 adjectives (10 positive, 10 negative and 4 neutral). Participants are asked to rate how much each descriptor described them on a scale of 0-3. Interpretation bias and negative self-evaluation significantly predicted depression severity in young people. Importantly most of the variance in depression severity was accounted for by negative self-evaluation

(53%), rather than negative interpretation (7%). In a sub-sample of adolescents with a clinical diagnosis of depression (n = 84), negative self-evaluation also predicted a diagnosis of depression. The predictive power of negative self-evaluation on depression was comparable to a self-report measure of depression symptoms (the Mood and Feelings Questionnaire; Costello & Angold, 1988).

The results of these studies suggest that negative self-evaluation may be an important feature of adolescent depression and a key cognitive vulnerability to the development of low mood in young people. However, the measurement of self-referential processing (and self-esteem) has relied on a method in which participant's endorse specific qualities or items. This is problematic because self-descriptions presented by these methods may not reflect perceptions an adolescent may have about themselves. Individuals may be prompted to evaluate specific descriptors that they may never have considered or used to describe their self. Orchard, Pass and Reynolds (2018) examined the specific positive and negative words endorsed by healthy adolescents and young people with elevated symptoms of depression using the SDQ. They instructed young people to leave items blank if they did not understand a specific word and found that more than 10% of adolescents left words such as 'Pitiful' and 'Feeble' blank. This suggests that these words were not understood by young people, or that they did not think they were relevant. It is therefore important to ensure that measures of self-evaluation are appropriate for young people and that their content reflects current language used by young people. Also, these methods (i.e., Self-Description Questionnaire) was developed for use with adults more than 20 years ago. This may be problematic as the self in adolescence may be different from the self in adulthood, given that the self is being developed and consolidated during adolescence. Thus, there may be differences in the self-descriptions between populations. Therefore, applying adult measures to this population may not be appropriate. It is

important that research examines how young people spontaneously describe their 'self' to examine whether this bias towards negative self-evaluation holds for adolescents at risk of depression. This hypothesis is examined in Paper 3 of this thesis.

8.6 Possible self and depression

8.6.1 Possible self: Theory

The possible self includes thoughts about the self in the future (Markus & Nurius, 1986). They describe an individual's specific hopes, fears or expectations for the future. These are sometimes referred to as 'possible selves' (e.g., Markus & Nurius, 1986). However, for clarity, the terms 'possible self' and 'possible selves' are considered synonymous in this thesis. The possible self is thought to be based on the current self (i.e., current 'self-evaluation'). Specifically, if current perceptions about the self (e.g., "I am rubbish at school work") are viewed as important, they are suggested to reflect a person's "enduring concerns" (Markus & Nurius, 1986, p. 955). These concerns are likely to be present in possible selves (e.g., "I will fail school and not be able to go to university"), and consequently direct future behaviour (e.g., avoiding doing homework and revision for examinations; Markus & Nurius, 1986).

Adolescence is an important period for the development of the possible self. It is a time when young people tend to construct and plan their futures as they become more future-orientated (Nurmi, 1991). This is suggested to occur due to advances in cognitive development. Inhelder and Piaget (1958) suggested that during adolescence, starting at age 12 years, young people develop the ability to think abstractly, rather than relying on concrete thinking. This is defined as the 'formal operation stage'. This development enables adolescents to engage in higher-order, more complex thought. Thus, young people begin to think about future goals possibilities and therefore construct perceptions of the self in the future, i.e., the possible self. Positive, possible selves can facilitate positive

development, such as motivation to strive for specific goals (Markus & Nurius, 1986). Negative possible selves are associated with adverse behaviours and outcomes, such as delinquency (Oyserman & Markus, 1990). Possible selves (e.g., finishing university with a good degree classification) perceived as important (i.e., related to a self-defining goal) are also important in self-regulation. When they are active in memory, other closely related images of the self in the past (e.g., passing A-level examinations) or present (e.g., "I am a hard-working student") or other possible selves are activated. If these currently activated perceptions are consistent with the possible self (e.g., finishing university with a good degree classification), this is suggested to influence motivation, as this may provide access to relevant behavioural strategies to achieve the possible selves and influences well-being (Bak, 2015; Hoyle & Sherrill, 2006).

Adolescents tend to display a positivity bias when describing their future. Iovu (2014) examined positive and negative expectations of the future in adolescents aged 18 years. They found that young people described primarily positive future expectations. However, this positivity bias for future perceptions is not suggested to be present in depression. As suggested by Beck's cognitive theory of depression and the hopelessness theory of depression (Abramson, Metalsky, & Alloy, 1989), a negative view of the future is a key component of depression.

8.6.2 Possible self and depression: A lack of adolescent research

A recent theoretical paper has suggested that a negative view of the future may be the most important factor influencing depression. Roepke and Seligman (2016) suggested that faulty prospection (i.e., "the mental representation of possible futures", p.23) is a key causal factor of depression. They proposed that faulty prospection was made up of three factors. Firstly, a 'Poor generation of possible futures' related to a tendency of depressed individuals to imagine more vivid, negative future events that positive events. Secondly,

was ‘Poor evaluation of possible futures’ this related to the tendency to generalise negative expectancies about the future. Finally, ‘Negative beliefs about the future’ included specific negative representations of the self in the future (i.e., schemas). Roepke and Seligman suggested that together, these factors cause depression and influence functioning. For example, a depressed individual may become isolated and this may cause them to have fewer positive experiences. They may also have negative biases in memory (i.e., only remembering negative information from a past event). Thus, in turn, this impact on functioning maintains faulty prospection (in regards to the three factors described earlier, poor generation of possible futures, poor evaluation of possible future and negative beliefs about the future) and therefore becomes a vicious cycle.

Possible selves have also examined in psychosis. For example, Grant and Beck (2009) demonstrated that for young people with schizophrenia, negative defeatist beliefs about the future were significantly associated with the severity of their negative symptoms. Also, it was demonstrated that the endorsement of negative beliefs mediated the relationship between cognitive impairment and negative symptoms and cognitive impairment and functioning. Other research has also examined the possible self in young people experiencing their first episode of psychosis (FEP). Clark (2016) recruited a sample of 80 young adults with first episode psychosis (mean age = 22 years, range 15-36 years). A more negative possible self was associated with poorer functioning (as assessed using Heinrichs Quality of Life Scale; QLS). This suggests that improving hope about the future may be an important factor in improving functioning. However, this study also found that optimism about possible selves was not associated with a lower level of negative symptoms of psychosis (i.e., a loss of ‘normal’ functioning).

Other research with adults with depression and psychosis has highlighted the importance of possible selves. MacDougall, Vandermeer, and Norman (2015) found that

negative, possible selves was an important mediator of the relationship between awareness of illness (i.e., psychosis) and symptoms of depression. Thus, awareness of the negative implications of psychosis in the future, may be important in the understanding the relationship between depression and insight into psychosis. This is because a diagnosis of psychosis may influence an individual's perception of their own life and therefore may "lead to perceptions of lost potential and depression" (p. 68). Norman, Windell, Lynch, and Manchanda (2014) recruited 122 patients with psychosis, the majority (70%) of whom had received a diagnosis of schizophrenia. They found that holding a negative, possible self was the strongest predicator of self-esteem (accounting for 43% of the variance) and depression symptoms (24% of the variance). Therefore, these results highlight the important implications of negative possible selves on low self-esteem and low mood. However, the average age of this sample was 27 years old, and the majority were men (70%). Therefore, it may not be appropriate to generalise these results to adolescents given that there may be important developmental differences in possible selves between these two populations (i.e., young people are still in the process of considering their possible selves for the first time; Nurmi, 1991).

However, despite the theoretical implications of a negative view of the future on depression, to our knowledge no research has examined possible selves in relation to the severity of adolescent depression. This is important because if negative possible selves are associated with depression symptoms, then strategies that strengthen positive possible selves in therapy may be helpful.

8.6.3 Common methods used to examine possible self/general perceptions of the future

Rather than assessing possible selves in relation to adolescent depression symptoms, instead, research has examined general perceptions of the future. This has taken several

different approaches. To assess perceptions of the future, some researchers have used a measure of the Cognitive Triad - The Cognitive Triad Inventory (CTI; Kalsow, Stark, Printz, Livingston & Ling Tsai, 1992). This is a 36-item measure with three dimensions; the self, the world and the future. Each dimension is assessed using 12 items that are rated using a 7-point Likert scale (0 = totally disagree, to 7 = totally agree). Braet, Wante, Van Beveren, and Theuwis (2015) recruited 471 adolescents aged 10-15 years (mean 12.4 years) and found that a more negative view of the future (i.e., a lower score on the 'future' dimension of the CTI) was associated with higher depression severity. However, regression analysis indicated that only the self and the future were significant predictors of depression severity in young people. This null result for 'the world' component of the triad may be due to the fact that this was not a clinical sample. Instead, children in this study identified depression symptoms. Therefore, contrary to clinically depressed children, the children in this study may have still been attending school and experiencing positive relationships with others, thus retaining a 'positive view' of the world. It may be that a clinical sample of children who may not often attend school and have reduced contact with others may therefore identify a more negative environment and therefore 'world'. Therefore, this study provides partial support for Beck's cognitive triad (Beck, 1967). It is important to acknowledge that this sample was relatively young and therefore included children and adolescents. Due to ongoing cognitive development, it may be that older adolescents are more able to construct perceptions of themselves in the future than children and younger adolescents. Therefore, there is a need to replicate this study with older adolescents to examine this developmental period in more detail. Jacobs and Joseph (1997) also used the CTI and reported that a more negative view of the future was associated with higher depression severity among 218 adolescents aged 13-16 years. In girls the current 'self' was not a significant predictor of depression in young people (-.04). A more negative

view of the future (-.40) and the world (-.37) were the most important predictors of depression severity in adolescent females. However, in boys, 'the future' was not a significant predictor of depression severity (-.03). Instead, for adolescent boys a more negative view of the world (-.42) and the self (-.29) were significant predictors of depression. This research highlights gender differences in perceptions of the future (and the self) in relation to depression severity. However, this research was cross-sectional therefore any assumptions about the prospective impact of the 'future self' on subsequent well-being is not known.

Timbremont and Braet (2006) conducted a longitudinal study to assess whether the cognitive triad (i.e., a more negative view of the self, the world and the future) predicted depression severity a year later. They included children aged 10-11 years (n = 93) and adolescents aged 12-15 years (n = 69). In adolescents only the 'future' dimension of the CTI was a significant predictor of depression severity after a year. However, in the sub-sample of children, no part of the cognitive triad predicted future depression. Therefore, this research suggests that there are important developmental differences in the effect that perceptions of the self, the world and the future have on well-being. This may be because adolescent, by virtue of their more advance cognitive abilities, are better able to conceptualise 'the future' as well as the environmental demands on young people (e.g. school examinations) which encourage them become more focused on their future (Nurmi, 1991).

Other research has used the Beck Hopelessness Scale (Beck & Steer, 1988) to assess general perceptions about the future. This measure provides 20 statements and participants are asked to identify whether each item is 'True' or 'False'. Dori and Overholser (1999) recruited 90 clinically depressed adolescents aged 13-18 years and found that depression was significantly correlated with increased hopelessness. Hopelessness was significantly

higher among adolescents who had engaged in repeated suicide attempts, compared to those who had never attempted suicide or had one suicide attempt. Becker-Weidman et al. (2009) examined predictors of hopelessness in a sample of 439 adolescents with a diagnosis of depression. Logistic regression results indicated that depression severity correctly identified hopeless adolescents from non-hopeless adolescents. Interestingly, using the CTI, 'view of the self' ($r = 0.18$) and 'the world' ($r = 0.13$) were significant predictors of hopelessness.

Horwitz, Berona, Czyz, Yeguez, and King (2017) examined positive and negative expectations about the future (i.e., hopelessness) in 59 adolescent aged 14-19 years who had recent suicidal ideation or suicide attempt. They examined the two subscales of the BHS, the 9-item positive-expectation and 11-item negative expectation sub-scale. Adolescents were assessed at baseline and again three years later (Time 2). A lack of positive expectations about future (at baseline) predicted depression and suicidal ideation at Time 2, however negative expectations did not significantly predict depression or suicidal thoughts. Thus, the absence of positive expectations of the future as opposed to the presence of negative expectations may be more important in predicting depression and suicidal ideation. However, Miles, MacLeod, and Pote (2004) found that adolescents classified as 'depressed' (i.e., elevated symptoms of depression) did not generate fewer positive events than healthy controls. Instead, depressed adolescents generated significantly more negative events in the future than healthy controls.

8.7 Summary: Possible selves in adolescent depression

In summary, most studies with adolescents have examined general perceptions of the future (i.e., Cognitive Triad Inventory and Beck's Hopelessness Scale) or examined anticipated future events, rather than examining the relationship between possible selves and depression symptoms. It is important that research examines possible selves as these

perceptions are a specific type of future cognition and are suggested to influence future behaviour (Markus & Nurius, 1986). This is because, possible selves are suggested to be more salient than general perceptions about the future. They provide a direct link between the self (i.e., "I am bad at maths") and future behaviour ("I need to revise more to get better at maths"). Possible selves have also been implicated in self-regulation (Bak, 2015; Hoyle & Sherrill, 2006). It is important that research examines possible selves in young people with depression given that this period reflects a critical time when perceptions of the future are developing and depression is prevalent (NHS Digital, 2018; Nurmi, 1991). Thus, a better understanding of possible selves may be beneficial and useful in the understanding of depression and well-being in adolescents. Secondly, research has used measures that require specific items to be endorsed, to assess general perceptions about the future. These methods constrain participants to evaluate their global view of the future (i.e., not 'the self' in the future) according to researcher-defined items, content and responses (i.e., typically a Likert scale). Therefore, it may be that more subtle perceptions of the future may not be examined. Thus, to overcome this methodological limitation, it is important that research uses an open-response measure to assess how adolescents spontaneously describe their own possible selves.

Understanding more about self-evaluation and depression may have implications for psychological therapy. This is important because despite the severity of adolescent depression and the long-term implications of this disorder, treatment effects for depression in young people are moderate (Goodyer et al., 2017; Maughan, Collishaw, & Stringaris, 2013). Specifically, meta-analysis evidence for a commonly used evidence-based treatment for depression in young people, Cognitive Behaviour Therapy (CBT) was found to be "in the lower moderate range" (p.39; Maughan, Collishaw & Stringaris, 2013). This may be

because the treatment of adolescent depression is based on adult models. It may be that important to develop adolescent-specific treatment strategies.

Wenzel (2012) suggested that core beliefs should be the focus of therapy, as this would target causal mechanisms in depression (i.e., negative view of the self) which may also contribute to further depressive episodes. By identifying unhelpful core beliefs and modifying these using cognitive-behavioural techniques in treatment sessions may help develop a "healthier belief system' (Wenzel, 2012, p.17). Another avenue may be to focus directly on improving self-evaluation (or self-esteem) in therapy to reduce depression (Fennell, 1997).

Examining possible selves may also have important implications for the treatment of depression. This is because possible selves have been implicated in well-being, self-regulation and behaviour modification. If evidence suggests that adolescents with elevated symptoms of depression generate more negative possible selves, this may highlight an important avenue for treatment. For example, prospection-based strategies may be appropriate for this population to develop a more positive possible self and alleviate depression (Roepke & Seligman, 2016).

8.8 Aim of part two of this thesis

The following chapters present Papers 3 and 4. The collective aim of these papers is to examine whether adolescent with elevated depression symptoms spontaneously generate a negative self-evaluation and negative possible selves. This is then followed by a general discussion. This chapter discusses all papers presented in this thesis and describes the overall contribution of this thesis.

8.9 References

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Chapter 9 Paper 3: Negative view of the self and symptoms of depression in adolescents

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Negative view of the self and symptoms of depression in adolescents

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Abstract

Although negative self-evaluation is a common symptom of depression in adolescents, there is little understanding of how the self is associated with depression. Beck (1967) proposed that a negative view of the self was a 'hallmark' of depression. In contrast Linville (1985; 1987) proposed that holding multiple aspects of the self was associated with lower levels of depression. The aim of this paper is to evaluate these two models of self and depression in adolescents. Young people aged 13-18 years (n = 822) reported symptoms of depression (the Mood and Feelings Questionnaire) and completed a measure of self-concept, the Twenty Statements Test (TST). We coded responses to the TST to reflect the valance (positive to negative) and the complexity of their self-concept (number of self-aspects). Valence, but not complexity, of self-concept was significantly associated with severity of depression symptoms. The valance of young people's self-concept accounted for 25% of the variance in depression symptoms. Adolescent's with more positive self-concept tended to have fewer symptoms of depression. The results of this study supported the cognitive model of depression. Negative self-evaluation may constitute a risk factor for depression in adolescents and could offer a potential target for prevention and early intervention in adolescents.

Key words: adolescence, depression, cognitive theory, self-complexity, self-evaluation

Introduction

Adolescence is an important period for the development of the self. It represents a time of increasing self-exploration (Erikson, 1968). Once consolidated, an adolescent self-concept is suggested to have an enduring effect across the lifespan. For example, important perceptions of 'the self' developed during adolescence are associated with self-defining memories (Singer & Salovey, 1993) and remain highly accessible across the lifespan (Conway, 2005). The self-concept has also been identified as a potential key factor in the development and maintenance of mood disorders. Beck (1967) proposed that depression was characterised by the 'Cognitive Triad', consisting of negative beliefs about the self, the world and the future. He suggested that a pervasively negative view of the self acts as a cognitive vulnerability for depression. In contrast, Linville (1985, 1987) proposed that depression is associated with the way in which the self is structured. She hypothesised that having more distinct (i.e. non overlapping) aspects of the self increased resilience to adverse life events and protected people against depression. Conversely, fewer and overlapping aspects of the self increased vulnerability to adverse life events and the risk of depression.

Adolescence is a life stage when individuals are highly vulnerable to the onset of mental health problems. Depression is strikingly common during this period with an estimated point prevalence of 2.7 - 4.8% for young people aged 13 to 18 years (NHS Digital, 2018). Depression during adolescence increases the risk of developing other mental health disorders in adulthood (Fergusson, Horwood, Ridder, & Beautrais, 2005), and of suicide, poor physical health and self-harm (Stanley et al., 2017; Zubrick et al., 2017).

Understanding more about the content, structure and valence of the self-concept at this critical period of development may help prevent or treat adolescent depression. For

example, if having a negative self-concept is causally related to the development of depression in adolescents, improving positive self-concept and reducing negative self-concept may help to prevent the onset of depression. Similarly, if self-complexity is causally related to depression then strategies to help increase self-complexity may be beneficial. Likewise, if negative self-concept or low self-complexity maintain depression, interventions to target these could be incorporated into psychological treatments.

Negative self-evaluation is one of the 10 symptoms that are part of the diagnostic criteria for depression in adolescents (DSM 5, APA, 2013) and is one of the most frequently observed symptoms of depression in young people (Orchard, Pass, Marshall, & Reynolds, 2017). Emerging evidence suggests that negative self evalution may also predict the severity of depression and depression diagnostic status in young people (Orchard & Reynolds, 2018). The relationship between self-evaluation and depression has been examined from different perspectives. Some research has examined '*negative self-referential processing'*. This refers to the tendency of depressed individuals to attribute negative traits and characteristics to themselves (Lemogne et al., 2010). This has frequently been demonstrated to be a cognitive bias in young people with depression. For example, depressed adolescents endorsed more negative and fewer positive adjectives as self-referent (i.e., related to 'me') than healthy controls (Auerbach, Stanton, Proudfit, & Pizzagalli, 2015). Young people with elevated depression symptoms also endorsed negative adjectives more quickly, and positive adjectives more slowly, than adolescents who reported fewer symptoms of depression (Connolly, Abramson, & Alloy, 2016). There is some evidence of a causal relationship between self-evaluation and negative mood. After a negative mood induction adolescents endorsed significantly more negative self-descriptions than after a neutral mood induction (Kelvin, Goodyer, Teasdale & Brechin; 1999). The related concept of self-esteem - a global representation of self-concept – has

also been examined in adolescents using longitudinal and experimental designs. Low self-esteem (i.e., a more negative view of the self) is strongly associated with depression and predicts future depression symptoms (Orth, Robins, Widaman & Conger, 2014; Steiger, Allemand, Robins & Fend, 2014). A bias towards negative self-evaluation is also hypothesised to increase attention to other negative self-referent information in the form of brooding and thus to amplify and increase the symptoms of depression (Black & Pössel, 2013).

The structure of the self is typically believed to include multiple aspects of the self (Neisser, 1991; Oyserman, Elmore & Smith, 2012). These include 'Traits' (e.g., "I am funny"), 'Active roles' (e.g., "I am a footballer"), 'Aspirations' (e.g., "I am hoping to go to university"), and 'Family relationships' (e.g., "I am a daughter"; Oyserman, Elmore & Smith, 2012). Linville (1985;1987) proposed that when an individual experiences an aversive event (e.g., failing an exam) the self-aspect most closely related to the event is activated (e.g., the self in academic contexts). Negative self-images relating to that self-aspect then come to mind (e.g., "I am a bad student", "I will fail all my exams"). Linville suggested that individuals with fewer self-aspects and greater overlap (or similarity) between aspects are more likely to experience low mood or depression in response to an adverse event because a negative event would activate a larger proportion of their self-aspects and fewer self-aspects would be unaffected. Therefore, self-complexity theory predicts that a more complex 'self' with multiple different aspects protects individuals from depression because it buffers them against the negative impact of adverse events.

Research testing self-complexity theory has primarily focused on adults (see Rafaeli-Mora & Steinberg, 2002; Linville, 1985, 1987). There has been relatively little research testing the self-complexity theory of depression in young people (Linville, 1985, 1087). We identified four studies of self-complexity and depression in adolescents. Evans

(1994) reported that self-complexity was significantly negatively correlated with depression symptoms. However, Jordan & Cole (1996) reported that *higher* self-complexity was associated with depression in young people aged 9-14 years, i.e., a positive correlation between self-complexity and depression. Two prospective studies have reported that self-complexity did not predict future depression. The number of self-aspects in children aged 9 to 13 years, did not predict depression symptoms ten weeks later (Abela & Véronneau-McArdle, 2002). Similarly, Cohen, Spiegler, Young, Hankin, and Abela (2014) assessed self-complexity and depression in young adolescents (mean age 12 years) every three months during a period of two years. They concluded that the number of self-aspects did not predict later depression symptoms, and that les*s* overlap of self-aspects predicted increased depression symptoms.

Methods of measuring self-concept are varied. Some researchers use prepopulated or standard sets of descriptions that they ask respondents to endorse (or not). For example, Kelvin, Goodyer, Teasdale, and Brechin (1999) developed the Self-Description Questionnaire (SDQ): a 30- item questionnaire that includes 12 positive, 12 negative and 6 neutral adjectives. On the SDQ, participants are asked to indicate to what extent each adjective describes them ('Not at all like me', 'A bit like me', 'A lot like me', 'Very much like me'). An alternative method of eliciting self-concept is to invite participants to generate their own self-descriptions. This allows individuals to use more personal, and possibly more salient descriptions. These may also be more sensitive to individual or group differences, including those related to cohort membership, age, gender and other demographic factors (McGuire, McGuire, Child, & Fujioka, 1978; McGuire & Padawer-Singer, 1976). In the current study we used an open-response measure, the Twenty Statements Test (TST; Kuhn & McPartland, 1954), to elicit participants' self-concept. The

TST asks participants to response to the question, 'Who am I?' by completing up to 20 sentence stems, each beginning 'I am…'.

The aim of the current study is to test two hypotheses arising from contrasting theories of the relationship between the self and depression in adolescents. The first hypothesis, based on Beck's cognitive theory of depression, is that valance of self-concept is negatively correlated with depression. The second hypothesis, based on Linville's self-complexity theory, is that complexity of self-concept is negatively correlated severity of depression symptoms. We will also examine which index of 'self' (i.e. self-evaluation or self-complexity) is the stronger predictor of depression severity in young people.

Material and Methods

Participants

Young people (n = 1688) attending three publicly funded secondary schools in the UK were invited to take part in the study. Consent was obtained from 919 young people (54.4%) and complete data was obtained from 822 young people aged 13 to 18 years (48.7% of those invited). The mean age of participants was 14.85 years, (SD = 1.35); 54.7% were female and 85.2% were of White British ethnicity.

Measures

Depression symptoms were measured by the Mood and Feelings Questionnaire (MFQ; Costello & Angold, 1988) . The MFQ is a 33-item self-report questionnaire measure of adolescent depression symptoms. Respondents are asked to rate each item on a 3-point Likert scale from 0 *(not true)* to 2 *(true).* Higher MFQ scores indicate more severe symptoms of depression (Goodyer et al., 2017; Wood, Kroll, Moore, & Harrington, 1995). A score of 27 or over on the MFQ is considered to indicate that a young person is at risk of depression (Wood et al., 1995). The MFQ has good internal consistency (α = .94,) and good construct validity and diagnostic accuracy in adolescents (Wood et al., 1995).

Self-concept was assessed by the Twenty Statements Test (TST; Kuhn & McPartland, 1954). This provides 20 unfinished statements beginning with the phrase "I am…". Participants are asked to define themselves by responding to the question "Who am I?" by completing as many statements as possible. Young people were asked not to think too much about their answers, or to worry about the order of their responses. They were not given examples of responses and were told that they could include any way of defining themselves that they felt were important. Following this, a sub-sample of participants all attending one of the three schools (n =258) were asked to circle up to three self-images that were the most important to them and best defined them as a person. These data was analysed as part of another research study.

Procedure

To gain access to schools headteachers were sent information describing the study. If they expressed interest in taking part, the first author discussed the study aims and procedures with them in a face-to-face meeting. Following approval from headteachers, information sheets describing the study were distributed to all students aged 13 to 18 years and to their parents. Parents of young people under 16 years were required to provide consent via an opt-out method. If parents did not want their child to take part, they were asked to contact researchers via email, telephone/text, or written forms returned to the school. Their son or daughter was also required to provide written assent and was told that they did not have to take part if they did not want to. All adolescents over 16 provided written informed consent.

This study was approved by the University of Reading Ethics Committee. Participants completed measures in class (n approximately 30) in the presence of a researcher during timetabled tutorial time or Personal, Social, Health Education (PSHE) classes. The MFQ was completed first followed by the TST. Adolescents for whom

consent/assent was not obtained, or who did not want to take part were given an alternative activity. Participants were entered into a prize draw in which 10 young people per school had the chance to win a £10 amazon voucher.

Classification of self-images

The data reported here are freely accessible in the UK Data Service ReShare Repository under Hards & Fisk (2018) at http://reshare.ukdataservice.ac.uk/853128/. DOI: 10.5255/UKDA-SN-853128.

TST responses were coded using a scheme developed by Hards, Ellis, Fisk & Reynolds *submitted*. There were 12 categories of self; 'Active roles', 'Hobbies and interests', 'Core identity', 'Traits', 'Demographics', 'Family relationships', 'Physical appearance', 'Emotional self-reflection', 'Academic self', 'I am unique', 'Aspirations', and 'Peer relationships'. Inter-rater reliability was assessed on a sub-sample of 10% of the data by two researchers coding responses independently and blind to participant MFQ, gender and age. Inter-rater reliability was good (84.6% agreement, $\kappa = 0.80$). All self-images were then coded independently by a researcher who was blind to participants' MFQ score, gender and age.

*Self-complexity***.** The number of separate aspects of "the self" that were generated by each participant was used as an index of self-complexity.

Valence of the self. The valance of each self-image was coded as positive, (e.g. "I am happy"), neutral, (e.g. "I am shy"), or negative (e.g. "I am depressed"). Only self-images that were explicitly valenced were included in this analysis. Other self-images (e.g., that described social roles) were removed. Two independent researchers, blind to MFQ score, gender and age of participants coded the valence of each statement. Inter-rater reliability was excellent (96.5%, $\kappa = .94$). The Self-Valence Index (SVI) was calculated by the difference between the proportion of positive and negative self-images, plus one (to

ensure all values were positive). The range of the SVI was from 0, indicating a fully negative self-evaluation to 2, indicating, a fully positive self-evaluation).

Associations between depression symptoms (MFQ score) and the proportion of positive, neutral and negative self-images was calculated. The proportion of positive self-images generated by each participant was negatively associated with depression severity (r = -.51, p < .001 95% BCa Cl [-.59, -.46 and the proportion of negative self-images was positively associated with depression severity r = .52, p < .001, 95% BCa Cl [.43, .55]. Neutral self-images were not significantly associated with depression symptoms (r = .07, p = .05, 95% BCa Cl [-.01, .13].

Results

Preliminary analyses

Data from 53 young people was excluded from the analysis as they did not generate any self-images that could be coded as positive or negative. The mean MFQ score of participants included in the study was 17.10 (SD = 12.73; Range, 0 – 66). Females (M = 20.16, SD = 13.37) had higher MFQ score than males (M = 13.31, SD = 10.76, t (767) = 7.69, p = .001, 95% BCa Cl [-8.56, -5.21], d = 0.6. Twenty two percent of young people in the sample scored above the clinical cut off of 27, 13.7% of boys and 28.2% of girls. Participant age was not associated with severity of depression (see Table 7.1). Adolescents generated a mean of 8.38 (SD = 4.64) self-images. Boys (M = 7.54, SD = 4.35) generated significantly fewer self-images than girls (M = 9.05, SD = 4.76; t(767) = 4.52, p < .001, 95% BCa Cl [-2.15, -.85], d = 0.33). Age was not related to the number of self-images generated (r = .001, 95% BCa Cl [.04, -.06], p = .97).

Preliminary analyses were performed to assess any violations of assumptions. Self-complexity and MFQ scores were positively skewed and SVI was negatively skewed so bootstrapping was used (Field, 2013). Adolescents generated an average of 3.34 self-

aspects (SD = 1.73); girls generated more self-aspects than boys (M = 3.60, SD = 1.77; M = 3.04, SD = 1.62 respectively), $t(767) = 4.57$, $p = .001$, 95% BCa Cl [-.81, -.32], $d = 0.3$. The mean SVI score was 1.30 (SD = .61), indicating a positively valenced self. On average girls self-concept was more negative than boys, (girls M = 1.24, SD = .71; boys M = 1.48, SD = .62, $t(767) = 4.89$, $p = .001$, 95% BCa Cl [.14, .32], $d = 0.4$. Age was not significantly correlated with self-complexity or self-evaluation (see Table 7.1).

Self-complexity and Self-Valence Index (SVI) as predictors of depression

We examined correlations between self-valance, self-complexity and depression symptoms (see Table 7.1). There was a significant negative correlation between SVI (self-evaluation) and depression severity; adolescents who generated a more negative evaluation endorsed more severe symptoms of depression. The relationship between self-complexity and severity of depression was also significant. There was a small positive correlation between self-complexity and severity of depression indicating that adolescents who generated more aspects of the self, endorsed more symptoms of depression. The two indices of 'self' were also negatively correlated; this indicates that a more negative self-evaluation was associated with greater self-complexity (i.e., more aspects of self).

We used a hierarchical multiple regression to assess which of the two indices of self, self-evaluation or self-complexity, was the stronger independent predictor of depression. All assumptions were met apart from normality, however given the large sample size a linear regression was deemed appropriate. As age was not associated with MFQ scores this was not entered into the model. Gender was entered as the first variable, $F(1, 766) = 58.59$, $p < .001$ and accounted for 7.1% of the variance in depression symptoms. Adding the Self-Valence Index (SVI) was significant, $F(1, 765) = 287.62$, $p < .001$. The beta value ($\beta = -.51$, $p < .001$) suggests that elevated depression symptoms were predicted by a more negative self-evaluation. Adding Self-complexity was not significant $F(3, 764) = .25$, $p =$

.615; β = -.02. In the final model Gender and Self-Valence Index (SVI) were independent predictors of depression symptoms and explained 32.3% of the variance in depression symptoms.

Table 9.1. Inter-correlations of all variables included in the analysis (n = 769).

Measure	1	2	3	4	5
1. Depression scores	-	.27*	-.02	.11**	-.54**
2. Gender	-	-	.07	.16**	-.17**
3. Age	-	-	-	-.01	.05
4. Self-complexity	-	-	-	-	-.17**
5. Self-Valence Index (SVI)	-	-	-	-	-

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

Table 9.2. Hierarchical multiple regression: Predictors of depression symptoms

				95% BCa Cl for odds ratio	
	ΔR^2	*b* (SE)	*β*	Lower	Upper
Step 1	.07**				
Constant		13.33 (.60)		12.25	14.56
Gender (0 = male)		6.852 (.91)	.27**	5.30	8.34
Step 2	.25**				
Constant		27.45 (1.14)		25.35	29.85
Gender		4.56 (.78)	.18**	3.11	5.88
Self-Valence Index (SVI)		-9.55 (.62)	-.51**	-10.85	8.43
Step 3	.00				
Constant		27.84 (1.33)		25.19	30.58
Gender		4.61 (.79)	.18**	3.10	5.99
Self-Valence Index (SVI)		-9.59 (.62)	-.51**	-10.90	-8.41
Self-complexity		-.12 (.25)	-.02	-.63	.39

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

Discussion

Adolescence is a critical period of development that sets a trajectory for well-being, aspirations, relationships and cognitions, emotions and behaviours throughout life. Our concept of 'who we are', i.e., 'our self' becomes consolidated during adolescence and early adulthood and is influenced by life events, including any experience we might have of common mental health problems, including depression. These often emerge for the first-time during adolescence and cause significant impairment in functioning. Self-concept and depression are directly linked through the inclusion of negative self-evaluation as a symptom of major depressive disorder (DSM 5, APA, 2013) but the relationship between

the development of depression and the development of self-concept is largely unexplored. The cognitive model of depression (Beck, 1967) and self-complexity theory (Linville, 1985, 1987) predict that the self is associated with depression in different ways. This is the first study to evaluate two distinct accounts of the relationship between self-concept and depression in adolescents. As there is limited and conflicting evidence to support either theory in respect to adolescent depression, we tested each model in a sample of young people aged 13-18 years.

Our results supported the cognitive theory of depression, i.e., there was a positive correlation between self-evaluation and depression symptoms. There was a weak association between self-complexity and depression, but this was in the direction opposite to the hypothesis, i.e. more complexity was associated with higher depression. This is therefore contrary to the model of self-complexity proposed by Linville (1985;1987)[1]. In addition, only self-evaluation made an independent contribution to the prediction of depression severity. There was also a negative correlation between self-evaluation and self-complexity, suggesting that young people with a negative self-evaluation may have a more differentiated self-concept.

The results of this study have several important theoretical and clinical implications. Firstly, they confirm that a pervasively negative self is related to the severity of depression symptoms in a large community sample of young people. However, these results are based on self-report questionnaire measures of depression. The design was cross sectional and therefore we cannot make any inferences about the nature or direction of causality – it is quite possible that self-evaluation becomes more negative after depression symptoms emerge and / or that negative self-evaluation is a causal factor in the

[1] However, it is important to be cautious with the interpretation here, given that in large sample sizes the coefficients of low magnitude tend to show statistical significance.

development of depression symptoms. Thus, future research in this important area is needed to test both models with clinical and non-clinical samples, and to examine causal relationships between the variables in experimental and longitudinal research designs.

In this study young people who reported more symptoms of depression generated self-images that were more negative. This is consistent with the idea that negative self-evaluation may act as a cognitive bias and may also increase attention to negative self-referent information and rumination on negative information about the self (Nolen-Hoeksema, 2000). Thus, it is plausible that negative self-evaluation prompts the development of a depressive episode (Black & Pössel, 2013). If so, this has implications for the assessment and prevention of depression in young people because negative self-evaluation may be an important early marker of vulnerability to depression. Similarly, those with a more positive self-evaluation may be more resilient to or protected from depression. Strategies which aim to increase attention to positive self-referent information (perceived as important to the individual), may boost accessibility to positive self-images and reduce negative biases (Dainer-Best, Shumake, & Beevers, 2018). However, as indicated above these causal relationships cannot be inferred from our study. Strategies to improve positive self-imagery have been developed for use with adults (Holmes, Lang, & Shah, 2009) and could be further tested in young people with negative self-concept and those who are at risk of depression.

In this study we used a method of assessing self-concept that used participants' own constructs and vocabulary; the Twenty Statement Task (TST). The TST has some important advantages over pre-populated, standardised methods of assessment. It is likely to elicit self-images that are more salient and meaningful to young people and it offers greater flexibility. The method also does not rely on language or vocabulary that may become obsolete or is unfamiliar to young people. However, this method also has some

short-comings that may be sensitive to cognitive and emotional development. In this study young people generated fewer than half of the self-images generated by adults (mean of 8.38 versus mean of 19.4, Rees & Nicholson, 2004). This may be for a number of reasons, including the possibility that young people have not yet fully developed or consolidated self-images and may have less experience of self-reflection and a more limited vocabulary. However, it may also reflect the fact that completing the TST is effortful and requires executive functioning skills of concentration and focused attention. Therefore, young people may have found it more difficult to generate multiple self-aspects, not because these did not yet exist but because the young people lacked fully developed meta-cognitive abilities, particularly those associated with executive functioning (Luna, 2009). This may be especially relevant for those with depression because deficits in executive functioning which are common amongst depressed young people (e.g. Fisk et al., 2018) make it even more difficult to generate specific self-images. In contrast, methods of assessment that rely on participants endorsing pre-populated questionnaires make fewer demands on cognitive functioning and may be better at eliciting a wider range of self-aspects.

This potential difficulty with completing the TST may have had more impact on the assessment of self-complexity than self-evaluation. The index of self-evaluation is independent of the number of self-images generated. However, the number of distinct self 'aspects' that can be identified is directly limited by the number of self-images generated by the TST – it is not possible to have more self-aspects than the number of self-images generated. The executive demands of the TST and the limited number of self-images that young people generated may therefore have resulted in an under-estimate of participants' self-aspects. It may therefore be useful to use multiple methods to explore models of self-concept.

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Chapter 10 Afterword for Paper 3

10.1 Clarification of the type and use of data presented in Paper 3

Data from self-images generated by young people using the Twenty Statements Test (Kuhn & McPartland, 1954) was also included in Paper 3. This is the same data presented in Papers 1 and 2. However in Paper 3, data were analysed differently; for the first time, self-images were coded for valence and complexity. In addition, data obtained from the Mood and Feelings Questionnaire (MFQ; Costello & Angold, 1988) were used - for the first time in Paper 3. Using these data, regression analysis was conducted to determine whether a more negative or less complex self was associated with elevated depression symptoms. Thus, the dataset analysed and the data analysis conducted was different from Papers 1 and 2.

10.2 Additional analyses for Paper 3

Additional hierarchical regression analysis was conducted using absolute values for the number of positive, negative and neutral statements generated by young people, rather than proportion scores. This was so the individual contribution of each of the valence scores could be examined. Also, previously excluded participants (n = 53) who described only neutral statements were also included here, therefore data from all young people (n = 822) was used in this analysis.

Preliminary analyses were undertaken to examine violations of assumptions, all were met apart from normality. As before, self-complexity and MFQ were positively skewed. The frequency of positive, neutral and negative statements were all positively skewed. Due to large sample size, regression was deemed appropriate. Tests of collinearity indicated that multicollinearity was not a concern, and was within the acceptable boundaries defined by Field (2013); Gender, Tolerance = .96, VIF = 1.04; Self-complexity,

Tolerance = .43, VIF = 2.35; Positive statements, Tolerance = .95, VIF = 1.05; Neutral statements, Tolerance = .47, VIF = 2.14; Negative statements, Tolerance = .83, VIF = 1.20).

Correlations between self-valence – i.e., the frequency of positive, negative and neutral words, depression and self-complexity are presented in Table 8.1. There was a significant positive correlation between depression and the number of negative statements adolescents used to describe their self. More severe depression symptoms were associated with fewer positive statements. Self-complexity was also significantly associated with more positive, negative and neutral statements.

A hierarchical multiple regression was then conducted. As before, age was not associated with MFQ and was not included in the regression model. Gender was entered as the first predictor, this was because gender differences are observed in depression in young people; adolescent girls have almost double the prevalence of depression than adolescent boys (McGuinness, Dyer & Wade, 2012). Thus, to control for this, gender was entered first, and accounted for 7.7% of the variance in depression symptoms, F (1, 820) = 68.66, p < .001. Next, valence scores – the frequency of positive, negative and neutral words were entered into the model. Valence scores were added at this stage because previous research has highlighted the importance of the valence of the self in predicting depression in young people. Thus, the valence of the self has a stronger evidence base than self-complexity in predicting depression in young people. Valence scores explained an additional 25.2% of the variance in depression, F (3, 817) = 102.13, p = < .001. The Beta vale of -.22 for the frequency of positive words and β = .44 for negative words suggests that more severe depression symptoms in young people were predicted by fewer positive, and more negative words, i.e., a more negative self-evaluation. As before, self-complexity was not a significant predictor of depression symptoms (β = -.54, p = .27). The final model, F (1,

816) = 2.37, p = .12 with all predictors accounted for 32.7% of the variance in depression symptoms and showed that gender, the frequency of positive and negative statements were all independent predictors of depression symptoms.

The results of this analysis are consistent with the proportion analysis in Chapter 7, i.e., a more negative self-evaluation (i.e., fewer positive and more negative words) is associated with elevated symptoms of depression in young people.

Table 10.1. Inter-correlations of all variables included in the analysis (n = 822).

Measure	1	2	3	4	5	6	7
1. Depression scores	-	.28***	-.03	.09**	-.27***	.02	.49***
2. Gender	-	-	.06*	.14	.03	.10**	.16***
3. Age	-	-	-	.02	-.03	-.00	-.05
4. Self-complexity	-	-	-	-	.01**	.71***	.27***
5. Positive statements	-	-	-	-	-	.01	-.12***
6. Neutral statements	-	-	-	-	-	-	.04
7. Negative statements	-	-	-	-	-	-	-

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

Table 10.2. Hierarchical multiple regression: Predictors of depression symptoms

	ΔR^2	*b* (SE)	*β*	95% BCa Cl for odds ratio	
				Lower	Upper
Step 1	.08*				
Constant		13.16 (.54)		12.06	14.19
Gender (0 = male)		7.12 (.83)	.28*	5.53	8.84
Step 2	.25*				
Constant		13.63 (80)		12.08	15.12
Gender		5.54 (.72)	.22*	4.15	7.00
Positive words		-1.04 (.13)	-.23*	-1.27	-.81
Neutral words		-.06 (.15)	-.01	-.40	.22
Negative words		2.41 (.18)	.43*	2.05	2.79
Step 3	.00				
Constant		14.28 (.92)		12.42	16.04
Gender		5.58 (.73)	.22*	4.17	7.08
Positive words		-1.00 (.13)	-.22*	-1.24	-.77
Neutral words		.16 (.22)	-.03	-.26	.59
Negative words		2.51 (.19)	.44*	2.13	2.91
Self-complexity		-.54 (.37)	-.07	-1.32	.17

Note. * $p = .001$

10.3 Summary of findings from Paper 3 and implications for future research

Adolescence is an important time of the development of the self, and also reflects a period of vulnerability to the development of depression and common diagnosis of depression (NHS Digital, 2018). The cognitive model of depression suggests that a more negative view of the self is a key feature of depression (Beck, 1967), whereas, a more complex self is suggested to be associated with less depression (Linville, 1985; 1987).

The findings from this paper demonstrated that negative self-evaluation was associated with more severe depression symptoms in young people and therefore provides

support for Beck's (1967) cognitive model of depression. However, Beck also identified a negative view of the future as a key feature of depression. Specifically, Beck and Alford (2009) suggested that due to the presence of negative view of the self, the future is viewed as an extension of the current state of self. Thus, in depression the future is described as negative, hopeless and pointless. Given that the future self is suggested to be an extension of the current self, it may be that adolescents with more severe symptoms of depression may also identify a negative view of themselves in the future. However, research has neglected to examine this in adolescents and has tended to focus on adult samples (a full critical analysis of background literature is provided in Chapter 8, section 8.6).

Examining how young people think about their future is important given that this period of time is characterised by an increased focus on the future (Bohn & Bernsten, 2013). As more complex cognitive abilities develop such as logical reasoning (Inhelder & Piaget, 1958), this enables young people to consider their self as extended across time, and project themselves in the future, a phenomenon described as episodic future thinking (Hallford, Austin, Takano & Raes, 2018). Therefore, the construction of the possible self that includes perceptions of what an individual expects, fears or hopes to 'become' in the future (Markus & Nurius, 1986) are typically being constructed and become central to an individual's sense of self (Harter, 2012).

Thus, it is critical that research examines how young people with depression symptoms describe their future given that a negative view of the future is a key feature of depression (Beck, 1967) and adolescence reflects a time of increasing focus on 'me in the future'. Further examination of this may also have implications for the treatment of depression in this population.

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Chapter 11 Paper 4: Envisioning the future: Possible selves and depression symptoms in adolescents

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Envisioning the future: Possible selves and depression symptoms in adolescence

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Abstract

Adolescence is an important period of transition from childhood to young adulthood when many cognitive skills continue to develop and support the refinement of perceptions about the future (Bohn & Bernsten, 2013), possible selves (Molina, Schmidt & Raimundi, 2017) and the self (Harter, 2012; Nurmi, 1991). It is also a time when depression is prevalent (NHS Digital, 2018) . The cognitive theory of depression (Beck, 1967) suggests that a negative view of the future and the self are key features of depression. However, we know very little about how young people envisage their self in the future, or whether thus is influenced by or associated with depression. The aim of this paper is to examine the relationship between the valence of the possible self, self-evaluation and depression symptoms in adolescents. Young people (*n* = 584) aged 13-18 years were recruited from two schools in Wiltshire (*n* = 584). They completed measures of depression symptoms (the Mood and Feelings Questionnaire; MFQ), 'possible self' (a variant of the "I Will Be Task") and 'self-concept' (Twenty Statements Test). Possible selves and self-images were coded for valence (i.e., positive or negative). The valence of the possible self and current self-evaluation were associated with more depression symptoms. After controlling for the valence of self-evaluation, the valence of possible selves was not significantly associated with severity of depression symptoms. The valence of self-evaluation was the strongest predictor of depression symptoms. Thus, this suggests that strategies that focus on improving current self-evaluation in the treatment of depression may be useful for this population.

Key words: Adolescence, Depression, Future thinking, Mental Time Travel, Possible selves

Highlights

- Adolescents were able to generate 'possible selves'.

- Adolescents who reported more severe symptoms of depression reported more negative possible selves and more negative current self-evaluation, thus providing support for the cognitive theory of depression.
- After the inclusion of current self-evaluation, the valence of the possible self was no longer a significant predictor of depression symptoms in young people.
- Strategies that focus on reducing negative current self-evaluation and improving positive self-evaluation may be important treatment of depression in this population.

1. Introduction

Adolescence reflects an important life transition from childhood to early adulthood and is an important period for the development of the 'possible self' (Molina, Schmidt, & Raimundi, 2017). During this period young people begin to think about the future (Bohn & Bernsten, 2013). The further development of abstract thinking during this time enables adolescents to consider more complex perceptions of themselves in the past, present and - for the first time - the future (Harter, 2012; Nurmi, 1991). However, we know very little about how adolescents describe their possible self and how this may be disrupted in depression. The cognitive theory of depression (Beck, 1967) proposed that a negative view of the future, the self and the world are core features of depression. Similarly, the hopelessness theory of depression (Abramson, Metalsky & Alloy, 1989) states that depressed people expect that negative, aversive outcomes will occur in the future. The objective of this paper is to examine the valence of their possible selves in young people with a range of depression symptoms.

1.1 Possible selves: Thinking about the future

Adolescence is an important time for the development of the self, and of the 'possible self'. The possible self reflects the future-oriented part of the self. Possible selves are believed to be constructed based on the current self and reflect what an individual hopes, expects or fears to become in the future (Markus & Nurius, 1986; Packard & Conway, 2006). During adolescence, young people engage in self-exploration, self-reflection, self-evaluation and consider the perspectives of others as they attempt to answer the question 'Who am I'? (Erikson, 1968; Sebastian, Burnett & Blakemore, 2008). This construction of the self is underpinned by advances in cognitive development (Inhelder & Piaget, 1958). More sophisticated cognitive abilities enable young people to develop more complex perceptions of their self now and in the future (Harter, 2012). The ability to imagine the

future is important and has many adaptive functions. These include improving motivation i.e., working towards future goals (Strauss, Griffin, & Parker, 2012), increasing problem-solving skills (Taylor, Pham, Rivkin, & Armor, 1998) and improving self-regulation (Oyserman, Bybee, Terry, & Hart-Johnson, 2004).

The overwhelming majority of previous research in cognitive psychology on self-relevant events has focused on memory for past events i.e., autobiographical memory. More recently this research has expanded its focus to include imagining self-relevant future events (e.g., Anderson & Evans, 2015; Kosnes, Whelan, O'Donovan & McHugh, 2013). Importantly, however, this more recent research has rarely considered the potential contribution of the concept of 'possible selves' (Hamilton & Cole, 2017), despite research showing significant overlap between these constructs (Prebble, Addis, & Tippett, 2013). The construction of possible selves is underpinned by the ability to imagine or project the self in the future. This is described as 'Episodic future thinking' (Atance & O'Neill, 2001) and refers to "mental processes that enable us to represent the self as extended over time" (p.42; Hallford, Austin, Takano & Raes, 2018). This is based on Tulving's (1999) proposal that episodic memory is a memory system allows mental 'time travel' by "allowing the individual to re-experience, through autonoetic awareness, previous experiences as such, and to project similar experiences into the future" (p.13).

Thinking about the future and the past are closely linked. Episodic memory is a system that includes the retrieval of events from an individual's personal past. These events are specific and enable individuals to reflect on their experiences and 're-experience' events (Conway & Pleydell-Pearce, 2000; E. Tulving, 1983, 2005). This stored information available in memory from past experience is used to construct imagined future events (Atance & O'Neill, 2001). Addis, Wong, and Schacter (2007) demonstrated that there was considerable overlap between brain networks responsible for the retrieval of these

memories i.e., in episodic recall, when reflecting on the past and when imagining the future. Reflecting on the past and imagining the future is suggested to facilitate the construction of a life story that includes plans and goals for the future (i.e., possible selves) and personal memories (Rathbone, Conway, & Moulin, 2011). The capacity to project the self in the future and remember past events is important for 'mental time travel' and is important for the maintenance of a coherent sense of self (Atance & O'Neill, 2001; D'Argembeau, Lardi, & Van der Linden, 2012).

1.2 Thinking about the future: The importance of adolescence

Pre-school children are able to anticipate future events (Atance, 2008). However, the ability to construct possible selves using memories from the past and therefore imagine a 'personal' future appears to develop during late childhood and early adolescence. Age-related improvements in the ability to imagine the future (also described as 'episodic prospection; Coughlin, Robins & Ghetti, 2017) have been reported. Gott and Lah (2014) recruited 29 participants aged 8-10 years (n = 14) and 14-16 years (n = 15) and asked them to describe two past and two future events. Adolescents provided more episodic and semantic detail about future events than children. Coughlin, Robins, and Ghetti (2017) examined episodic content in children aged 5-11 years and adults aged between 18-27 years (Mean age = 21.5 years). Participants were asked to describe future events using a cue word. These events were then coded for episodic content, higher scores indicated more episodic detail. Children aged 5 years scored significantly lower than any other age group (i.e., 7, 9, 11 years and adult). Seven-year olds also performed significantly worse than 11-year olds and adults. This suggests that there are improvements in the contextual detail of future events across age. Changes in the details with which children and adolescents can describe future events are proposed to be related to developments in episodic memory (Coughlin, Robins & Ghetti, 2017). However, the cross-sectional nature of these studies

means that it is not clear how future thinking develops across from childhood to early-mid-late adolescence and early-adulthood.

The development of abstract thinking may help adolescents to consider more complex perceptions of themselves i.e., in the past, present and future (Harter, 2012; Nurmi, 1991). In addition, the development of logical reasoning during adolescence enables young people to engage in hypothetical thinking (Inhelder & Piaget, 1958). This skill is thought to be important for the development of possible selves because individuals need to be able to construct 'hypothetical outcomes' or 'possible outcomes' for the future (Seligman, Railton, Baumeister, & Sripada, 2013). Surprisingly there has been little examination of the development of future thinking in adolescence or how adolescents' think about their future. This is especially important in relation to depression given that this disorder may impact negatively on the development of future thinking and the self and because adolescence reflects a period when young people are increasingly vulnerable to depression (Zisook et al., 2007).

1.3 Depression and possible selves

People tend to be optimistic about their futures (Bohn & Berntsen, 2013). This typically presents as the presence of positive and fewer negative possible selves (Wilson, Buehler, Lawford, Schmidt, & Yong, 2012). However, future thinking is believed to be more negative in people who have depression and the cognitive theory of depression proposes that a negative view of the future, the self and the world are core features of depression (Beck, 1967; 1979). Similarly, the hopelessness theory of depression (Abramson, Metalsky & Alloy, 1989) states that depressed people expect negative, aversive outcomes to occur in the future

Depression is a common mental health problem in adolescence with an estimated prevalence of 2.7% - 4.8% among 11-19-year old's (NHS Digital, 2018). Depression in

young people is also a risk factor for self-harm (Patton et al., 2007) and via suicide, is one of the leading causes of death in girls and boys aged 15-19 years (World Health Organisation, 2014). Adolescent depression may also have long-lasting effects; between 54-60% of adolescents with remitted depression experience further depressive episodes within 6 years (Emslie et al., 1997; Kovacs, 1996).

Negative self-evaluation is a common symptom of depression in young people (Orchard, Pass, Marshall, & Reynolds, 2017). Adolescents with depression or more severe depression symptoms endorse negative descriptions of themselves (Orchard & Reynolds, 2018) and generate more negatively toned self-images than young people who are not depressed (Hards, Ellis, Fisk & Reynolds *submitted*). Given that the possible self is theorised to be constructed on the current self (Markus & Nurius, 1986), it would follow that adolescents with depression may also construct negative, possible selves. This is important because Roepke and Seligman (2016) proposed that 'negative prospection' (including poor generation and evaluation of possible futures and negative thoughts about the future), is the most important variable that causes and then maintains depression (Roepke & Seligman, 2016). A secondary aim of this study is therefore to examine whether the current self-evaluation or the future (i.e., possible) self is a stronger predictor of depression severity in adolescents.

There is some evidence that young people with depression or more severe symptoms of depression have a more globally negative view of the future. Miles, MacLeod, and Pote (2004) demonstrated that adolescents with more severe symptoms of depression generated more negative future events than controls. Hopelessness about the future was associated with depression severity in young people (Becker-Weidman et al., 2009). Depression severity was associated with a more negative view of the future (e.g., Braet, Wante, Beveren and Theuwis, 2015; Jacobs and Joseph, 1997). Weeks, Coplan, and

Ooi (2017) also found a positive correlation between depression severity and the perceived likelihood of a negative future. Most research has been cross sectional in design, but Horwitz, Berona, Czyz, Yeguez, and King (2017) reported that a lack of positive expectations about the future was a significant predictor of depression and suicidal behaviour in young people who had an increased risk of suicide. Similarly, Timbremont and Braet (2006) reported that a negative view of the future predicted depression severity at one year in a non-clinical sample of adolescents.

These studies suggest that adolescents with depression symptoms perceive their current 'self' and 'the future' negatively. However, it is not clear if they perceive their *own* 'possible self' as negative, neutral or positive. This is important because adolescents are in the process of constructing their possible self and this construct may be influenced by the presence of depression symptoms. If depressed young people hold a negative view of their self now, and their self in the future, these perceptions could contribute to behaviours and beliefs that maintain depression.

1.4 The present study

The purpose of this study is to examine associations between depression symptoms, the possible self and the current self in young people. To elicit these possible selves that young people hold a variant of the 'I Will Be' Task (Rathbone, Salgado, Akan, Havelka, & Berntsen, 2016) will be used. Possible selves that contain valenced descriptions will be used to assess the valance of the 'possible self'. The Twenty Statements Test (TST; Kuhn & McPartland, 1954) will be used to assess how young people describe their current self. Self-evaluation is described as how positively or negatively an individual views themselves overall (Beck & Alford, 2009). Statements that refer to valenced descriptions of the current self (e.g., "I am happy") will be used to assess 'self-evaluation' in this study. These data will be used to address the research question: Does the valence of 'possible

self' (i.e. the ratio of positive to negative possible selves) predict depression symptoms in adolescents? We will also examine which valence index - the possible self or the current self-evaluation is the strongest predictor of depression severity in young people.

2. Method

2.1 Participants

Young people (n = 1168) aged 13 – 18 from two publicly funded secondary schools in Wiltshire were invited to participate in the study. Consent was obtained from 681 young people (58.3%) and collected from 584 young people (50% of those invited to take part). The mean age of participants was 14.79 (SD = 1.44); 52.4% were female and 87.1% were of White British ethnicity.

2.2. Materials and procedure

Depression severity. This was assessed by the Mood and Feelings Questionnaire (MFQ; Costello & Angold, 1988). This is a 33-item self-report questionnaire of adolescent depression. Statements are rated on a 3-point Likert scale from 0 (not true) to 2 (true). Higher MFQ scores reflect more severe depression symptoms (Goodyer et al., 2017; Wood, Kroll, Moore, & Harrington, 1995). The MFQ has high internal consistency (α = .94) among adolescents (Wood et al., 1995).

Possible self. This was elicited using a variant of the 'I Will Be Task' (Rathbone et al., 2016). The measure was adapted for young people on the basis of consultation with a group of young people who were part of a research advisory group. They were asked to read the 'I Will Be' task and invited to provide feedback. This resulted in the stem being changed to "In the future I will…" rather than "I will be…". This gave adolescents more scope to include things they felt were important to them in addition to active roles that they might occupy (e.g. "In the future I will achieve my goals"; "In the future I will attain pure happiness"). The maximum number of responses was also extended from 8 to 20. Explicit

instructions were also altered. Examples of statements that could be included were removed, and the instructions were simplified with the assistance of young people. Instructions were as follows; "*We are interested in how you imagine yourself in the future. Please write down as many ways as you can think of, that describes where you see yourself in the future. These statements should not describe yourself now. Each statement begins with "In the future I will". Write statements in the order they come to you".*

Current self. This was examined using the Twenty Statements Test (TST; Kuhn & McPartland, 1954). Participants are asked to respond to the question: "Who am I?" by completing as many statements as possible, each beginning with the stem "I am…". The maximum number of responses is 20. Participants were not given any examples of the types of statements they could include. However, they were told that they could include any description of themselves that they felt were important to them. Adolescents were also asked to write down responses as they occurred to them, and not evaluate the order or importance of their statements.

Procedure

Head teachers were sent information describing the study and permission was requested to conduct the study within the schools. After receiving approval, information sheets were distributed to all adolescents within the target age group and their parents, describing the study and its aims. Parental consent was required for adolescents under 16 years and was obtained via an opt-out method. Parents were asked to contact researchers via telephone/text, email or written forms returned to school, if they did not want their child to take part in the research. All adolescents under 16 provided assent and all young people aged over 16 provided consent.

This study was approved by the University of Reading Ethics Committee (UREC). All adolescents completed measures as a class (*n* approximately 30) in the presence of a

researcher. The study took place during timetabled tutorial time or Personal, Social, Health and Education (PSHE) in the presence of a researcher. The MFQ was completed first followed by the TST, and the 'I Will Be Task'. Adolescents who did not want to take part, or whose parents had not given consent were given an alternative activity. All adolescents who took part in the study were entered into a prize draw. 10 young people per school had the chance to win a £10 amazon voucher.

2.3 Data coding

2.3.1 Preliminary coding.

Adolescents produced 2,906 possible selves on the 'I Will Be task'. Two researchers (EH & SR) independently coded a random sample of 10% of data responses, blind to participant's depression score, age or gender using the adolescent coding scheme devised by Hards, Ellis, Fisk & Reynolds, *submitted.* The validity of these categories was examined with five young people aged 13-18 years. Adolescents were asked to read possible selves and review the categories they had been placed in. The feedback obtained from young people resulted in possible selves such as "own a dog" being coded as 'Hobbies and interests'.

Inter-rater reliability good (75.5% agreement, $\varkappa = 0.86$), one researcher (EH) then coded the remaining self-images. 4,276 self-images generated by the TST were also coded using the adolescent coding scheme devised by Hards, Ellis, Fisk & Reynolds, *submitted*. Inter-rater reliability was assessed by two researchers (EH & SR). They independently coded a random sample of 10% of data, blind to depression score, age or gender. Inter-rater reliability was excellent (95.3% agreement, $\varkappa = .92$,).

Only responses that contained explicitly valenced possible selves/ statements about the self were used to compute a valence index (see below). Responses classified as the following were included in this analysis: 'Traits' (e.g., "I will be positive"; 'I am happy'),

‘Academic self’ (e.g., “I will fail my science”; “I am good at P.E”), ‘Physical appearance’ (e.g., “I will get fit”; “I am pretty”), ‘Emotional self-reflection’ (e.g., “I will not be empty and afraid”; “I am an angry person inside”). General categories that contained possible selves/statements about the self that were not explicitly valenced (e.g., that described social roles e.g., “I will be a footballer”; “I am a ballet dancer”) were not included in this analysis.

Valence of possible self. The valence of each participant’s possible selves was calculated. Two independent researchers, blind to MFQ, coded each self-image as either positive (e.g. “In the future I will improve”), neutral (e.g. “In the future I will be loud”), or negative (e.g. “In the future I will fail”). Only possible selves that were explicitly valenced were included in this analysis. Other possible selves (e.g., that described future occupations were removed.

Inter-rater reliability was good (87.6%, $\varkappa = .80$). The proportion of positive, neutral and negative possible selves was calculated for each participant. Examples of possible selves categorised described as ‘positive’, ‘negative’ or ‘neutral’ are displayed in Table 9.1. The difference between the proportion of positive and negative possible selves, plus one (so all values would be positive) was computed. Thus, an overall score of 2 related to fully positive possible selves, 1 = neutral possible selves, and 0 = negative possible selves.

Valence of self-evaluation. The same procedure was used to compute a Self-Valence Index (SVI). Self-images were coded as either positive (e.g., “I am kind”), neutral (e.g., “I am quiet”), or negative (e.g., “I am horrible”). Only self-images that were explicitly valenced were included in this analysis. Other self-images (e.g., that described social roles) were removed. Inter-rater reliability of valance rating was good (96.5%, $\varkappa = .94$). The range of the SVI was from 2 (positive self-evaluation) to 0 (negative self-evaluation). Examples of self-images are displayed in Table 9.1.

Table 11.1. Example possible selves and self-images coded by valence

	Possible Selves “In the future I will…”	Self-images “I am…”
Positive	"successful"	"intelligent"
	"be always happy"	"helpful"
	"have fun"	"brave"
	"enjoy life"	"happy"
	"be great"	"funny"
Neutral	"do things"	"shy"
	"talk more"	"quiet"
	"get involved more"	"tactical"
	"still have the same personality"	"informal"
	"no idea"	"talkative"
Negative	"be tetchy"	"weird"
	"have a worry lifestyle"	"stupid"
	"not be useful"	"worthless"
	"get confused"	"annoying"
	"procrastinate"	"anxious"

3. Results

3.1 Preliminary analyses

Eighty-six young people were excluded from the analysis as they did not generate any possible selves that could be coded as positive or negative (i.e., they generated statements coded in TST categories such as 'Family Relationships'). Data from 498 adolescents aged 13 to 18 years were used, (53.8% females). Their mean age was 14.86 (SD = 1.49). Preliminary analyses were performed to assess any violations of assumptions; MFQ scores were positively skewed, SVI-future was negatively skewed, so bootstrapping was used (Field, 2013). The measure of depression included in the analyses was a continuous total score of depressive severity (MFQ). The mean MFQ score was 17.08 (SD = 12.11; Range, 0-66). Girls (M = 20.12, SD = 12.64) had higher depression symptoms than boys (M = 13.55, SD = 10.44; t (496) = 6.26, p = .001, 95% BCa Cl [-8.70, -4.44]). Depression symptoms were not associated with age (see Table 9.2). An MFQ score of 27 or over is suggested to identify a young person at risk of depression (Wood et al., 1995); 20.1% of young people (26.5% Girls, 12.6% Boys) in the sample scored above this threshold. A score of 12 on the MFQ was used to identify adolescents with low symptoms of depression. This cut-off was used given that this was the lowest recorded MFQ score of an adolescent with a depression diagnosis in the IMPACT trial (Goodyer et al., 2011); 42.2% of young people (32.8% Girls, 53% Boys)

The valence of possible self was assessed using the Possible Self Valence Index (PSVI) and the valence of current self-evaluation was indexed by the Self-Valence Index (SVI). The average Possible Self Valence Index (PSVI) score was 1.63 (SD = .45), indicating that on average participants generated positive possible selves. There was no association between age and 'possible self ' (see Table 9.2) and no gender difference

(Males, M = 1.61, SD = .47; Females, M = 1.63, SD = .43), *t*(496) = -.57, p = .58, 95% BCa Cl [-.10, .06]).

The mean Self-Valence Index (SVI) was 1.29 (SD = .61) indicating that on average adolescents described themselves in positive terms. There was no association between self-evaluation and age (see Table 9.2). Females (M = 1.19, SD = .62) had significantly less positive self-evaluation than males (M = 1.40, SD = .58), *t* (496) = 3.84, p = .001, 95% BCa Cl[.09, .32], *d* = 0.3. There was also a small significant positive correlation between the valence of the current 'self' and the valence of the 'future self', indicating a more positive current self-evaluation was associated with a more positive possible self.

3.2 Possible Self Valence Index (PSVI) as a predictor of depression

There was a small negative correlation between the valance of 'possible self' and depression severity; adolescents who generated more negative possible selves had higher depression symptoms (see Table 9.2). On average adolescents with more severe symptoms of depression (i.e., MFQ score > 27; *n* = 100) had a more negative possible self (M = 1.52, SD = .51) than adolescents with low symptoms of depression (MFQ score < 12; *n* = 210; M = 1.66, SD = .42). This difference was significant, *t* (308) = 2.57, *p* = .017, 95% BCa Cl [.03, .26]. There was also a negative correlation between self-evaluation and severity of depression symptoms (see Table 9.2).

A hierarchical multiple regression was computed to examine the contributions of possible self and current self-evaluation in predicting severity of depression symptom (see Table 9.3). Depression severity, SVI and PSVI were not normally distributed; however, regression was deemed appropriate due to the large sample size. All other assumptions were met.

Gender was entered at step 1 and was a significant predictor of depression symptoms *F* (1, 496) = 39.13, *p* < .001. Gender accounted for 7.3% of variance in severity

of depression symptoms. Possible Selves Valence Index (PSVI) was entered at step 2. This was significant F (1, 495) = 13.27, $p < .001$ and explained an additional 2.4% of the variance in depression symptoms. At step 3, Self-Valence Index (SVI) was added. This was significant F (1, 494) = 138.06, $p < .001$ and accounted for an additional 19.7% of the variance in depression symptoms. The beta weight for PSVI was not significant at step 3 (β = -.07, p = .076. The final model with all predictors, was significant (F (3, 494) = 68.73, $p < .001$, and accounted for 29.0% of the variance in depression severity. Gender and the valence of self-evaluation were independent predictors of severity of depression: the valence of possible selves did not make an independent contribution to predicting the severity of depression symptoms.

Table 11.2. Correlations of the variables included in the analysis (n = 498)

Measure	1	2	3	4	5	6
1. Depression scores	-	.27**	-.02	-.51**	-.15**	-.35**
2. Gender	-	-	.08*	-.17**	.03	-.17**
3. Age	-	-	-	.01	-.02	.02
4. Self-Valence Index (SVI)	-	-	-	-	.19**	.77**
5. Possible Self Valence Index (PSVI)	-	-	-	-	-	-.48**

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

Table 11.3. Hierarchical multiple regression: Predictors of depression symptoms.

				95% BCa Cl for odds ratio	
	ΔR^2	b (SE)	β	Lower	Upper
Step 1	.07**				
Constant		13.55 (.68)		12.18	14.94
Gender (0 = male)		6.56 (1.01)	.27**	4.70	8.40
Step 2	.02**				
Constant		20.37 (2.05)		16.41	24.34
Gender		6.66 (1.00)	.27**	4.74	8.46
Possible Selves Valence Index (PSVI)		-4.23 (1.21)	-.16**	-6.74	-1.58
Step 3	.20**				
Constant		29.28 (2.12)		25.01	33.29
Gender		4.71 (.88)	.19**	3.02	6.38
Possible Selves Valence Index (PSVI)		-1.87 (1.08)	.07	-4.06	.40
Self-Valence Index (SVI)		-9.07 (.87)	-.46**	-10.76	-7.26

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

4. Discussion

This is the first study to examine the relationship between the 'possible self' and severity of depression in adolescents with a range of depression symptoms. Adolescence is a key period for the development of the possible self, as young people develop the cognitive and emotional capacity to consider who they might become in the future. This is important because the development of the 'possible self' has the potential to impair motivation, disrupt emotion and trigger episodes of depression, and maintain depression (Roepke & Seligman, 2016). A negative view of the future is a key component of the cognitive model of depression and is suggested to be a characteristic feature of depression (Beck, 1967; 1979). Because possible selves are suggested to be based on the current self (Markus & Nurius, 1986), and because self-evaluation predicts adolescent depression severity (Hards et al., in submitted) and a clinical diagnosis of depression (Orchard, Pass & Reynolds, 2018), it would follow that adolescents with more severe symptoms of depression are also likely to construct negative a 'possible self'.

We tested the hypothesis that severity of depression symptoms was correlated with the valence of 'possible self' in a sample of adolescents aged 13-18 years. Our results demonstrated a small, negative association between severity of depression symptoms and the valence of 'possible self', i.e., young people who had a more negative 'possible self' were likely to report more severe symptoms of depression. However, the valence of possible self did not make an independent contribution to predicting the severity of depression after including the valence of current self-evaluation and gender. Young people who generated a more negative current self-image, and girls, reported more symptoms of depression.

Young people with more severe depression symptoms described a more negative 'possible self' and a more negative 'current self-evaluation'. Both these findings are

consistent with the cognitive model of depression (Beck, 1967). This is also consistent with the possible selves theory (Markus & Nurius, 1986) which predicts that the 'possible self' is constructed on the basis of the current 'self'. Thus, negative perceptions about the current self may be carried over and influence perceptions about the self in the future.

However possible self-evaluation did not make an independent contribution to predicting depression severity. A possible explanation is the evaluation of the self now i.e., the current self is more salient to young people. Advances in cognitive development (i.e. the development of abstract thinking; Inhelder & Piaget, 1958) enable young people to construct more complex perceptions of their self than in childhood (Harter, 2012). This development allows young people to increasingly engage in self-reflection and focus their attention inward on their self. Also, the development of perspective-taking allows adolescents to consider how they are perceived by others (Sebastian, et al., 2008). Thus, significant development occurs during this time, which permits young people to construct an understanding of 'Who am I?', (Erikson, 1968). Our data are consistent with the idea that the current self is the primary focus of young people. It perhaps also suggests that adolescents are beginning to imagine their personal future for the first time (Bohn & Bernsten, 2013; Harter, 2012; Nurmi, 1991) and that this continues to develop across adolescence and early-adulthood.

There are important methodological differences between the current study and previous research. Whereas previous research used standardised measures of 'the self' and 'the future' such as the Cognitive Triad Inventory (i.e., Jacobs & Joseph, 1997), we used an idiographic and self-generated measure of the 'possible self' (and of the current 'self). The use of a self-generated method may be more sensitive as it enabled adolescents to describe their own personal possible selves (and current self). However, it relies on each adolescent drawing on their memory and requires both motivation and working memory.

This relies on executive functioning skills which are impaired in adolescents with more severe symptoms of depression (Fisk, Ellis & Reynolds, 2019). Thus, young people with more severe depression symptoms may have struggled to self-generate responses on both tasks. It is also possible that the test environment i.e., in a classroom full of their peers, and in front of a researcher, may influence the types of possible selves generated. It may be that more negative possible selves were inhibited for example. Online data collection might provide a more neutral context for future data collection.

We did not measure the temporal distance of the participant's possible selves, i.e., the time between the self 'now' and the future possible self. This is important because adults with more severe depression symptoms judge possible future that are more distant as positive than near possible futures (Sokol & Serper, 2017). Therefore, future research should use fixed-time points (e.g., "Next year I will…"; "In the next five years I will...") to examine the influence of temporal distance on the valence of adolescent possible selves in respect to depression severity. It is also important to note that this study used a non-clinical sample and a cross-sectional design, therefore it is not possible to make any conclusions about the causal relationship between the valence of the possible self and depression. Future research should recruit adolescents with a diagnosis of depression and use a longitudinal, prospective design to examine whether negative possible selves are associated with clinical depression, and whether these possible selves become more negative over time.

The results of this study may important implications for the theory and treatment of adolescents with depression. Firstly, they suggest that young people with more severe symptoms of depression report a negative current self-evaluation and negative view of them self in the future, consistent with the cognitive model of depression (Beck, 1967). However, the results of this study suggest that for young people negative current-self-

evaluation is more strongly associated with depression that their evaluation of their self in the future. Roepke and Seligman (2016) suggested that treatment for depression should focus on changing unhelpful future thinking, rather than addressing current dysfunctional beliefs about the self. Horwitz et al. (2017) suggested that increasing access to positive expectations about the future is also an important clinical intervention for adolescents. However, the results of this study suggest that a more appropriate focus of treatment interventions may be on developing a more positive current self-evaluation.

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Chapter 12 Afterword for Paper 4 (i)

12.1 Clarification of the type and use of data presented in Paper 4

Self-images generated by young people using the Twenty Statements Test (Kuhn & McPartland, 1954) were used in Paper 4. These are the same data presented in Papers 1, 2, and 3. In Paper 4, TST data were coded for valence using the same procedure described in Paper 3. However, in Paper 4, novel data were also included; possible selves generated by adolescents using the 'I Will Be' Task. The analysis presented in Paper 4 differs from previous data presented in Paper 3 because it compares if the valence of the current self or the future self is the best predictor of depression symptoms in young people and therefore compares the two valence indices (i.e., Self-Valence Index and Possible Selves Valence Index).

12.2 Additional analyses for Paper 4: Absolute values rather than Possible Selves Valence Index (PSVI)

Supplementary regression analysis was computed using the absolute values for the number of positive, negative and neutral possible selves and self-images generated by young people, rather than proportion scores. This additional analysis included the full sample of adolescents who completed the future task (n = 584), thus the previously excluded participants described in Paper 4 (n = 86) were included.

Prior to the regression analysis, data were screened according to parametric assumptions. All assumptions were met, but as before, MFQ, the frequency of positive, negative and neutral self-images generated by participants using the TST were positively skewed. The number of positive, negative and neutral possible selves were also positively skewed. Multi-collinearity was not an issue as tests of collinearity indicated that both the VIF and Tolerance values were within the boundaries described by Field (2013). (Gender,

Tolerance = 1.00, VIF = 1.00; Positive possible selves, Tolerance = .96, VIF = 1.04; Neutral possible selves, Tolerance = .98, VIF = 1.02, Negative possible selves, Tolerance = .99, VIF = 1.01; Positive self-images, Tolerance = .71, VIF = 1.41; Neutral self-images, Tolerance = .88, VIF = 1.14; Negative self-images, Tolerance = .79, VIF = 1.27.)

Correlations between all variables included in the regression analysis are presented in Table 10.1. There was a significant positive relationship between the number of negative possible selves and depression severity. As before, depression was positively correlated with the number of negative and neutral self-images, but negatively correlated with the frequency of positive self-images. A higher frequency of positive possible selves was associated with more neutral possible selves. There was also a significant positive correlation between positive possible selves and positive self-images. More negative self-images were also related with a higher frequency of negative possible selves.

Hierarchical multiple regression analysis was employed to assess the individual contribution of valence scores related to the possible self and current self-evaluation in predicting depression symptom severity. As before, gender was entered first as this is a known predictor of depression; girls typically have a higher prevalence of depression than adolescent boys (McGuinness, Dyer & Wade, 2012). Gender accounted for 7.8% of the variance in depression severity; F (1, 582) = 50.49, $p < .001$. Next, valence scores for the possible self were entered into the regression model, this was because the focus of this analysis was to examine the contribution of the valence of possible selves in predicting depression in young people. This step accounted for an additional 4.9% of the variance in depression severity, F (3, 579) = 10.87, $p < .001$. 'Negative possible selves' was the only significant predictor (as well as gender) at this step. A Beta of .22, $p < .001$ suggested that young people who described more negative possible selves had higher depression severity. The valence scores for current self-evaluation were added at step 3, and together this final

model accounted for 34.2% of the variance in depression severity, F (3, 576) = 65.07, p < .001. As before, the number of positive (β = -.25, p < .001) and negative self-images (β = -.538 p < .001) were both independent predictors of depression. Also, the predictive effect of 'Negative possible selves' decreased from p < .001 to p < .01 at step 3, suggesting that the strongest predictors of depression severity in young people are related to the valence of current self-evaluation i.e., the number of positive and negative self-images.

Table 10.1 Inter-correlations between all variables included in the analysis (n = 584)

Measure	1	2	3	4	5	6	7	8	9
1. Depression scores	-	.28***		-.00	.03	.22***	-.31***	.10*	.50***
2. Gender	-	-		.15**	.05	.01	.00	.09*	.18**
3. Age	-	-	-						
4. Positive possible Selves	-	-	-	-	.13**	-.02	.41***	.16***	.12**
5. Neutral possible Selves	-	-	-	-	-	.07*	.26***	.29***	.16***
6. Negative possible Selves	-	-	-	-	-	-	-.02	.07	.29***
7. Positive self-images		-					- -	.00	-.18***
8. Neutral self-images		-					- -	-	.12**
9. Negative self-images		-					- -	-	-

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

Table 10.2. Hierarchical multiple regression: Predictors of depression symptoms.

				95% BCa Cl for odds ratio	
	ΔR^2	*b* (SE)	*β*	Lower	Upper
Step 1	.08**				
Constant		13.81 (.64)		12.59	15.16
Gender (0 = male)		6.88 (.94)	.28**	5.13	8.63
Step 2	.05**				
Constant		13.58 (.96)		11.78	15.41
Gender		6.95 (.95)	.29**	5.23	8.64
Positive possible selves		-.22 (.24)	-.04	-.71	.25
Neutral possible selves		.03 (.22)	.01	-.39	.46
Negative possible selves		6.34 (1.11)	.22**	4.05	8.71
Step 3	.22**				
Constant		14.04 (.96)		12.12	15.93
Gender		5.09 (.84)	.21**	3.64	6.64
Positive possible selves		.10 (.22)	.02	-.32	.50
Neutral possible selves		.03 (.20)	.01	-.36	.41
Negative possible selves		2.98 (1.20)§	.10*	.80	5.78
Positive self-images		-1.07 (.18)	-.25**	-1.43	-.72
Neutral self-images		.12 (.24)	.02	-.33	.54
Negative self-images		2.15 (.27)	.38**	1.62	2.75

Note. * p < .01, * *p* = .001

12.2.1 Summary

These findings suggest that more severe depression symptoms are associated with a higher frequency of negative possible selves (i.e., a more negative possible self). The results also show that the strongest predictors of depression severity in young people are related to the valence of current self-evaluation i.e., the number of positive and negative self-images. These results are consistent with the previous analysis using proportion scores reported in Paper 4. However interestingly, this subsequent analysis showed that the

number of positive possible selves was *not* associated with depression severity; indicating that young people with elevated depression symptoms were able to generate positive perceptions of themselves in the future.

This novel finding suggests that adolescents seem to retain (and are able to spontaneously describe) islands of 'hope' and 'optimism' about the future despite the presence of negative possible selves, elevated depression severity and negative self-evaluation. This is interesting given that perceptions of the future are suggested to be constructed based on current self-evaluation (Abramson, Metalsky, & Alloy, 1989). However, the results of this study showed that more negative and less positive self-evaluation was associated with elevated depression symptoms. This discrepancy between self-evaluation and possible self may be due to the fact that young people may not have yet applied *all* their negative self-schema to their future as they are still in the process of constructing possible selves. It may also be because adolescents may be experiencing their *first* 'depressive episode' or depressive symptoms. Thus, they may retain a sense of optimism about the future. Specifically, the average age of young people in this study was 14.79 years and this is similar to the average age of the first depression episode in adolescents (14.9 years; Lewinsohn, Clarke, Seeley & Rohde, 1994). Therefore, it may be that repeated episodes of depression cause this pervasively negative (i.e., more negative and less positive) view of the future.

This finding may have implications for the treatment of adolescent depression. Research suggests that increasing access to positive expectations about the future is an important clinical intervention in adolescents (Horwitz, Berona, Czyz, Yeguez, & King, 2017). However, this study suggests that it is important to recognise that adolescent are able to describe positive possible selves and therefore improving self-evaluation, i.e., developing a more positive self, should be the focus of treatment. Secondly, these findings

support the importance of early intervention. A negative view of the future is both a causal and maintenance factor of depression as suggested by cognitive theory (Beck, 1967) and in adult literature. Given that adolescents do describe a more negative possible self but are still able to identify possible perceptions of themselves in the future it may be important to treat depression in young people early - i.e., while they are still able to identify possible selves. Therefore, effective treatment of depression in adolescence (i.e., prior to the development of negative, and less positive future outlook) may prevent the onset of further depressive episodes.

However, there are limitations to consider. This study requires replication with clinical samples to verify whether this holds for adolescents with a depression diagnosis. Current research also prevents any conclusions about the long-term predictive effects. Longitudinal, prospective studies should examine the predictive effect of the valence of the possible self (i.e. positive and negative possible selves) on depression in young people. Also, the extent to which adolescents believed their future perceptions reflected a realistic view of themselves in the future is unknown. Other types of future self-images such as 'Feared-for selves' (i.e., selves an individual is scared of becoming such as 'failure in the future'; Markus & Nurius, 1986), may have been inhibited. This is particularly relevant given the environment adolescents completed the measures (i.e., in a classroom seated next to their peers), this may have had an influence on the types of future perceptions generated. Therefore, future work should ask adolescents to rate each possible self for the likelihood "each future statement will describe 'me' in the future".

Chapter 13 Afterword for Paper 4 (ii)

13.1 Additional content analyses using data presented in Paper 4: Self-continuity

As described in Paper 4, thinking about the past and the future are closely related. Stored information from past experiences is used to develop future scenarios or events (Atance & O'Neill, 2001). This overlap between the self in the past and in the future is important for a coherent sense of self across time (i.e., "Who I was" is related to "Who I am" and "Who I will be"), this is described as self-continuity (Chandler, 1994). Self-continuity is supported by *phenomenological continuity* (or episodic future thinking) which refers to mental time travel to specific events both in the past and future, this enables individuals to re-experience past events and imagine their future. Engaging in phenomenological continuity, enables individuals to create stories of their lives and glean meaning from past experiences which is then used to plan and guide their future, this is described as '*narrative continuity' (*Prebble, Addis & Tippett, 2013).

This section will critically evaluate previous research examining self-continuity in young people. Additional content analysis examining self-continuity in adolescents using data presented in Paper 4 will also be presented and discussed.

13.1.1 Self-continuity: Background literature

Self-continuity is suggested to develop across childhood and adolescence and into adulthood (Rutt & Lockenhoff, 2016). Necessary prerequisites for the construction of a coherent sense of self including complex abstract thinking, episodic future thinking and autobiographical reasoning advance during adolescence (Coughlin, Robins & Ghetti, 2017; Fivush, Habermas, Waters & Zaman, 2011; Alle et al., 2016). In line with this, research examining self-continuity in young people has focused on the development of these abilities. For example, as described in Paper 4, research (e.g., Gott & Lah, 2014; Coughlin,

Robins & Ghetti, 2017) has examined when the ability to imagine the future and reflect on the past develops i.e., episodic future thinking (phenomenological continuity). Other studies have examined autobiographical reasoning (i.e., narrative continuity) typically reporting that by late adolescence (i.e., 18-25 years), young people are able to reflect on their past experiences and explain how this is related to a future event or perception of their self (Habermas & Bluck, 2000; McLean, 2005). Surprisingly, there has been no examination of the self-continuity of the *content* of an adolescent self-concept. It is not clear whether there is consistency between the content of the current self and the possible self. It may be that there is a lack of continuity between the current and possible self given that the self is suggested to become increasingly differentiated as young people engage in 'identity exploration' (Harter, 2012). Thus, self-continuity may not be established until late adolescence and early adulthood. However, it may be that self-continuity improves across adolescence (i.e. with age) as a function of the development of more complex abilities such as abstract thinking, episodic future thinking and autobiographical reasoning for example.

There are important implications associated with having a coherent sense of self. A high degree of self-continuity is related with higher academic performance (Nurra & Oyserman, 2018), more adaptive health behaviours, better overall general health (Rutchick, Slepian, Reyes, Pleskus & Hershfield, 2018), and is important in motivation, achievements and goal-pursuit (Sedikides, Wildshut & Grouzet, 2018; Hershfield, 2011). This is because the higher the degree of overlap between the current and future self the more 'connected' an individual may feel with their future. Thus, they may be motivated to behave in a way that may benefit their future self (e.g. "I am a hard-working student who tries hard to do well" "I will pass my exams"; Hershfield, 2011).

A lack of self-continuity has been observed in mental health disorders such as schizophrenia and depression. Specifically, a hallmark of schizophrenia is a lack of self-

continuity (Danion et al., 2005). Research has found that individuals with schizophrenia had impaired autobiographical reasoning and were less able to make associations between personally experienced events and their own life story and generated significantly less vivid perceptions of future events than controls (Alle et al., 2016). In terms of depression, the Self-discrepancy theory (Higgins, 1987) suggests that higher discrepancy (i.e., less self-continuity) between the current (i.e., actual) and possible self (i.e., ideal) is linked to emotional distress and depression including "feelings of failure, disappointment, devaluation and shame" (p.325). In a recent meta-analysis, there was support that self-discrepancy was related with depression, and this reflected a small-medium effect size *r* =.23 (Mason et al.. 2019).

However, the measurement of self-discrepancy has been criticised. Typically, participants must rate their ideal self and their actual self in relation to a series of personality traits, the difference in these rating is the 'discrepancy score.' However, this score has been found to have "poor stability, [and] is restricted in range" (p.626; Moretti & Wiebe, 1999). Therefore, it is important that to fully examine self-continuity in young people, a more comprehensive approach is taken which allows young people to generate their own perceptions of their current and possible self and also considers other perceptions of the self (i.e., roles) and not just personality traits.

Thus, further analysis was conducted to examine the 'overlap' or relatedness of the content of the current self (i.e., self-images generated by the TST) and the possible self (i.e., possible selves generated using the I Will Be Task). Additionally, self-continuity was examined in respect to depression symptoms, to assess whether adolescents with elevated depression symptoms described less self-continuity than healthy young people, consistent with self-discrepancy theory.

13.1.2 Data coding

To examine the degree of self-continuity or 'similarity' between perceptions of the current self and possible self, the number of the *same* self-images present in both the current (e.g., "I am happy") and possible self ("I will be happy") per participant was calculated. This frequency count was then converted to a proportion score i.e., the proportion of 'overlap' in relation to the total number of possible selves generated by each participant. All data were screened according to parametric assumptions. If data violated normality bootstrapping was used and heterogeneity was overcome by running Welch tests (Field, 2013).

13.1.3 Content analysis results

Table 10.1 shows the proportion of 'overlap' i.e., the degree of self-continuity between the current and possible self in young people. On average 7% of these perceptions were consistent across the current and possible self. This did not differ by gender ($t(582) = 1.05$, $p = .292$, 95% BCa CL [-.04, .01). However, younger adolescents aged 13-15 years described significantly more self-continuity than older adolescents aged 16-18 years ($t(582) = 2.31$ $p = .021$, 95% BCa CL [.01, .06]), $d = 0.3$. Adolescents with elevated symptoms of depression also showed significantly less self-continuity than healthy adolescents ($t(582) = 3.23$, $p < .001$, 95% BCa CL [.03, .07]), $d = 0.4$.

The proportion of 'task-specific possible selves' was also calculated. This included possible selves that could not be generated using the 'Twenty Statements Test' due to the different nature of the tasks (i.e., different 'stems' used), examples of these possible selves included "I will get married", 'I will have a job", "I will have a car", "I will have children". On average, 64% of all possible selves generated by young people were of this nature; this did not differ by age ($t(582) = 1.23$, $p = .196$, 95% BCa CL [-.02, .10]) or

depression symptoms ($t(582) = 1.61$, $p = .139$, 95% BCa CL [-.02, .14]). Boys generated significantly more than girls ($t(582) = 1.05$, $p = .04$, 95% BCa CL [-.11, -.00]), $d = 0.2$.

Table 13.1 Proportion of overlap between self-images and possible selves

	Overlap	Task specific possible selves
Gender		
Girls	6%	61%
Boys	7%	67%
Age		
13-15	8%	65%
16-18	4%	61%
Depression symptoms		
Healthy (MFQ < 27)	8%	65%
Elevated (MFQ > 27)	3%	58%

13.1.4 Summary

The aim of this additional analyses was to examine the self-continuity or 'relatedness' between the current self and the possible self in young people. The results suggest that across all young people, there was a small proportion of overlap (i.e., less than 10%) between self-images and possible selves and this was consistent across gender, however younger adolescents described more self-continuity than older adolescents. The results also showed that young people with more severe depression showed less consistency between their current and possible self compared to healthy adolescents. This is consistent with the self-discrepancy theory (Higgins, 1987).

This low proportion of self-continuity present in this sample of young people may have occurred due to a few reasons. Firstly, this sample were relatively young (Mean age = 14 years), thus they may not yet have developed the sophisticated cognitive abilities

necessary to establish self-continuity. Therefore, it may be important to recruit older adolescents or early adults (i.e., aged 18-25 years) to examine whether they have a higher degree of self-continuity. Secondly, this measurement of self-continuity may be problematic. Due to the nature of the 'I Will Be' task, the majority of possible selves generated using the "I will" stem could not be generated using the 'I am' stem, e.g. "I will be married", therefore by its design, this may account for the low degree of overlap observed. Thirdly, the measurement of the overlap between the current and possible self may have been too specific. It may have been that some self-images were related to possible selves but were not accounted for by the method of coding used in this study, for example "I am caring", may be related to the possible self "I will be a mother". However, it was impossible to determine more subtle overlap between statements of this nature without asking participants directly. Future research should replicate this task with young people and as a final step, ask young people to identify perceptions of their self that they feel are consistent across the current and possible self.

The results of this analysis have important implications for both theory and clinical treatment of young people. Firstly, they suggest that there is limited self-continuity within an adolescent self-concept, thus confirming that adolescence is characterised by increased differentiation of the self as suggested by research and theory (Harter, 2012). Secondly, results suggests that adolescents with severe symptoms of depression exhibit less self-continuity than healthy young people. Thus, low self-continuity may be an important factor related to depression in young people and may reflect an important vulnerability to depression. However, it is important to acknowledge that the design was cross-sectional, and therefore causality cannot be inferred. Longitudinal designs should be used to examine whether self-continuity improves as a function of age across adolescence and early

adulthood and also whether low self-continuity is a risk factor for depression in young people.

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Chapter 14 General Discussion

The aim of this thesis was to examine the content of the self in adolescents and to examine associations between depression and the self. The four papers in this thesis focused on how young people describe their self and how this differs from adults (Paper 1) and presented an adolescent specific classification scheme for aspects of the self in young people (Paper 2). This classification scheme was then applied to examine whether the presence of depression symptoms was related with a more complex self or a more negative self-evaluation (Paper 3). In Paper 4, this classification scheme was applied to examine if more severe depression symptoms were associated with a more negative possible self in young people. Papers 3 and 4 are important because self-evaluation and possible selves are suggested to be characteristic of depression and are possible targets of psychological therapy. Thus, a better understanding self-evaluation and the possible self in adolescent depression may help to improve current treatments of adolescent depression because existing treatments, including pharmacological and psychological treatments, are only moderately effective (Cohen, Gerardin, Mazet, Purper-Ouakil, & Flament, 2004; Weisz, McCarty, & Valeri, 2006).

This discussion will describe and integrate findings from each of the papers included in this thesis, evaluate the strengths and limitations of the current research, consider the implications for research, theory, clinical practice and future research.

14.1 Summary of findings

14.1.1 Paper 1: 'Memories of the self in adolescence: Examining 6,558 self-image norms'

Little is known about how adolescents spontaneously describe their self. This is important because adolescence is suggested to be a critical period for the development of

the self (Conway, 2005; Singer, Salovey, 1993). Thus, this paper presented a database of adolescent self-images and examined the most commonly generated self-images used by young people. Eight hundred and twenty-two adolescents aged 13-18 years completed a measure of self-concept (the Twenty Statements Test; Kuhn & McPartland, 1954). In total they generated 6,558 self-images. These data are the first set of adolescent-generated self-images available in a freely accessible database. This paper also compared the self-images that were most commonly generated by adolescents and adults. Adult data was compared from Rathbone and Moulin (2017) and all data was classified according to their categorisation scheme. Personal 'Traits' were most often generated by adolescents. This is consistent with theory that suggests that during adolescence, young people focus on their internal characteristics as they answer key, fundamental questions such as 'Who am I?' (Harter, 1999). Importantly, these 'Trait' self-images were predominately positive, suggesting that adolescents describe themselves in broadly positive terms. Adults tended to describe more social roles. Therefore, the differences in the nature of spontaneous self-descriptions across adolescents and adults may reflect important differences between the self across adolescence and adulthood.

14.1.2 Paper 2: 'Who am I? The classification and assessment of adolescent self-concept'

Given the importance of adolescence in the construction of the self, theoretical differences between the self in adulthood and in adolescence that were identified in the first chapter of this thesis, Paper 2 presented a new adolescent-specific classification scheme designed to identify and code aspects of the self in young people. The coding scheme was developed using adolescent self-images and with the involvement of young people. Adolescents were asked to review the classification scheme to ensure the self-aspects were suitable. They were also asked to use the classification scheme to code a sub-

sample of self-images and also provide conceptual meaning to some ‘un-codable’ response identified by researchers. Self-generated responses using the Twenty Statements Test (Kuhn & McPartland) were classified into 12 categories (or self-aspects). The categories identified within this classification scheme matched the majority of self-aspects described in pre-defined item instructions in the literature. For example, ‘Family relationships’, ‘Peer relationships’, ‘Academic self’ ‘Physical appearance’ correspond to self-aspects described within Marsh’s Self-Description Questionnaire Marsh, 1988; 1989) and Bracken’s Multidimensional Self-concept Scale (1992). Thus, adolescent descriptions of their self largely match the content of some aspects of the self that are identified by pre-defined measures of the self.

Using this new classification scheme, the most commonly generated aspects of the self and the most important self-aspects identified by young people were examined. The most commonly generated self-aspects related to ‘Traits’ (i.e., personal characteristics), ‘Demographics’, ‘Family relationships’ and ‘Peer relationships’. Further analysis of ‘Trait’ self-images showed that 80% of the ten most commonly generated self-images were positive. The most common self-image (included synonymous self-images) was ‘Happy’ identified by nearly half of all adolescents (46%).

These findings support theories of self-concept development in adolescence, i.e., that ‘Traits’ are the focus (Damon & Hart, 1988; Harter, 2012). Also, the high proportion of self-images that described relationships with other people including family and peers is consistent with research that has highlighted the salience of inter-personal relationships with peers (e.g. Blyth, Hill, & Thiel, 1982; Harter, 2012; Helsen, Vollebergh, & Meeus, 2000; Steinberg & Morris, 2001).

Other self-aspects such as ‘Aspirations’ were rarely generated by young people in this sample. The finding that few adolescents generated self-images related to

‘Aspirations’ is surprising given that adolescence is the period when the ability to construct the personal future develops (Bohn & Berntsen, 2013). This is also surprising given that ‘Aspirations’ is a commonly generated aspect of the self among adults using the TST and adult coding schemes (Gordon, 1968; Rhee, Uleman, Lee, & Roman, 1995).

This paper also showed that when adolescents identified up to three self-images that were important to them, aspects of the self that were most commonly endorsed as important were ‘Traits’, ‘Physical appearance’ and ‘Peer relationships’. This importance placed on physical appearance and body image may have implications for the self. The identification of ‘physical appearance’ is in line with theory that suggests adolescence reflects a time when young people become increasingly sensitive and aware of their physical appearance and body image (Grogan, 2008) and with evidence that body dissatisfaction predicts self-esteem and low mood 5 years later (Paxton, Neumark-Sztainer, Hannah & Eisenberg, 2006. This increased sensitivity and importance of physical appearance is in part due to puberty, increased self-reflection, importance placed on peers, and first romantic relationships (Markey, 2010).

14.1.3 Paper 3: ‘Negative view of the self and symptoms of depression in adolescents’

Paper 3 examined associations between depression symptoms and the self in young people. Two contrasting models were evaluated. The cognitive theory of depression (Beck, 1967) suggests that negative self-evaluation is a core feature of depression, and self-complexity theory (Linville, 1985; 1987), suggests that the structure of the self is associated with depression. Young people completed a well-validated self-report measure of depression symptoms, the Mood and Feelings Questionnaire (Costello & Angold, 1988) and the Twenty Statement Task (TST). Self-generated self-images were coded using the new classification scheme developed in Paper 2. The valence of the self-images generated

by each participant was calculated using the 'Self-Valence Index'. The number of different self-aspects generated by each participant was a measure of self-complexity.

The valence of the self was negatively significantly correlated with the severity of depression symptoms. Elevated depression symptoms were associated with a more negative self-evaluation. There was also a weak, positive relationship between depression symptoms and self-complexity, these results demonstrated that contrary to Linville's theory – higher self-complexity was associated with elevated depression symptoms. In a multiple regression only female gender and valence of the self, and not self-complexity, predicted the severity of depression symptoms.

14.1.4 Paper 4: Envisioning the future: Possible selves and depression symptoms in adolescence

During adolescence, young people begin to think prospectively and start to develop perceptions of themselves in the future (Harter, 2012; Molina, Schmidt, & Raimundi, 2017). Paper 4 examined whether the valence of the possible self predicted depression symptoms in young people. This study also compared whether the valence of the possible self or the valence of current self-evaluation predicted symptoms. To assess each participant's possible self a variant of the "I Will Be" task was used (Rathbone, Salgado, Akan, Havelka, & Berntsen, 2016). This task was adapted with the involvement of young people to ensure it could be used with adolescents. Adolescents were asked to complete the stem "In the future I will…". Possible selves were then coded using the classification scheme presented in Paper 2. Five young people aged 13-18 years reviewed the possible selves and the corresponding categories to ensure they were appropriate. As per the procedure described in Paper 3, only possible selves/self-images that were explicitly valenced were included in this analysis.

A more negative possible self was associated with more severe depression symptoms. Negative self-evaluation was also related to elevated depression symptoms. These results provide support for the cognitive theory of depression in young people. However, regression analysis showed that after the inclusion of the valence of current self-evaluation, the valence of possible selves was no longer a significant predictor of depression symptoms. Thus, these findings suggest that negative self-evaluation is the strongest predictor of depression symptoms. The implications of this are discussed in section 14.3.

14.2 Strengths and limitations of this thesis

The papers in this thesis used an ideographic measure to elicit the adolescent 'self'. This is an important improvement over previous studies because adolescents were able to spontaneously describe their self, (including their current and possible self) using any description they liked, using their own vocabulary and constructs. This is important for two reasons. Firstly, this enables the examination of an adolescent self using perceptions generated by this specific population for the first time. Also, given that the self-images generated by the TST are suggested to reflect the most salient and accessible knowledge about the self, using this measure provides data on the pool of self-defining perceptions constructed in adolescence that may endure throughout life.

However, the self-generated nature of the task used in this thesis also has limitations. Adolescents completed the Twenty Statements Test and the 'I Will Be' Task during the school day, in a classroom with their peers. This environment may have resulted in some self-images and possible selves being more accessible. For example, adolescents may have generated more self-images that related to the school environment or with relationships with their peers. They may have also generated possible selves related to the school/academic environment (e.g., "In the future I will finish my GCSE exams").

Additionally, the influence of the testing environment (i.e., presence of peers/researcher) may have caused young people to inhibit certain self-images and possible selves or to select images that portrayed their self in a specific way (e.g., positive or negative). Thus, it is possible that socially desirable responding may have occurred, i.e., young people may have described their 'best self' and therefore inhibited more negative self-descriptions. However, adolescents with elevated symptoms of depression may have been less able to inhibit these more negative self-images. Thus, this bias may have influenced the type (and valence) of self-images generated by young people. It is also important to note that generating possible selves and or self-images is effortful and relies on executive functioning skills such as working memory, attention and concentration. Given that during adolescence executive functions are still developing (Luna, 2009), it may be that young people struggled to retrieve specific self-images or possible selves. This is also relevant in depression because deficits in executive functioning have been observed in adolescents with elevated symptoms of depression (Fisk, Ellis, & Reynolds, 2019).

The majority of data presented across all papers in this thesis are the same. TST data were used in all four papers, and MFQ data were used in Papers 3 and 4. Therefore there may be concerns that these papers may reflect 'Salami publishing' described as "as [the] publication of two or more articles derived from a single study. Articles of such type report on data collected from a single study split into several segments large enough to gain reasonable results and conclusions" (Smolčić, 2013, p.237). However, there are several factors which mitigate this concern. Firstly, to overcome 'Salami publishing' a manuscript based on already published data should cite previously published data (Smolčić, 2013). As described in Paper 1, TST data has been published in a freely accessible database. Papers 2, 3 and 4 cite this database explicitly, and direct readers to this database. Variations of the following statement have been included in all papers "The data reported here are freely

accessible in the UK Data Service ReShare Repository under Hards & Fisk (2018) at http://reshare.ukdataservice.ac.uk/853128/. DOI: 10.5255/UKDA-SN-853128." Secondly, a manuscript based on already published data "should emphasize all knowledge added in the second manuscript" (Smolčić, 2013, p.240). All papers included in this thesis have different theoretical backgrounds (i.e., the background research described in each paper is different), hypotheses, analyses and results. All papers also either present novel data alongside TST data and/or different methods of coding TST data. In Paper 2, novel data i.e., importance ratings for self-images and novel coding i.e., TST classification scheme and coding of synonymous self-images are presented for the first time. Paper 3 describes original methods of coding i.e., Valence coding, (the positive or negative tone of current self-images) and complexity coding (the number of aspects of the self). Novel data i.e. possible selves and novel valence coding of possible selves is presented in Paper 4. Thus, papers included in this thesis are substantially different enough to mitigate concerns of 'salami publishing'.

The input of young people into the development of the classification scheme and the modification of certain tasks to ensure materials were adolescent-appropriate was a strength of this thesis. In Paper 2, young people were asked to review the classification scheme, provide feedback on the preliminary categories and suggest any amendments they deemed appropriate. This process resulted in considerable alterations to the coding scheme and to the classification of self-images. The involvement of young people was especially important because adolescents were able to interpret adolescent slang (e.g., "I am salty") and therefore explain what some self-images meant, this was important to ensure coding was appropriate. Thus, the classification scheme is likely to reflect aspects of the self in this population. Also, in Paper 4, the involvement of adolescents resulted in the

modification of the ‘I Will Be Task’. The task instructions were made more adolescent-friendly. For example, the “I will be” stem was modified (i.e., to “In the future I will”).

However, the classification scheme described in Paper 2 may be an oversimplification of the self in adolescents. One reason for this is that aspects of the self were constructed using only self-images generated by the TST and this is only a small proportion of self-images present in an adolescent’s self. The amount of self-knowledge in memory is vast therefore this coding scheme only describes a selection of self-aspects that were generated and does not consider other aspects of the self that may be present in and adolescent self (Showers & Zeigler-Hill, 2003). Secondly, the coding scheme classifies self-images into separate categories. This is a limitation because in reality, there is considerable overlap between self-aspects as many inter-relate (Showers & Zeigler-Hill, 2003). For example, the self as a ‘student’ (categorised as ‘Demographics') may activate other self-images within other categories such as “I am good at maths” (‘Academic self') and “I am popular and have lots of friends” (‘Peer relationships’). Thus, this relationship between the self-aspects is not considered by the classification scheme. This is important because the self is suggested to be hierarchical and highly accessible self-images may relate to more than one self-aspect (Showers & Zeigler-Hill, 2003).

Most of the sample were White British. They were recruited from three schools; one in Northamptonshire and two in Wiltshire. Therefore, it is important to be cautious about the generalisability of the results presented in this thesis. The town in which the school in Northamptonshire was located and the town of the Wiltshire schools both have a higher level of residents born in the UK (92% for the town in Northamptonshire, Northamptonshire County Council, 2014, and 93.4% for the town in Wiltshire) compared to the national average (86%; Office for National Statistics, 2017). Only 4.5% of individuals from Northamptonshire and 4.2% of residents in Wiltshire are from outside of

the EU, this is considerably less than the national average of (9%. Office for National Statistics, 2017). Additionally, Wiltshire has a relatively high socio-economic status. The demographics of this sample may therefore not reflect the diversity of the population of young people in the UK. These demographic factors are important because the self is influenced by the environment in terms of social and culture factors. Specifically, McGuire, McGuire, Child, and Fujioka (1978) suggested that ethnicity is a salient feature of the self, and when asked, individuals tended to spontaneously describe their self in relation to their ethnicity. This was especially relevant to minority, ethnic groups. Therefore, there is a need to replicate the research in this thesis to include adolescents from other socio-economic backgrounds, recruited from other schools and with varied ethnicity.

The use of opt-out consent was used in the studies included in this thesis; this was used to recruit young people under 16 years. The use of 'opt-out' consent presents some ethical issues. This is because parents did not explicitly choose to 'opt-in' their son or daughter to take part in the research. This may be problematic because it is not possible to determine if parents read the information sheet provided. However, several factors mitigated this considerably. First, the information about the studies was provided in a range of ways. All parents/guardians were sent a letter detailing the study, information was provided on the school website and the contact details of the researchers were provided. Parents/guardians were invited to contact the school or the researcher to ask any questions or to seek clarification Parents were also made aware that they could withdraw their child from the study or ask to have their child's data destroyed at any time. Secondly, parents were able to withdraw their child from the research at any time during or after the completion of the studies. Thirdly, young people themselves provided consent/assent and were not recruited if they themselves were not willing. Finally, the studies were low risk. The questionnaires are widely used in a range of participant samples. The questionnaires

were distributed and completed in the presence of a researcher and a teacher and if the participants had any questions about the consent process or questionnaires, they were able to seek clarification immediately. This method did not lead to over recruitment; 54% of adolescents who were invited to take part in the study, took part.

There were also some ethical reasons to use opt-out consent. Firstly, this method results in a more representative sample of participants. In the alternative 'opt-in' method of recruitment there is a clear bias towards over recruitment of participants from higher social classes and systematic under-representation of participants from diverse cultural and social backgrounds (e.g. de Winter et al., 2005). Thus, the sample typically obtained from an opt-in method is significantly biased and cannot be generalised to a wider group. This method therefore leads to poor data quality and unrepresentative data. This problem is especially relevant to research that is focused on constructs (e.g. depression) that are highly correlated with social factors (e.g. income, education etc.). Secondly, previous research has highlighted that recruitment levels are approximately 22% when using the 'opt-in' recruitment (e.g. Kelly, Barker, Fields, Wilson & Reynolds 2010). This increases the burden placed upon the school as more time is needed to recruit participants and more timetable alterations are necessary. Thirdly, the research also contributed to the school's on-going work on anti-stigma and mental health education, and highlighting mental health issues in the schools, and helped identify and support vulnerable or young people. These benefits to the schools and to the individual participants are more likely to be achieved via an 'opt out' method.

14.3 Implications/ Outputs of the thesis for research

The findings reported in this thesis have a number of implications specifically related to future research. These include the use of the freely accessible database as a tool to better understand the self in adolescence and an adolescent specific measure of the self

as a comparative tool. These tools may be used to track the development of the self between childhood, adolescence and early adulthood understand how culture may influence the self in young people. Implications from the papers assessing the relationship between the self, possible selves and depression in adolescence are also described in the following sections.

14.3.1 The application of self-images presented in a freely accessible database

Paper 1 presented the first, freely accessible database of adolescent self-images. This database may have practical uses. For example, commonly generated self-images identified in the database could be used as cues for autobiographical memories in young people. The content of these autobiographical memories in young people could then be examined using relevant adolescent-generated memory cues. This research is important because this would provide more insight into the content of the self in young people by providing data relating to the content of autobiographical memories identified by young people during a critical period of time described within the reminiscence bump.

Using a longitudinal design to track spontaneously generated self-images would be useful. Results presented in this thesis do not provide any information about whether or not the self-images generated by young people are stable over days, weeks, or months. Therefore, there is a need to establish test retest reliability of the self-images generated by the TST. If the self-images remain stable, as a next step, it may be possible to examine how autobiographical memories generated in response to commonly generated self-images change or remain stable. This would allow researchers to assess whether the content of memories cued by self-images stays consistent during adolescence. If so, these memories are likely to reflect important, enduring memories (i.e., self-defining memories). Therefore, this would improve our understanding of the construction and content of self-defining memories that are derived in adolescence and early adulthood. It would also

improve our understanding of the relationship between the self and autobiographical memory in this population. This type of prospective design would also be important and offer a novel contribution given that current literature uses retrospective designs with older participants reflecting back on their lives.

The database could also provide a knowledge bank for researchers to modify existing adult measures of the self. For example, the Self-Description Questionnaire (Kelvin, Goodyer, Teasdale, & Brechin, 1999) includes 30 words including 12 positive, 12 negative and 6 neutral adjectives. Participants are asked to rate the extent each word describes them from 0 'not like me' to 2 'very much like me'. Importantly, when this adult measure was used with adolescents, Orchard, Pass, and Reynolds (2018) found that more than 10% of adolescents left words such as 'feeble' and 'pitiful' blank. This was because adolescents were unsure of the meaning of these words. Comparing the adjectives from the self-description questionnaire to the self-images present in the database collected from 822 young people, 13/30 of the words used in the SDQ (e.g., 'Modern', 'Incapable') were not generated by any young people and 11 of the words in the SDQ were generated by fewer than one percent of adolescents. Only six of the items present in the SDQ (i.e., 'Stupid', 'Useless', 'Kind', 'Confident', 'Trustworthy' and 'Friendly') were generated by young people in the sample reported in the database. Therefore, commonly generated positive, negative and neutral self-images presented in the database could be used to update the Self-Description Questionnaire and to make it more relevant to young people. This is an objective of my ongoing future research.

Other practical uses of this database include providing comparison data. For example, self-descriptions gathered from young people from different cultures or ethnicities could be compared to data in this repository. This would allow researchers to assess cultural or ethnic differences (or similarities) in young people's self-descriptions.

Also, researchers could compare self-images generated by children to assess how the nature of spontaneously generated self-descriptions may differ from childhood and adolescence using data presented in this database. Therefore, these data could be used in future research to broaden our understanding of the self in adolescence and better understand how the nature of spontaneously generated descriptions develop and change across this developmental period.

14.3.2 Understanding how the self develops across childhood, adolescence and early adulthood.

The results of this study reflect a first attempt to compare self-generated descriptions of the self by adolescents and adults. Paper 1 demonstrates differences in self-images generated by adults and adolescents. This observed difference is consistent with theories of the development of the self (i.e., Harter, 2012). These suggests that early and mid- adolescents focus on their psychological characteristics and personal qualities and that by late adolescence and early adulthood, self-images are organised according to specific roles or contexts, thus the self is largely differentiated (Harter, 2012). Therefore, the emphasis in adulthood is to integrate specific role or context specific self-images (Gecas, 1982), and combine these 'selves' to form a coherent sense of self (Harter, 2003, 2012). This is consistent with the results of paper one as adolescent most often describe 'Social roles' – significantly more than adolescents.

This finding has important implications because it provides evidence to support the nature of developmental changes in the self during this time. However, there is limited research on adolescent self-descriptions. To fully assess the content of the self and the development of this construct across childhood, adolescence and adulthood, more data (i.e., self-images) is needed. Self-descriptions using the TST should be collected from children, and older adolescents (i.e., 16 years – 18 years), however the TST would need to

be adapted for use with children due to demands on executive functioning. This would enable comparisons between the self at each developmental status and complete the 'gaps' in the current data - the adult database includes participants aged 18 to 88 years (mean = 30.84 years, and the adolescent database includes 13 to 18 year-olds but relatively few 16-18 year-olds (mean = 14.85 years, SD = 1.44).

14.3.3 The application of the adolescent-specific classification scheme

As identified in Paper 1, there are important developmental differences between the self in adolescents and adults. Therefore, in Paper 2, a new classification scheme was devised to assess the content of the self in young people. This classification scheme resulted in 12 aspects (categories) of the self. This classification method offers important advances over existing measures of the self. Therefore, for the first time, an adolescent specific categorisation scheme has been developed using both descriptions developed by the adolescents themselves, and groups into aspects of the self by researchers with the involvement of young people.

This classification method has important general application. For example, future research could apply this method to examine the self in adolescents in respect to many different psychological phenomena. For example, this measure could be applied to better examine how the self is disrupted in psychopathology. For example, negative self-focused attention is a key factor of anxiety disorders such as social anxiety (Clark & Wells, 1995) and is implicated in the development and maintenance of eating disorders (Cardi, Di Matteo, Gilbert, & Treasure, 2014), depression (Beck, 1967; 1979), and psychosis (Barrowclough et al., 2003). Therefore, this classification scheme may be used to code data from young people recruited from clinical populations to examine the nature of spontaneously generated descriptions of the self. Thus, clinical data could be compared to normative data presented in Paper 2 of this thesis. This is important because this may

identify recurrent themes or dysfunctional thoughts present in psychopathology. Therefore, this classification method is an important tool with wide application and important implications for increasing the understanding of the self in adolescence specifically in relation to psychopathology in young people.

14.3.4 Ensuring measures of the self are developmentally appropriate for young people

The results of the thesis suggest that aspects of the self spontaneously generated by young people closely match *some* pre-defined measures of the self. For example, 'Academic', 'Family', 'Physical', 'Affect' and 'Social' were identified in Bracken's Multi-dimensional Self-concept Scale (1992) and this is consistent with self-aspects described within the TST coding scheme presented in Paper 2. However, in relation to Harter's Perceived Competency Scale for Adolescence (Harter, 2012) only 3/8 self-aspects were consistent (i.e., 'School', 'Close Friendships' and 'Physical appearance'). Therefore, this suggests that some - not all - existing measures examining the self in adolescence may be examining relevant aspects of the self that are salient to young people.

Additionally, it may be that the specific type of perceptions examined in existing measures of the self should be modified to suit an adolescent rather than an adult population. For example, in relation to Harter's Self-Perception Scale, items are related to 'competency' only i.e., 'how good' or bad I am' However, data from the open response measure presented in this thesis highlighted that adolescents spontaneously describe their self using perceptions that are not soley related to their competency i.e., such as their group memberships (e.g., 'Active Roles', "I am a footballer"). Therefore, measures should not focus exclusively on 'competency' as important content may be missed.

Also, other measures which present pre-defined descriptions of the self for adolescents to endorse should be modified to ensure they are appropriate for young people.

The results of Paper 1 highlighted the differences in self-descriptions commonly used by adolescents and adults. Also, as identified in Chapter 1 there is evidence that the development of cognitive abilities precedes the development of the self (Harter, 2012; Inhelder & Piaget, 1958). Furthermore, the increased sensitivity to the social environment particularly with peers during adolescence provides important feedback about the self (Blakemore, 2008; Stangor, Jhangiani, & Tarry, 2014). Thus, the application of measures for example, the Self-Description Questionnaire (Kelvin, Goodyer, Teasdale, & Brechin, 1999) may not be appropriate given that adjectives presented in this measure may not reflect adjectives that are typically used by young people to describe their self. This is discussed in more detail in 14.3.1. Therefore, it is important to develop adolescent specific measures or to adapt adult measures for use with young people to ensure that they are appropriate for this population.

14.3.5 Negative self-evaluation in adolescent depression

In Paper 3 we found that negative self-evaluation was significantly correlated with the severity of depression symptoms and accounted for 25% of the variance in depression symptoms; a large effect. These results suggest that negative self-evaluation rather than positive self-evaluation may be more accessible to young people with elevated depression symptoms. These findings with non-clinical adolescents have important implications. They provide useful information about the spectrum of depression symptoms in young people. This is important because these results suggest that in non-clinical adolescents, negative self-evaluation is related to severity of depression symptoms. However, to further understand the relationship between depression and negative self-evaluation, clinical samples are needed. This is important to better understand clinical depression in young people and to improve treatment for this population. If negative self-evaluation was found to predict depression diagnosis for example, this would highlight that improving positive

evaluation may be a useful treatment strategy. However, it is also important to examine the causal direction of the relationship between self-evaluation and depression, i.e., does depression 'cause' negative self-evaluation or does negative self-evaluation 'pre-date' the development of depression. This is discussed in further detail in section 14.3.7.

14.3.6 Understanding possible selves in adolescent depression

Paper 4 found that after the inclusion of the valence of current self-evaluation, the valence of negative, possible selves did not predict the severity of depression symptoms in young people. This suggests that negative self-evaluation is the strongest predictor of depression in young people and therefore this may be more relevant to adolescent depression than the 'possible self'.

This result is not consistent with previous research. For example, a more negative view of the future and the self were both associated with elevated depression severity in adolescents using questionnaire methods that asked adolescents to endorse items about the future (i.e., the Cognitive Triad Inventory; Kaslow et al., 1992; Jacobs and Joseph, 1997). However, it may be that discrepant results may be due, in part, to the different measures used to assess the future. Global perceptions of the future are typically assessed using questionnaire methods, however the assessment of possible selves used in Paper 4 was an open-response measure. The items on the questionnaire restrict young people to evaluate specific items that are researcher defined and therefore may not assess the full content of their own perceptions of their future. In contrast, the use of an open-response measure allows young people to generate their own perceptions and therefore adolescents were free to include things about their own view of themselves in the future. However, it may also be the case that young people with elevated depression symptoms may have inhibited negative perceptions of themselves in the future that were otherwise 'captured' using questionnaire methods. To help determine if this is the case, future studies should use

methods that assess both general perceptions of the future e.g. the Cognitive Triad Inventory (Kaslow et al., 1992) and an idiographic open-ended measure of possible selves in young people.

Research should also assess the extent to which young people believe that possible selves will describe 'the self' in the future and also assess the temporal distance of possible selves. Research with adults with elevated depression symptoms has shown that they identify distant possible futures as more positive than close possible futures (Sokol & Serper, 2017). Therefore, young people with elevated symptoms of depression may have generated a positive view of the future that was 'far in the future'. Future studies should use a fixed-timepoint or a time-frame (e.g., 'In 1 year from now I will…',' In 5 years from now I will...', 'In 10 years from now, I will…'), to assess the valence of adolescents possible selves in respect to depression. Using this method would provide a better understanding about the nature of possible selves in young people and how the distance away from the 'current self' may be an important factor in how positive the possible selves are.

Also, to understand more about the relationship between possible selves and depression symptoms, future research should examine the content of possible selves (i.e., not just the valence) in adolescents in respect to depression severity. By assessing commonly generated perceptions of the future it may be possible to see whether individuals with elevated depression symptoms generated more general perceptions about the future (i.e., "I will go to university", "I will have a family") rather than specific images of the self in the future (e.g., "I will study English literature"). This may be important because research has found that depressed individuals generated more general and less specific events about the future (Addis, Hach, & Tippett, 2016). This is hypothesised to be because the ability to imagine the future relies on the similar brain regions as generating

autobiographical memories (Schacter, Addis, & Buckner, 2007). Thus, given that adolescents tend to retrieve more general memories about the past than specific memories (Fisk et al., 2019), it may be that individuals with depression may also tend to describe more general events in the future. Consequentially, it may be that future self-images generated by young people with high depression symptoms are less specific (i.e. more general) and reflect 'cultural life scripts' i.e., "culturally shared assumptions as to the order and timing of important events" (p. 1232; Bohn & Bernstein, 2013), such as (i.e., "I will get married"). This is important because depression could impair young people's ability to generate specific possible selves and without a specific possible self this could impair planning, or the pursue of goals or emotional regulation (Gamble, Moreau, Tippett & Addis, 2018).

14.3.7 The need for longitudinal and experimental research

Given that the studies included in this thesis were cross-sectional it is not possible to assess how 1) the self develops and changes across adolescence, 2) whether negative self-evaluation causes or is a maintenance factor in depression, or neither of these things, and 3) whether possible selves become more negative following repeated experiences of depression symptoms. Harter (2012) proposed that the self becomes more complex across adolescence in line with cognitive development as described by Inhelder and Piaget (1958). Research evidence supports the hypothesis that the conceptualisation of the self becomes more differentiated across adolescence (Marsh, 1989). Rather than using questionnaires to assess aspects of the self in young people, using an idiographic measure of the self such as the Twenty Statements Test may provide greater insight into the most accessible self-images and commonly generated aspects of the self and how these develop across adolescence.

As described in Paper 3 more research is needed to assess if negative self-evaluation is causally related to depression or is a consequence of adolescent depression. It is possible that self-evaluation prompts the development of a depressive episode because negative self-evaluation may increase attention to, and therefore accessibility of, negative self-referent information. This may then provoke or amplify rumination in the form of brooding i.e., on negative information about the self. Rumination is hypothesised to contribute to the development of depression and thus negative self-evaluation may play a part in a causal 'chain' (Black & Pössel, 2013). However negative self-evaluation may also be a consequence of depression rather than a precursor. Low mood associated with depression may increase the accessibility of negative information about the self. Therefore, mood manipulation studies may be a helpful first step to determine the direction of causality. Specifically, studies could assess self-evaluation before and after the induction of positive mood in adolescents with remitted clinical depression and healthy controls. Any change in valence of self-evaluation would suggest that mood elicits self-evaluation. This is important because underlying negative self-evaluation, when activated by a trigger may cause the onset of subsequent depressive episodes (Beck, 1967).

14.4 Thesis-specific theory implications

14.4.1 The need for a clear, comprehensive conceptualisation of the self, applicable to sub-disciplines in psychology

As highlighted in the introduction there is a need to develop "a set of precise, clear and distinct terms for each of the phenomena that we study under the self [and identity] umbrella" (p.2; Leary, 2004). As demonstrated in the introduction a synthesis of related self-terms and a glossary of self-terms may be a helpful first step in reaching a clearer and more consensual definition of 'the self'. This synthesis and information about the definitions of each self-term may be a resource that researchers can adopt to ensure their

descriptions of the self are consistent and relevant. The aim of creating this resource was to reduce the use of contradictory definitions within the self literature.

This thesis has highlighted some of the commonly used self-terms that are consistently used across sub-disciplines in psychology. To ensure transparency, and promote clarity, it is important that research examining the self uses self-terms that are relevant to as many sub-disciplines as possible This identification of shared terminology is especially relevant for researchers conducting inter-disciplinary research about the self. By using a set of terms that are clearly defined and consistently used across sub-disciplines in psychology, this will make the self literature easier to navigate and use.

14.4.2 Developing a model of the self in adolescence

There is no clear, comprehensive model of the self that is used consistently across sub-disciplines in psychology. There is a need to develop a model that synthesises relevant theories and models across sub-disciplines in psychology and is relevant to adolescence. This is critical given the importance of adolescence as a developmental period that includes significant advancement of the self. In relation to the self in adolescence, Developmental psychology has focused on how the self develops from infancy to adolescence and adulthood. However, the focus of research and theory in developmental psychology has been on self-descriptions. There has been little overlap with other sub-disciplines of psychology, including for example cognitive psychology and the influential construct of autobiographical memory. In Personality and Cognitive psychology there has been a consideration about the developing cognitive abilities that are needed to form a 'life story' and to maintain a clear and coherent sense of self. However, again the development and change of self-descriptions identified in Developmental psychology is not considered in these sub-disciplines. In Social psychology there is emphasis on the importance of the social environment as a method of feedback about the self and the key role this plays

during adolescence. The social self is considered by Developmental theorists e.g., Harter, (2012), but not in models of the self in Personality and Cognitive psychology such as the Self-Memory System (Conway & Pleydell-Pearce, 2000), the model of the sense of self (Prebble et al., 2013) and Narrative identity (Singer et al., 2013) for example. Therefore, there is no clear model for the self that is specifically related to adolescence and which considers key factors highlighted within different sub-disciplines of psychology.

There is a need to provide a coherent synthesis of other self-models, which considers the importance of adolescence. It may be relevant to develop an adolescent-specific model given the developmental status of this population and the differences that exists in the self in comparison to adults. However, the latter may only be achieved once there is a better understanding of how the self in adolescence develops and is consolidated. Therefore, more research in this population is urgently needed.

14.4.3 Implications for Beck's cognitive model of depression

The papers in this thesis provide partial support for Beck's cognitive model of depression (Beck, 1967). As described in Part 2 of this thesis, the cognitive model of depression suggests that a negative view of the self and the future are key characteristics of depression and that the modification of depressed cognitions is important for effective treatment. The results of Paper 3 suggest that negative self-evaluation (i.e., a more negative view of the self) is related with depression symptoms in young people, thus supporting Beck's cognitive model. The results of Paper 4, while not a direct test of Beck's cognitive model, suggest that adolescents with more severe depression symptoms do identify a more negative view of themselves in the future. However, negative self-evaluation was the strongest predictor of depression severity in young people, the implications of this result for clinical practice is discussed in more detail in section 14.5. It is also important to note that the studies reported in this thesis do not address whether or not a negative view of the

self and future are causal features of depression, longitudinal and experimental research is needed to determine this.

14.5 Thesis-specific implications for clinical practice.

14.5.1 Negative self-evaluation as an important target in treatment of depression

The findings from Paper 3 have potentially important implications for the treatment of depression in young people. They suggest that strategies that focus on improving self-evaluation may be an important aspect of Cognitive Behavioural Therapy (CBT) for depression. Currently, CBT targets negative interpretations of events, this is suggested to indirectly reduce negative self-evaluation, although the latter is not the focus of treatment. However, data presented in Paper 3 suggests that for young people, focusing directly on improving self-evaluation may be a helpful strategy and alleviate depression symptoms.

Fennell (1997) described key principles of CBT for low self-esteem. She suggested that the key to reducing negative self-evaluation is to help clients to recognise their negative biases. She suggested that one strategy would be to ask the client to identify positive qualities about their self, following this the client should be asked to record specific qualities daily. During therapy, the objective is for the client to identify self-critical thoughts (i.e., 'thinking errors') about their self and to evaluate evidence both for and against these thoughts. Fennell suggested that considering the alternative perspective helps the client to develop a more balanced view of themselves. Importantly, she suggested that changes in thinking should be put to the test through behavioural experiments and action plans. Fennell argued that targeting negative, automatic thoughts about the self would help the client to understand that these are opinions rather than facts and that change is possible. She also suggested that to change more stable perceptions of the self (i.e., core beliefs) the focus of therapy should be to strengthen perceptions of the self that

acknowledge both positive and negative parts of the self (e.g., “I am OK, warts and all”, p.14).

There has been no systematic evaluation of CBT for low self-esteem in depressed young people (or adults), therefore it is not clear if this is an effective method of treatment. In a case study McManus, Waite & Shafran, (2009) used Fennell’s (1997) treatment model with a clinically depressed adult patient (who also met criteria for OCD) and reported clinically significant change. At the end of treatment this patient did not met criteria for any psychiatric disorder. Given that negative self-evaluation predicted depression severity in a non-clinical sample of adolescents, tackling negative evaluation in therapy using Fennell’s model may be an important future development for the treatment of negative self-evaluation in this population. However, Fennel’s model should be adapted for use with young people and tested for acceptability and effectiveness. This would then determine whether this is a viable, effective and evidence-based treatment strategy for young people (and adults).

14.5.2 Possible selves may not be an appropriate treatment strategy for adolescent depression

The implications of the findings from Paper 4 highlight that proposed targets of psychological therapy for adult populations may not be appropriate for young people. Specifically, a recent review article suggested that “future orientated treatment strategies” (p.23; Roepke & Seligman, 2016) such as using imagery (i.e., identifying key thoughts, feelings and behaviours that lead to a desired future) in CBT should be a focus of treatment of depression. However, the results of Paper 4 suggest that this may not be appropriate for adolescents, given that the valence of possible selves was not found to predict depression symptoms after the inclusion of negative self-evaluation. Therefore, strategies that focus on improving self-evaluation – rather than modifying ‘faulty prospection’ (Roepke &

Seligman, 2016) may be an important focus in the treatment of adolescent depression. However, there is a need to replicate with clinical samples and conduct prospective longitudinal research and mood manipulation studies to assess the predictive/causal relationship between self-evaluation and depression.

14.6 Conclusion

Adolescence is a critical period for the development of the self. Important perceptions developed during this time appear to endure across the lifespan. It is also a time when depression is prevalent. The results of research reported in this thesis have described the content of the self in normative adolescents, noted the specifics of this population compared to adults, and examined the content of the self in young people. This thesis presented a freely accessible database and classification method as resources for researchers to adopt and use to further develop our knowledge and understanding of the self in young people. In the application of this classification scheme with adolescents with depression symptoms; negative self-evaluation was related to severity of depression symptoms, and negative possible selves were associated with more severe depression symptoms.

Taken together, these findings suggest that 'the self' in adolescence is different from the self in adulthood. The results of this thesis have important implications for the understanding of the self in young people and for the treatment of depression in adolescents. Future research should conduct longitudinal research, to examine both how the 'self' changes across adolescence and whether a negative self-evaluation is a risk factor or a consequence of depression in clinical samples.

14.7 References

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Chapter 15 Appendices

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

Sub-discipline	Researcher	Key paper(s)	Citations	Examples of recent research that have cited this work.
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. doi:10.1037//0033-295	1,835	O. Evren Guler & Simona Mackovichova (2019) The role of executive function in autobiographical memory retrieval: does the type of cue word matter? *Memory, 27*:4, 423-430. doi: 10.1080/09658211.2018.1513040
		Conway, M. A. (2005). Memory and the self. *Journal of Memory and Language, 53*(4), 594-628. doi:10.1016/j.jml.2005.08.005	857	Marsh, L., Edginton, T., Conway, M., & Loveday, C. (2019). Positivity bias in past and future episodic thinking: Relationship with anxiety, depression, and retrieval-induced forgetting. *Quarterly Journal of Experimental Psychology, 72*(3), 508–522. doi:10.1177/1747021818758620
Developmental	Erik Erikson	Erikson, E. H. (1968). Identity: Youth and crisis. New York: W. W. Norton	8,057	Masselink, M., Van Roekel, E., & Oldehinkel, A. J. (2018). Self-esteem in early adolescence as predictor of depressive symptoms in late adolescence and early adulthood: The mediating role of motivational and social Factors. *Journal of Youth & Adolescence, 47*(5), 932-946. doi:10.1007/s10964-017-0727-z
	Susan Harter	Harter, S. (1982). The Perceived Competence Scale for Children. *Child Development, 52*, 87-97. doi: 10.2307/1129640	2,155	Paulus, M., Licata, M., Gniewosz, B., & Sodian, B. (2018). The impact of mother-child interaction quality and cognitive abilities on children's self-concept and self-esteem. *Cognitive Development, 48*, 42-51. doi: 10.1016/j.cogdev.2018.07.001
Clinical	Aaron Beck	Beck, A. T. (1976). Cognitive therapy and the emotional disorders. London: Penguin Book.	4,811	LeMoult, J., & Gotlib, I. H. (2018). Depression: A cognitive perspective. *Clinical Psychology Review*.

				doi:10.1016/j.cpr.2018.06.008
		Beck, A. T. (1967). Depression: Clinical, experimental, and theoretical aspects. Philadelphia: University of Pennsylvania Press		LeMoult, J., Kircanski, K., Prasad, G., & Gotlib, I. H. (2017). Negative self-referential processing predicts the recurrence of major depressive episodes. *Clinical psychological science: a Journal of the Association for Psychological Science, 5*(1), 174-181. doi: 10.1177/2167702616654898
Social	Hazel Markus	Markus, H.R. & Nurius, P. (1986). Possible selves. *American Psychologist, 41*(9), 954-969. doi: 10.1037/0003-066X.41.9.954	2,850	Tanguay, A.N., Benton,L., Romio, L., Sievers, C., Davidson, P.S.R. & Renoult, L. (2018). The ERP correlates of self-knowledge: are assessments of one's past, present, and future traits closer to semantic or episodic memory? *Neuropsychologia, 110*, 65-83. doi: 10.1016/j.neuropsychologia.2017.10.024
		Markus, H.R., & Kitayama, S. (1991). Culture and the self – implications for cognition, emotion and motivation. *Psychological Review, 98*(2), 224-253. doi: 10.1037/0033-295X.98.2.224	8,719	Miconi, D., Moscardino, U., Altoe, G. & Salcunis, S. (2019). Self-construals and social adjustment in immigrant and non-immigrant early adolescents: the moderating role of executive functioning. *Child Development, 90*(1), e37-e55. doi: 10.1111/cdev.12918
	Stanley Klein	Klein, S.B., Loftus, J., Khilstrom, J.F. (2002). Memory and temporal experience: The effects of episodic memory loss on an amnesic patient's ability to remember the past and imagine the future. *Social Cognition, 20*(5), 353-357. doi: 10.1521/soco.20.5.353.21125	333	Dewhurst, S.A., Anderson, R.G., Grace, L. & Howe, D. (2019). Simulations, false memories and the planning of future events. *Journal of Experimental Psychology: Learning, Memory and Cognition, 45*(1), 26-36. doi: 10.1037/xlm0000575
Personality	Dan McAdams	McAdams, D.P., McLean, K.C. (2013). Narrative identity. *Current Directions in*	203	Waters, T.E.A., Kober, C., Raby, K., Habermas, T. & Fivush, R. (2018). Consistency and stability of narrative coherence: An examination of personal

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15.2 Appendix 2: Glossary of self-terms

Terminology	Meaning	Cited by	Related self-terms
Self in a specific domain	All self-images or self-perceptions that relate to a particular aspect of the self-concept *[examples below]*	McLean and Syed (2015)	Facets of identity, identities, Aspects of the self
Academic self/identity	A specific aspect of the self/self-image which contains all self-images and beliefs which relate to 'academic self' (e.g., I am a student). Can also be called an 'academic identity'		
Health self/identity	A specific aspect of the self/self-image which contains all self-images and beliefs which relate to 'health self'. Can also be called an ' identity'		
Body image	Set of self-images/conceptions which relate to an aspect of 'the self' described as 'Body image'. Can also be called an 'Identity'		
Conceptual self	Contains self-knowledge (e.g., beliefs, self-images, schemas). These are associated with autobiographical memories which reflect an overall theme and exemplify a specific self-image (e.g., 'I am clever' may be related to an autobiographical memory of when I got 82% in my maths exam)	Conway, Singer & Tagini (2004), Neisser (1988)	Self-concept
Core self-concept	Made up of self-defining memoires which are highly accessible, vivid, emotionally intense and associated with self-images.	Singer & Salovey, (1993); Conway, (2005)	Self-images
Core self-evaluation	Set of stable traits which reflect the fundamental parts of a person. They influence the interpretation of situations, thinking and behaviour. The valence of core self-evaluation influences self-esteem	Harter (1999),	Core self-concept, Self-esteem Schema
Core self-evaluation [Cont.)			
Life story	Story of an individual's life which includes important memories and periods of an	McAdams (1985; 2001)	Self-concept, Identity, Narrative identity,

	individual's life. The 'Life story' is constantly evolving.		
Narrative identity	Also described as a 'life story'. This includes the reconstruction of important past events and the prospective future. Narrative identity provides a sense of coherence between the past and the future and gives individuals a sense of purpose.	Singer (2004) McAdams & McLean, 2013	Life story
Narrative scripts	Knowledge about oneself which is created by past experiences. When these memories contain similar sequences of emotion-outcome, this combines to form a script. Scripts are defined as a "rule" for predicting, understanding and reacting to a situation.	Singer, Blagov, Berry and Oost (2013); Tomkins (1987)	Schema, Self-images, Self-perceptions, Self-representation, Self-descriptions Scripts Frames Self-characteristic
Private self	Includes self-knowledge which related to internal perceptions about oneself e.g. feeling, attitude, values	Abrams (1996)	Self-concept, Self-images, Self-descriptions, Schema, Personal identity
Collective self	Contains self-knowledge which relates to relationships with other people e.g. social roles and group memberships.	Abrams (1996)	Social identity
Schema [Definition 1a] Schema [Definition 1a; Cont.]	Knowledge about oneself which is created by 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. student). They 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	Markus (1977), Piaget and Cook (1952)	Narrative scripts, Self-images, Self-perceptions, Self-representation, Self-descriptions Scripts Frames
Scripts	A specific set of information available in memory which is derived from frequently experienced events. They are used to help interpret and understand our	Schank and Abelson (1977)	Schema Narrative scripts, Self-images, Self-perceptions Self-representations

	experiences and interactions with others.		Self-descriptions
Frames	Set of information which guides attention and influences the interpretation of an event.	Minsky (1975)	Schema Narrative scripts, Self-images, Self-perceptions Self-representations Self-descriptions Frames
Self-aspects	Self-knowledge which relates to an individual in a particular domain (e.g. Traits, Roles, Abilities)	James (1910/1968), Neisser (1988)	Self in a specific domain, Facets of identity, Identities, Aspects of the self,
Self-beliefs	Describes an individual's evaluation of a specific domain of the self-concept (e.g. I am good at sports). These can vary in importance. The more important a self-belief the more this influences self-esteem	Harter (2003)	Self-esteem, Self-regard, Self-evaluation
Self-complexity	Organisation of self-knowledge: Relates to the number and overlap of self-aspects	Linville (1985, 1987)	
Self	Self as the 'I', the agent who reflects on the 'me'. This includes the processes of creating self-knowledge, i.e. self-reflection.	James (1910/1968); Neisser (1988)	I-self, Self-awareness, Self-reflection
Self-concept	All known information about the self, which includes evaluations, descriptions, abilities, skills and capabilities. They include representations of the self in the past, present and imagined future	Oyserman et al., 2012; Gecas, 1982	Me-self Self-knowledge Conceptual self
Conception of oneself	A picture of oneself derived from personal beliefs, past experiences and the feedback of others. This term is used inter-changeably with the term "self-image".	Burns and Dobson (1984)	Self-image, Self-knowledge, Schema Self-descriptions
Self-perception(s)	A conception/belief of oneself derived from an individual observes their	Bem (1972)	Self-images,

	own behaviour and makings inferences. Together these perceptions form self-knowledge		Self-representation, Self-schema, Self-description, Self-conception Schema Self-representation Self-characteristic
Self-observation	A process in which an individual observed their own behaviour and makes inferences, creating self-knowledge	Baumeister 1998; Leary (2004)	Self-perception
Self-conceptions	Forms of cognitive appraisals (e.g. self-descriptions) that relate to an 'image' or oneself in a particular context	Hattie (1992)	Self-images, Self-perception, Self-representation, Self-knowledge, Schema, Self-schema, Frames, Scripts, Self-appraisals, Self-descriptions Self-characteristics
Self-esteem Self-esteem [Cont.]	Global evaluation of the self, which describes their overall worth. This is derived from information about the self (e.g. self-evaluation) which is positive or negative,	Baumeister (1998); Burns & Dobson, (1984)	Self-evaluation, Self-images, Self-knowledge, Self-appraisals, Self-conceptions, Self-regard, Self-worth
Self-worth Self-regard Self-appraisals	*See self-esteem* *See self-esteem* See self-evaluation(s)		Reflected self-appraisals, Self-evaluation Self-images, Self-knowledge, Self-appraisals, Self-conceptions, Self-regard, Self-worth, Self-esteem
Reflected self-appraisals	A process in which feedback from others help develop self-knowledge	Baumeister (1998)	Looking glass self, Self-appraisals, Self-evaluation
Looking glass self	A perception of the self from the view of others	Cooley (1902)	Reflected self-appraisals, Self-evaluation(s), Self-appraisals
Self-evaluation	How positively/negatively and individuals views themselves overall. A key	Beck (1967); Beck (2009)	Self-worth, Self-esteem, Self-regard,

	symptom in depression is negative (or low) self-evaluation, i.e. negative feelings towards the self		Self-evaluation, Depressed cognitions, Negative self-views, Self-esteem
Self-evaluations	Evaluation of affective reactions to oneself *[see self-evaluation]*	Beck, (2009); Beck (1967)	Self-appraisals Reflected self-appraisals, Depressed cognitions, Negative self-views, Self-esteem, Self-worth, Self-regard
Self-image	All beliefs about oneself created from past experiences and feedback from other people (synonym for self-concept). This term may also be used to describe a particular aspect of the self *[see self-concept in relation to a specific domain]*	Burns & Dobson, (1984)	Self-knowledge, Identity, Self-aspect, Self-concept, Self-conception Identities Self in a specific domain Self-images
Self-images	A conceptualisation or belief about oneself, usually in the form "I am XX". Derived from past experiences and are highly related to autobiographical memories. These may be positively, negatively or neutrally valanced, and are used to respond to the question: Who am I?	Rathbone, Moulin and Conway (2008); Leary, (2004)	Self-image, Self-evaluations, Self-knowledge Self-perceptions, Self-representations, Self-descriptions Self-characteristic Self-views
Self-views	Thoughts and feelings about oneself which are formed by interactions with others and observing own behaviour. Self-views are used to make sense of situations or experiences.	Swann, Chang-Schneider, and Larsen McClarty (2007)	Self-images Self-appraisals Reflected self-appraisals, Depressed cognitions, Negative self-views, Self-esteem, Self-worth, Self-regard Schema Self-schemas Frames Narrative Scripts

Self-knowledge	All beliefs/perceptions an individual may have about oneself	Baumeister (1998)	Schema Narrative scripts, Self-images, Self-perceptions Self-representations Self-descriptions Frames
Self-reference encoding tasks (SRET)	Two main SRET tasks: One with adjectives (rate the extent they reflect personality then have an incidental recall), and one with autobiographical memories (retrieve ABM related to a word to be remembered)	Kalenzaga et al. (2015), Rogers et al. (1977)	Self-referential processing, Self-reference Self-related Self-relevance
Self-referential processing	Process of attending to information strongly related to oneself	Northoff et al. (2006)	Self-referential processing, Self-reference Self-related Self-relevance
Self-reference effect	Better recall of information (e.g. memories) which relate to information strongly related to oneself	Rogers, Kuiper & Kirker (1977)	Self-referential processing, Self-reference Self-relevance Self-related
Self-reference	[*see self-referential processing]*		
Self-related	*[see self-referential processing]*		
Self-relevance	All information that relates to self-concept	Shih, Ambady, Richeson, Fujita and Gray (2002)	Self-referential processing, Self-reference Self-related
Self-presentation	Activated self-knowledge in response to a context E.g., an individual may adopt certain behaviours and views within a religious environment, which they may not adopt when alone with their peers.	Baumeister 1998; 1982	Working self, Spontaneous self-concept, Identity
Self-representations	These are traits, characteristics or abilities which are used by an individual to describe themselves, e.g. to respond to the question: Who am I?	Harter (1999; 2012)	Self-image, Self-evaluations, Self-knowledge Self-perceptions, Self-representations, Self-descriptions
Self-schemas	All beliefs about oneself created from past	Markus (1977); Leary (2004); Beck (1967)	Self-images, Self-perception,

	experiences and feedback from other people. Maladaptive self-schemas are also described as a cognitive vulnerability for depression.		Self-representation, Self-knowledge, Schema, Self-schema, Frames, Scripts, Self-appraisals, Self-descriptions Self-concept Self-conceptions
Working self-concept	This is the sub-section of self-images, attitudes, beliefs etc which are available at a given moment. This is because the self-concept contains such a lot of information, this cannot all be active at one time. Thus, self-knowledge which is currently activated is defined as 'working self-concept'	Markus and Kunda (1986)	Conceptual self, Spontaneous self-concept, Working self, Identity, Phenomenal self, Identities
Working self	Contains conceptual self [see conceptual self for definition] and currently activated self-images due to context for example. (e.g. 'I am student' may be activated due to the school environment). The working self also contains a complicated hierarchy in of active goals, this dictates which memories are committed to memory (encoded) and which memories are retrieved.	Conway and Pleydell-Pearce, (2000); Conway, Tangini and Singer (2004)	Conceptual self, Spontaneous self-concept, Working self-concept, Identity, Phenomenal self, Identities
Spontaneous self-concept	Self-knowledge which is currently activated. This self-knowledge is suggested to reflect some of the most salient self-images. This is because they are highly accessible given that they are associated with self-defining memories [see core self-concept]	McGuire and Padawer-Singer (1976)	Conceptual self, Spontaneous self-concept, Core self-concept, Working self-concept Working self, Phenomenal self, Identities
Phenomenal self	The proportion of activated self-knowledge which dominates conscious thought	Baumeister (1998)	Conceptual self, Spontaneous self-concept, Core self-concept,

			Working self-concept Working self Identities
Identities	Activated self-knowledge in response to a context which dominates conscious thought	Oyserman et al. (2012)	Conceptual self, Spontaneous self-concept, Core self-concept, Working self-concept Working self, Phenomenal self
Identity [Definition 1a]	Beginning construction in late adolescence, identity is a story, which includes important individuals, event and themes. Identity includes reconstructed past events, the current self and the future.	McAdams (1985, 2001)	Life story, narrative identity
Identity 2 [Definition 1b]	Broad overarching construct which contains aspects of self-knowledge and includes different selves e.g. (extended, ecological, situated, private, conceptual, social)	Neisser (1988)	
Identity3 [Definition 1c]	Specific identity activated due to context, sub-section of self-concept and contains all self-knowledge related to social comparisons. Thus different 'identities' are formed in relation to interactions with others (e.g. gender, race)	McGuire and Padawer-Singer (1976)	Conceptual self, Spontaneous self-concept, Core self-concept, Working self-concept Working self, Phenomenal self
Identity 4 [Definition 1d]	A sub-section of self-concept which contains perceptions of oneself (e.g. Traits) described as self-knowledge and narratives (e.g. stories of oneself; *see narrative identity*)	Addis and Tippetts (2004)	Self-knowledge, Self-images, Narrative identity,
Personal identity	View of the self which includes all beliefs, attributes and abilities	Tajfel (1981)	Self-knowledge, Private self, Self-concept
Social identity Social identity cont.	Aspect of self-concept formed through social interactions, includes the social self, i.e. group memberships	Tajfel (1981)	Working self, spontaneous self, identity, aspects of self,

Self-reflection	Also described as the 'I-self'. The process of examining and thinking about oneself. Healthy form of self-focused attention	James (1910/1968), Trapnell and Campbell (1999)	Self, Self-awareness
Negative self-views Negative self-views [Cont.]	Stable, negative beliefs about the self	Beck (1967; 1983)	Self-evaluations, Self-images, Self-knowledge Self-appraisals, Self-concept, Self-conceptions, Depressed cognitions
Depressed/negative cognitions	Described as a hallmark of depression and seeks to maintain low mood. Also defined as 'negative feelings towards the self' such as a negative or low self-evaluation [see self-evaluation here].	Beck (1967)	Self-evaluation, Depressed cognitions, Negative self-views, Self-esteem, Self-regard, Self-worth
Core beliefs	Stable cognitions about oneself which are deeply entrenched.	Beck (1967)	Core self-concept, Spontaneous self-concept
Self-devaluation	Descriptions of the self which are negative (e.g. useless)	Teasdale and Cox (2001)	Self-evaluation, Depressed cognitions, Negative self-views, Self-esteem Self-appraisals, Self-descriptions,
Self-characteristic	All beliefs about oneself created from past experiences and feedback from other people. Also described as a personality trait.	Morin (2017); Ritsner and Susser (2004)	Self-image, Self-evaluations, Self-knowledge Self-perceptions, Self-representations, Self-descriptions
Self-descriptions	An aspect of self-knowledge which relates to beliefs about oneself. These may be positively, negatively or neutrally valanced, and are used to respond to the question: Who am I?. Clinical psychology has used this term to reflect "information processing bias" in depression, i.e. Depressed adolescents typically recall more negative self-descriptions.	Higgins (1996), Jacobs, Reinecke, Gollan and Kane (2008)	Self-image, Self-evaluations, Self-knowledge Self-perceptions, Self-representations, Self-descriptions, Self-characteristic

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15.3 Appendix 3. Supplementary material for Paper 1

Supplementary Material

Who am I? Self-concept in adolescents: 6558 self-image norms

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Supplementary Data

Self-image Norm	Gender Split	Mean Age	Self-images
HAPPY (258)	109 M; 149 F	14.66	best happy when others are happy (1), a generally happy person (1), a happy person (5), always happy (1), always happy as possible (1), always happy to spend time with friends (1), generally happy (2), happy (181), happy - most of the time (10), happy (at times), happy a lot of the time (1), happy and sad (1), happy at all times (1), happy at home (1), happy half the time (1), happy I bought a toaster (1), happy mostly (1), happy now that I solved my problem (1), happy person (2), happy right now (1), happy sometimes (2), happy that I block out sadness (1), happy that I don't know anything about human nature (1), happy to be alive (1), happy to have good friends (1), happy to have my friends (1), happy to meet new people from all walks of life (1), happy when I'm with my friends (1), happy when I'm with my friends and family (1), happy with being me (1), happy with my family (3), happy with my friends (3), happy with my life (3), happy with my school grades (1), happy with myself (1), happy with the way I look (1), mostly happy (2), normally quite happy on the outside (1), often happy during the day (1), pretty much always happy (2), quite happy (1), sometimes happy and bubbly (1), sometimes happy (4), somewhat happy (1), trying to be happy (1), trying to be more happy (1), very happy (2), very happy at home (1), supposed to be happy to support others (1)

SON/DAUGHTER (194)	65 M; 129 F	15.10	a good daughter (1), a bad daughter (1), a daughter (121), a step daughter (2), an okay daughter (1), good daughter (1), a useless daughter (1), a daughter for 1 parent (1), a son (62), a good son (1), son (2)
FUNNY (173)	90 M; 83 F	13.13	a funny guy (1), a funny person (2), always up for funny (1), averagely funny (1), funny (152), funny and like to make people smile (1), funny at times (1), funny sometimes (3), funny to my friends (1), not very funny (2), sometimes a bit funny (1), sometimes funny (4), told I am funny (1), unfunny (1), a bit funny (1)
STUDENT (168)	60 M; 108 F	15.08	a good sports studies student (2), a good student (4), a sad student (1), a student (150), a student at (school name) (1), a student council member (1), a student of (school name) (1), student (7), well-mannered student (1)
SPORTS PLAYER (162)	99 M; 63 F	14.28	a badminton player (3), badminton player (1), good at badminton (2), a basketball person (1), a football player (5), football person (1), a footballer (14), a good basketball player (1), a handball player (1), a hockey player (4), a horse rider (3), a netball player (5), a netball/basketball player (1), a netballer (1), a rugby player (9), a runner (6), a beast at football (1), a bike rider (1), a boxer (1), a climber (1), a skateboarder (1), a scooter rider (2), a martial artist (1), a kick boxer (1), a karate student (1), a decent footballer (1), a free runner (1), a goalkeeper (1), a golfer (1), a good cyclist (1), a good footballer (1), a gymnast (3), a motor cross rider (1), a mountain biker (1), a sprinter (2), a swimmer (5), a triathlete (1), glad to have a sport to keep me happy (1), frustrated about not doing sports (1), fast at long distance running (1), a volleyball player (1), an equestrian (2), an up and coming boxer (1), bad at rock climbing (1), bad at sports (1), black belt in tae kwon-do (1), enjoying football with friends (1), enjoying rugby (1), enthusiastic about rugby (1), good at basketball (3), good at biking (1), good at football (14), good at most sports (1), good on my bike (1), good at hockey (2), good at judo (1), good at most sports (1), good at mountain biking (1), good at netball (1), (1), good at rugby (3), good at scootering (2), good at shooting (1), good at sport (3), good at sports (5), good at tennis (2), trying to get better at golf (1), someone who plays sport (1), rugby person (1), runner (1), roller skater (1), really good at climbing trees (1), good at motor cross (1), great at Zumba (1), horse racer (1), horse rider (1), liking doing sports just don't do it often (1), liking sport (1), not good at sports (1), okay at football (1), good at athletics (1), not good at running (1), a tennis player (1), an athlete (3), a fencer (1), hockey person (1)

FRIEND (141)	45 M; 96 F	14.70	a best friend (8), a best mate (1) a best friend to my best friend (1), a friend (46), a friend of many (1), a girl with good friends (1), a good friend (39), a good friend and have lots of friends (1), a good friends to others (1), X's sidekick (1), X's best friend (1), the best friend I can be to people (1), part of a group of friends (1), ok as a friend (1), not able to make friends easily (1), not a good friend (1), in a great group of friends (1), good friend (2), glad I have great friends (1), friends (1), close friends with a lot of people (1), bad at making new friends (1), always with my friends (1), a great friend (1), a supportive friend (1), always there for a friend (1), always there for my mates (1), always there for people (1), always there for others (1), best friend (1), best friends with X, excluded from being friends with most people (1), friend (10), friendless (1), grateful to have amazing friends (1), good mate (1), there for people (4), the person people turn to when they are unhappy (1)
BROTHER/SISTER (138)	46 M; 92 F	15.12	a bad sister (1), a big and little sister (1), a big sister (5), a good big sister (1), an older sister (2), a good sister (1), a sister and a half-sister (1), a sister to three (1), loving sister (1), a younger sister (2), sister (8), step-sister (1), a sister (67), a big brother (1), a brother (36), brother (7), a brother with 2 sisters and two brothers (1), a good brother (1)
KIND (134)	62 M; 72 F	14.57	a kind mate (1), as kind as I could possibly be, sometimes (1), kind (126), kind and caring (1), kind to my friends and family (1), kind to people (1), kind-hearted (1), very kind (2)
FRIENDLY (113)	43 M; 70 F	14.93	friendly (104), friendly (I like to think so), friendly (most of the time), friendly sometimes (2), a friendly person (3), a person who can make friends easily (1), good at making friends (1)
APPEARANCE (107)	33 M; 74 F	14.58	not as pretty as my friends (1), not as pretty as other people (2), not pretty (2), not very good looking (1), not very pretty (2), pretty (6), quite pretty (1), sometimes pretty (1), ugly (34), ugly (sometimes I think this) (1), unattractive (2), good looking (2), not a fan of how I look (1), not the best looking (1), ok looking (1), rather good looking (2), working on improving how I look (1), a bit on the bad looking side (1), tiny (1), not happy with my appearance (2), sometimes doubtful of my appearance (1), a man who can't grow a beard (1), a wearer of glasses (1), beautiful (10), blue-eyed (3), blue eyes (1), brown-eyed (1), someone with brown eyes (1), circumcised (2), covered in scars (1), spotty (3), sometimes spotty (1), getting bad skin (1), gorgeous (1), handsome (2), hating my physical self (1), muscular (1), pale (1), plain

			(1), properly dressed (1), ripped (1), someone with big feet (1), speccy (1), stunning (1), tanned (1), a roshe runs wearer (1), a huarache wearer (1)
HEIGHT (99)	48 M; 51 F	14.76	5ft 1 and a half (1), 5ft 3 (1), fairly tall (1), tall (31), not very tall (1), quite tall (2), tall and loud (1), too tall (1), rather short (1), short (24), short and slim (1), quite small (3), small (20), a midget (1), average height (3), below average height (1), medium height (1), medium size (1), big (1), five foot (1), lanky (2)
TIRED (98)	28 M; 70 F	15.27	quite tired (1), a little bit tired (1), a little tired (2), always tired (6), always tired (not joking) (1), still tired (1), tired (73), tired (all the time) (1), tired a lot (1), tired all the time (3), tired but can't sleep (1), tired of school (1), tired often (1), too tired (1), very tired (4)
SPORTY (97)	60 M; 37 F	14.78	a sporty person (3), not sporty (2), not very sporty (1), a sportsman (1), slightly sporty (1), sporty (84), sporty - to an extent (2), sporty and especially good at football (1), sporty hot (1), very sporty (1)
CARING (88)	21 M; 67 F	14.83	a caring person (1), caring (79), caring for friends (1), caring to friends and family (1), caring towards my family (1), somewhat caring (1), a person who cares for everything (1), a person who cares a lot about other people (1), someone that cares (1), someone who secretly cares for others (1)
CONFIDENT (88)	35 M; 53 F	15.32	a confident person (1), confident (45), confident - mostly (1), confident around my friends (1), confident but shy sometimes (1), confident in my achievements (1), confident in myself (1), confident with new people (1), confident with showing my emotions (1), usually confident (1), sometimes not very confident (1), socially confident (1), lacking confident (1), more confident than I used to be (1), more confident with friends (1), not a very confident person (1), not as confident (1), not confident (5), not self-confident (1), not very confident (4), not very confident at a lot of things (1), not very confident in myself (1) overconfident (1), sometimes confident (4), sometimes confident sometimes not (1), somewhat confident about the future (1), somewhat confident in certain cases (1), unconfident (5), unconfident, but I do my best to hide it (1), slightly unconfident (1)
AGE (82)	48 M; 42 F	14.59	13 years old (10), 14 years old (22), 15 years old (7), 16 years old (9), a 13 year old girl (1), nearly 14 (1), nearly 15 years old (1), 14 at the moment (1), 14 years old soon 15 (1), 17 years

			old (6), 18 years old (1), a young girl (1), a young teenager (1), young (5), younger than old (1), thirteen (1), a teenager (10), aged 17 (1), going to be 15 (1), teenager (1)
LOVE (77)	20 M; 57 F	14.58	loving (48), surrounded by people I think love me (1), a lover not a fighter (1), in love (1), in love with myself (1), loveable (5), loved (15), loved by my family (2), someone who tries to love themselves (1), blessed to have loved ones (1), not loved (1)
SMART (73)	40 M; 33 F	14.53	somewhat smart (2), academically smart (1), as smart as others (1), fairly smart (1), kind of smart (1), known for being a smart-arse (1), not as smart as people think (1), not crazy smart (1), not smart (1), not the smartest (1), not very smart (1), quite smart (3), reasonably smart (3), smart (46), smart sometimes (1), smart and sometimes stupid (1), smart in lesson (1), smart methodically (1), smart(ish) (1), smart...ish (3), smartly dressed (1),
SHY (71)	16 M; 55 F	14.51	very shy when I meet someone new (1), a little shy at first (1), a shy person (2), occasionally shy and quiet (1), often shy (1), quite shy (3), shy (44), shy (sometimes) (1), shy around others (1), shy at first (1), shy at times (4), shy but confident around my friends (1), shy sometimes (1), shy to say what I think (1), shy when you first meet me (1), sometimes shy (3), a bit shy (3), not very good at making friends (a bit shy) (1)
GENDER (58)	33 M; 25 F	14.50	boy (1), a boy (20), a male (6), a man (1), girl (1), a female (2), a girl (22), a lad (4), openly gender fluid (1)
QUIET (57)	11 M; 46 F	15.19	a quiet person (1), not quiet around my friends (1), quiet (49), quiet in class (1), quiet in lessons (1), quiet sometimes (1), sometimes quiet (1), usually quiet/not talkative (1), very quiet at times (1)
HELPFUL (55)	22 M; 33 F	14.65	a helpful person (2), helpful (43), helpful to others (2), here for a helping hand (1), trying to help myself get better (1), trying to help others (1), a person who likes to help but has no guts to ask for help (1), always helping my family (1), wanting to help someone (1), willing to help others (1), willing to help people (1)
HARD WORKING (55)	16 M; 39 F	15.36	a hard worker (10), hard worker (1), hardworking (41), hardworking only when I'm in the mood (1), trying my hardest (1), working hard (1)

GAMES (54)	45 M; 9 F	14.04	a gamer (31), a hardcore gamer (1), a video gamer (3), active on games (1), addicted to COD (1), addicted to games (1), alright at video games (1), bad at video games (1), good at games (8), good at playing video games (1), good at Minecraft (1), good at some Xbox games (1), good at solving tricky puzzles (1), good at video games (1), good at FIFA (1)
WORRIED (51)	9 M; 42 F	14.65	often worrying (1), sometimes worried to come to school (1), worried (17), worried a lot (2), worried about my a-level results (1), worried about my friend (1), worried about my GCSE (1), worried about school work/grades (1), worried about some of my friends (1), worried about the future (2), worried about what people think of me (1), worried for my friends (1), worried if I turn my light off at night (1), worried of failing (1), worried that I'm not good enough (1), worried when I have to read out my work (1), worried when I walk home in the dark (1), worried/ concerned about my future (1), worrying about my grades (1), worrying a lot (1)
TRUST (51)	19 M; 32 F	15.35	afraid to trust others (1), sometimes difficult to trust (1), trusted (1), trusting (2), trusting person (1), trustworthy (41), trustworthy, but I will probably tell my best friends (1), unable to trust people (1)
WEIGHT (48)	14 M; 34 F	15.04	a bit fat as well (1), fat (25), overweight (6), trying to change being overweight (1), not slim (1), slim in places but others not (1), not as thin or pretty as my sister (1), chubby (1), feeling inclined to lose weight (1), putting on weight (1), skinny (5), in shape (1), too thin (1), a little chubby (1), a size 6 (1)
SOCIAL (46)	17 M; 29 F	14.93	fairly sociable (1), sociable (11), social (9), social at school (1), socially awkward (6), socially confident (1), kind of unsocial (1), quite good in social situations (1), sometimes sociable (1), sometimes social (1), unsociable (1), unsocial (1), usually social (1), very sociable (1), wanting to be more social (1), mostly social (1), a social butterfly (1), a social person (3), anti-social (2), fairly anti-social (1)
CHEERFUL (46)	14 M; 32 F	15.13	a cheerful person (1), often cheerful (1), cheerful (43), cheerful girl (1),
LOUD (45)	9 M; 36 F	14.49	a loud person (1), loud (39), loud around my friends (2), loud at times (2), very loud (1)

HEALTH (44)	21 M; 23 F	15.09	unhealthy (1), physically unhealthy (1), fairly unhealthy (1), healthy (23), constantly ill (1), chronically ill (1), getting ill (1), ill (5), type 1 diabetic (1), diabetic (2), getting a cold (1), have OCD (1), a person dealing with anxiety (1), dealing with anxiety and panic (1), in pain (1), semi-bipolar (1), unwell (1)
ANNOYING (43)	21 M; 22 F	14.58	a bit annoying at times (1), always annoying teachers I don't like (1), annoying (39), annoying sometimes (1), sometimes annoying (1)
INTELLIGENT (43)	19 M; 24 F	14.74	intelligent (36), quite intelligent (1), slightly intelligent (1), somewhat intelligent (3), unintelligent (1), very intelligent (1)
OWN NAME (43)	26 M; 17 F	14.44	own name (43)
STRONG (41)	21 M; 20 F	14.66	a strong person (2), strong (30), strong and independent (1), strong mentally (1), strong minded (2), strong physically (1), strong willed (2), strong willed (mentally) (1), stronger than I used to be (1),
WEIRD (41)	16 M; 25 F	14.05	in a weird mental state (1), weird (35), weird and funny (only to cover my self-pity) (1), weird in a good way (2), weird sometimes (1), weirdo (1)
CREATIVE (40)	12 M; 28 F	14.93	creative (39), creative with building stuff out of Lego (1)
SAD (39)	15 M; 24 F	14.44	barely ever sad (1), feeling really sad (1), hardly ever sad (2), prone to sometimes feeling sad for no reason (1), quite sad quite often (1), rarely ever sad (1), sad (20), sad a lot (3), sad and still in a bit of shock (1), sad at times (2), sad sometimes (2), sometimes sad (4)
LAZY (38)	18 M; 20 F	15.34	lazy (29), lazy now that exams are over (1), lazy sometimes (2), lazy with school work (1), sometimes lazy (5)
STRESS (37)	7 M; 30 F	15.46	always stressed (1), feeling stressed with homework (1), sometimes stressed (1), sometimes stressed by school and homework (1), stressed (25), stressed a lot (1), stressed about doing well in school (1), stressed out (2), stressed sometimes (1), stressful (1), stressy (2)

NATIONALITY (36)	18 M; 18 F	14.22	Irish (1), English (3), African (3), African and proud (1), a Welsh Traveller (1), Latvian (2), Polish (8), Portuguese (1), Chinese (1), British (8), Asian (1), Australian (1), Moroccan (1), Quarter Indian (1), Scottish (1), Welsh (1), Zimbabwean (1)
NICE (34)	14 M; 20 F	14.15	a nice and caring person (1), a nice girl (1), a nice person (3), nice (24), nice and polite (1), nice person (1), nice to elderly people (1), nice to others (1), sometimes nice (1)
FUN (33)	13 M; 20 F	15.24	fun (27), a fun person (3), fun sometimes (1), fun to be around (1), no fun (1)
THOUGHTFUL (32)	12 M; 20 F	15.25	thoughtful (31), thoughtful of others at times (1)
POSITIVE (32)	9 M; 23 F	15.00	trying to stay positive (1), a positive person (4), aware of my positive qualities but sometimes I ignore them and focus on my bad points (1), generally positive (1), mostly positive (1), positive (21), positive minded (most of the time) (1), positive towards things (1), positive when possible (1)
HUNGER (32)	21 M; 11 F	15.41	probably hungry (1), always hungry (2), hungry (24), hungry most of the time (1), not hungry (2), hungry (2)
HAIR (31)	8 M; 23 F	14.71	a brown-haired person (1), a brunette (3), brown haired (1), brunette (4), someone with brown hair (1), blonde (13), dark blonde (1), a blonde (2), ginger (3), naturally ginger (1), a naturally brown head (1)
GRANDCHILD (30)	8 M; 22 F	14.67	a granddaughter (20), a grandchild (1), a grandson (6), a terrible granddaughter (1), grandchild (1), granddaughter (1)
ART (30)	7 M; 23 F	14.67	an artist (3), artistic (4), arty (3), bad at art (1), good at art (11), into art (2), a good free hand drawer (1), bad at painting (1), good at drawing (3), wanting to draw (1)
CLEVER (29)	18 M; 11 F	14.34	somewhat clever (1), slightly above averagely clever (1), clever (22), clever at times (1), not very clever (3), slightly clever (1)

ACTIVE (29)	17 M; 12 F	14.59	very active (1), not very active (1), active (15), active (do sports) (1), active person (2), active sometimes (1), hyper (4), hyper - not like all the time (1), hyperactive (3)
TALK (28)	13 M; 15 F	15.14	very talkative (1), bad at talking to people (1), easy to talk to (3), good at talking (1), good to talk to (1), not great at talking to people (1), talkative (19), talkative when around my friends and family (1)
LONELY (28)	13 M; 15 F	14.46	feeling lonely (1), lonely (21), lonely, sometimes I enjoy it but not always (1), often lonely (1), sometimes lonely (3), sometimes lonely at school (1), not lonely (1)
RESPECTFUL (28)	12 M; 16 F	14.18	a respectful person and I don't like to be angry, but I am a lot (1), very respectful (1), sometimes respectful (1), respectful (21), respectful to my family (1), respectful towards others (1), respectful towards my friends (1), more respectful (1)
MUSIC PLAYER (27)	12 M; 15 F	15.59	a musician (6), a talented musician (1), good at music (1), a guitar player (3), a guitarist (7), a flutist (1) a level 8 at violin (1), a cellist (1), a pianist (2), a drummer (1), a harpist (1), good at guitar (1), in a band (1)
ANGRY (27)	10 M; 17 F	14.70	an angry person inside (1), angry person sometimes (1), angry (9), angry a lot (2), angry a lot of the time (1), angry and find it hard to control it (1), angry girl (1), angry quite a lot (1), angry/pissed off (1), easily angered (1), easily angered/short-tempered (1), easily angry (1), feeling angry (1), occasionally angry (1), rarely angry (1), sometimes angry (3)
DANCE (26)	3 M; 23 F	14.04	a dancer (21), doing dance to get myself out of my self-pity (1), good at dance (1), good at dancing (1), alright at dance (1), a highland dancer (1)
DIFFERENT (26)	10 M; 16 F	14.15	a bit of different personalities (1), different (21), different - not in a good way (1), different to everyone else (1), always going in and out of different mindsets (1), better at different subjects at school (1)
INDEPENDENT (26)	9 M; 17 F	14.96	independent (21), mostly independent (1), not independent (1), quite independent (1), sometimes independent (1), always doing my own thing (1)

BORED (25)	17 M; 8 F	15.24	bored (18), bored at school (1), bored sometimes (1), bored with the same routines (1), mostly bored in some lessons (1), never bored (1), very bored at school (2)
LOYAL (25)	9 M; 16 F	14.96	loyal (25)
PROUD (25)	11 M; 14 F	14.48	hoping to make parents proud (1), proud (11), proud of al; my horses (1), proud of muscles (1), proud of my achievements (1), proud of my dog (1), proud of gaming achievements (1), proud of my sporty achievements (1), proud of myself (4), proud of who I am (1), proud that I am a girl and play football (1), proud to others (1)
MUSIC FAN (24)	11 M; 13 F	14.83	a music lover (2), a music student (1), really into music (1), obsessed with music and stories (1), addicted to music (1), interested in listening to music (1), interested in music (2) interested in playing bass guitar (1), interested in playing piano (1), interested in playing saxophone (1), a belieber (1), a Florence and the Machine fan (1), a guns and roses fan (1), a neck deep fan (a band) (1), a Skrillex fan (1), an All Time Low fan (1), fond of my guitars (1), into bands (1), a violin person (1), a rapper (1), a Rockstar (1), an Eminem wannabe (1)
FAMILY (23)	8 M; 15 F	14.91	open to close friends and family (1), inspired by my family to be a good person (1), a family person (3), a family-man (1), a girl with a family she doesn't know (1), a good family member (2), a person who appreciates their family (1), family orientated (3), from a large family (1), from a wealthy family (1), glad I have a great family (1), in a very supportive and close family (1), part of a family (3), part of a good family (1), part of a strong family (1), part of my family (1)
CONFUSE (23)	7 M; 16 F	14.52	a confused person (1), confused (10), confused at times (1), confused about life (1), confused about what to do (1), confused at times (1), confusing (4), confusing to understand (1), feeling confused (2), really confused (1)
SCHOOL (23)	9 M; 14 F	14.35	always doing school work (1), at school (1), bad at school (1), behind at school (1), competent at school (1), doing ok in school (1), doing well in school (2), good at behaved at school (1), good at school (1), good at school most of the time (1), good in school (1), in school (2), hating school and science (1), ok at school (2), rubbish at school, I can't remember things (1), taking pride in my school work (1), a pupil (3), pupil (1)

EXCITED (22)	4 M; 17 F	14.91	excited (12), excited about future trips (1), excited about the future (2), excited for Christmas (1), excited for my birthday (1), excited for summer (1), excited for the future (3), excited for the weekend (1), excited to chill with my friends (1),
COUSIN (21)	7 M; 14 F	14.57	a cousin (20), cousin (1)
EMOTIONAL (21)	2 M; 19 F	14.71	very emotional (1), very emotional and hormonal (1), an emotional person (1), emotional (15), emotional and emotionless (1), emotional at times (1), someone who rarely feels emotion (1), sometimes emotional (1)
ANXIOUS (21)	3 M; 19 F	15.38	an anxious person (3), anxious (14), anxious about my health (1), slightly anxious (1), sometimes anxious (1), very anxious (1)
OUTGOING (20)	8 M; 12 F	15.30	an outgoing person (1), outgoing (17), quite outgoing (1), not outgoing (1)
MOODY (20)	3 M; 17 F	14.55	moody (11), moody at times (1), moody in the morning (1), often moody (1), sometimes moody (5), mostly in a mood, but hide behind a smile (1)
MUSICAL (19)	7 M; 12 F	14.89	Musical (19)
COOL (19)	15 M; 4 F	14.58	a cool guy (1), cool (16), cool on the outside (1), not as cool as my friends (1)
DETERMINED (19)	7 M; 12 F	15.26	a determined (1), determined (14), determined to achieve good things (1), determined to do well (2), determined to go to Oxford (1)
SCARED (19)	4 M; 15 F	15.37	a scaredy cat (1), scared (9), scared of death (1), scared of my future (1), scared of spiders (1), scared of the future (1), scared sometimes (1), afraid (1), afraid of new people (1), afraid of what my future will be (1), terrified of snakes (1)
UNIQUE (19)	7 M; 12 F	14.58	unique (19)
SPORTS FAN (18)	14 M; 4 F	15.28	a basketball fan (1), a CPFC fan (1), a football fan (2), a Liverpool fan (1), a wrestling fan (1), an Arsenal fan (1), a MUFC fan (1), Liverpool fan (1), a Chelsea supporter (1), a pro-

			wrestling fanatic (1), interested in boxing (1), interested in football (2), interested in sport (2), into judo (1), interested in rugby (1)
BORING (17)	6 M; 11 F	14.59	a boring person at school (1), boring (14), pretty boring (1), sometimes boring (1)
LISTENER (17)	4 M; 13 F	15.53	a good listener (14), bad at listening (2), good at listening to people (1)
NEPHEW/NEICE (17)	6 M; 11 F	14.39	a niece (10), niece (1), nephew (1), a nephew (5)
ORGANISED (17)	4 M; 13 F	15.88	very organised (1), sometimes organised (1), sometimes organised but sometimes not (1), an organised person (2), organised (11), organised with my work (1)
UNCLE/AUNT (17)	6 M; 11 F	14.94	a auntie (7), an aunt (2), an aunty (1), aunty (1), an uncle (3), uncle (2), a good uncle (1)
STUPID (17)	6 M; 11 F	13.88	a bit stupid (1), a little bit stupid sometimes (1), stupid (15)
CHATTING (17)	6 M; 11 F	14.94	a chatterbox (1), a chatty boy (1), chatty (14), really chatty (1)
SINGING (16)	4 M; 12 F	14.69	a really good singer/dancer (1), good at singing (2), not good at singing (1), a good singer (2), a singer (8), a singer (not really), (1), a person who enjoys singing (1)
THINKING (16)	5 M; 11 F	14.88	always thinking about what happens after death (1), always thinking too much (2), a person what reflects on past and thinks about how to fix it (1), a person who doesn't like to think negatively (1), a quick thinker (1), a type of person who sometimes thinks outside the box (1), always overthinking things (1), an overthinker (4), imaginative thinker (1), often thinking too much about food (1), think outside the box (1), thinking about cutting my hair (1)
SENSITIVE (16)	3 M; 13 F	14.69	sensitive (13), sensitive sometimes (1), sometimes too sensitive (1), very sensitive (1)
SEXUALITY (16)	8 M; 8 F	15.94	asexual (1), bisexual (5), heterosexual (1), gay (7), straight (2)
AWESOME (15)	8 M; 7 F	14.40	awesome (15)

POLITE (15)	5 M; 10 F	14.60	polite (15)
UNHAPPY (15)	5 M; 10 F	14.20	a bit unhappy (1), generally unhappy (1), inside unhappy at times (1), sometimes unhappy (1), trying not to be unhappy with my life (1), unhappy (2), unhappy about bullying (1), unhappy at times (1), unhappy with aspects of myself (1), unhappy with myself - mostly (1), unhappy with school (1), not as happy as I used to be (1), not feeling as happy as I did last year (1), not too happy most of the time (1)
BUBBLY (15)	15 F	14.27	bubbly (14), very bubbly (1)
PLACE (15)	5 M; 10 F	14.80	from a different country (1), from England (1), from Mauritius (1), from X (1), a person that has lived in many places (1), a person that has moved a lot (1), born in Poland (1), born in (date) (2), born in in X (place) (1), always moving (1), living at home (1), living at X (place) (1), living with my mum (1), moving soon (1)
HUMAN (15)	6 M; 9 F	14.13	a human (4), human (7), a human being (3), human being (1)
ENERGETIC (14)	7 M; 7 F	14.71	energetic (14)
USELESS (14)	3 M; 11 F	14.07	no use to anyone (1), useless (11), useless most of the time (1), useless sometimes (1)
INTROVERT (14)	5 M; 9 F	15.64	introvert (1), introverted (8), introverted and extroverted (1), sometimes introverted (1), an introvert (3)
FITNESS (14)	9 M; 5 F	14.71	aware of my fitness (1), fit (7), not fit (1), physically fit (2), unfit (2), exercising (1)
A PERSON (14)	6 M; 8 F	14.57	a person (14)
SUPPORTIVE (13)	3 M; 10 F	15.54	a supportive person (1), supportive (11), supportive of my friends (1)
CONSIDERATE (13)	7 M; 6 F	14.54	considerate (11), considerate of others (1), somewhat considerate (1)

OPEN (13)	5 M; 8 F	15.46	open (4), open-minded (8), open to new ideas (1)
HONEST (13)	1 M; 12 F	15.54	honest (11), honest- mostly (1), trying to be honest (1)
GENEROUS (13)	5 M; 8 F	14.69	generous (12), sometimes generous (1)
OCCUPATION (13)	6 M; 7 F	15.69	a waiter at a restaurant (1), a waitress (1), a waitress at X (1), a chef (1), a cleaner (1), a lifeguard (2), a peer mentor (1), a photographer (1), a glass collector (1), counter worker (1), good at my job (1), working in a garage (1)
OK (13)	5 M; 8 F	14.77	an okay kid (1), ok (6), okay (5), getting along okay despite some issues (1)
ANNOYED (12)	7 M; 5 F	15.08	annoyed (6), annoyed at my physical progress (1), annoyed by little things, not in an irritably way but in a sad way (1), annoyed by the behaviour of others (1), easily annoyed (1), feeling annoyed (1), feeling annoyed with most of the people I meet or are in my class (1)
INTERESTING (12)	9 M; 3 F	14.17	interesting (11), somewhat interesting (1)
MOTIVATED (12)	2 M; 10 F	16.50	motivated (10), motivated and determined to keep going (1), motivated when it comes to exams (1)
LOVELY (12)	5 M; 7 F	14.50	lovely (11), pretty lovely (1)
SELF-CONSCIOUS (12)	5 M; 7 F	14.67	slightly self-conscious (1), self-conscious (9), sometimes self-conscious on the way I look (1), a bit self-conscious (1),
SARCASTIC (12)	1 M; 11 F	15.25	quite sarcastic (1), sarcastic (9), sarcastic - sometimes (1), sometimes quite sarcastic (1)
ETHNICITY (12)	9 M; 3 F	14.75	black (4), blacker than black (1), white (6), white British (1)
ANIMAL LOVER (11)	1 M; 10 F	14.45	a animal lover (1), an animal lover (7), a lover of cats (1), a lover of dogs (1), obsessed with dogs (1)

READER (11)	5 M; 6 F	14.82	a reader (3), a bookworm (3), bookish (1), interested in books (1), a fan of books and reading (1), reading very slow (1), bad at reading (1)
CONTENT (11)	3 M; 8 F	14.73	content (10), content with certain aspects of myself (1)
ENTHUSIASTIC (11)	7 M; 4 F	15.64	enthusiastic (10), enthusiastic about ICT (1)
ALONE (11)	6 M; 5 F	14.82	a lone wolf (2), often alone (1), alone (5), alone at home (1), fond of alone time (1), one who stands alone (1),
COMPETITIVE (11)	2 M; 9 F	15.36	competitive (9), competitive at school - try hard (1), competitive person (1)
ATHLETIC (11)	8 M; 3 F	15.00	athletic (9), an athletic person (1), very athletic and sporty (1)
GOOD PERSON (11)	9 M; 2 F	14.36	a good person (8), trying to be a good person (1), a good boy (1), a good guy
RELIGION (11)	6 M; 5 F	16.00	a Christian (2), Catholic (2), not that religious (1), good at religious studies (1), religious (2), a Muslim (1), biblical (1), Jewish (1)
MYSELF (11)	6 M; 5 F	14.00	myself (10), hating myself (1)
WORTHLESS (11)	11 F	14.36	worthless (11)
EMPATHETIC (10)	3 M; 7 F	15.80	empathetic (9), often empathetic (1)
DISORGANISED (10)	3 M; 7 F	15.60	quite disorganised (1), disorganised (1), not organised (5), unorganised (3)
INDECISIVE (10)	2 M; 8 F	15.10	indecisive (10)

DEPRESSED (10)	6 M; 4 F	14.50	depressed (5), depressed sometimes (2), depressive sense of human (1), often depressed (1), sometimes depressed (1)
ADVENTUROUS (10)	3 M; 7 F	15.00	adventurous (9), always ready for adventures (1)
CRAZY (10)	4 M; 6 F	13.70	a little bit crazy (1), crazy (7), crazy (in a good way) (1), crazy sometimes (1)
BRAVE (10)	2 M; 8 F	14.90	brave (8), brave at times (1), fairly brave (1)
MATHS (10)	4 M; 6 F	14.70	hating maths (1), bad at maths (3), good at maths (1), into maths (1), mathematical (1), ok at maths (1), very good at maths (1), a mathematician (1)
OPTIMISTIC (10)	3 M; 7 F	16.10	an optimist (1), optimistic (7), optimistic to others (1), trying to be optimistic (1)
AMAZING (10)	5 M; 5 F	15.00	amazing (9), AMAZING (1)
LEGEND (10)	7 M; 3 F	15.50	a legend (6), legend (4)
DUMB (10)	5 M; 5 F	13.80	dumb (7), dumb (sometimes) (1), dumb at things (1), too dumb (1)
WEAK (10)	5 M; 5 F	14.60	weak (6), weak at times (1), weaker than others (1), someone who hates being seen as weak (1), sometimes weak (1)
RESPONSIBLE (9)	4 M; 5 F	15.00	responsible (8), sometimes responsible (1)
RESILIENT (9)	1 M; 8 F	16.00	resilient (9)
LUCKY (9)	5 M; 4 F	13.44	lucky (7), lucky at times (1), lucky to have what I have (1)
CAREER PLANS (9)	5 M; 4 F	14.67	excited to join the army (1), excited to leave school (1), lawyer in training (1), hoping to be a doctor (1), hoping to study music at uni (1), career-driven (1), going to try to go to 6th form (1), looking into universities (1), set on my life goal (1)

PASSIONATE (9)	3 M; 6 F	15.00	passionate (4), passionate about cars (1), passionate about dance (1), passionate about football (1), passionate about horse riding (2)
PETS (9)	9 F	15.44	a pet lover (1), a pet owner (2), great at looking after pets (1), a hamster owner (1), a dog owner (3), looking after my sisters dog (1)
SLEEP (9)	3 M; 6 F	14.11	losing some sleep (1), sleepy (6), sleepy right now (1), wanting sleep (1)
GRUMPY (9)	5 M; 4 F	14.22	grumpy (4), grumpy (sometimes) (1), grumpy sometimes (2), sometimes grumpy (1), always grumpy (1)
GOOD (9)	7 M; 2 F	13.67	good (7), good guy (1), good most of the time (1),
ACADEMIC (8)	4 M; 4 F	15.00	academic (5), not very good academically (1), quite academic (2)
AWKWARD (8)	1 M; 7 F	15.00	awkward (7), kind of an awkward being (1)
LEARNING (8)	5 M; 3 F	14.38	a good learner (2), a learner (2), good at learning (1), learning new things everyday (1), ready to learn new things (1), willing to learn (1)
OPINIONATED (8)	3 M; 5 F	14.88	a speaker of opinions (1), opinionated (5), strongly opinionated (1), usually good at giving opinions (1)
RELIABLE (8)	3 M; 5 F	14.88	reliable (7), someone who you can count on (1)
SINGLE (8)	6 M; 2 F	14.88	a good single lady and girlfriend (1), single (7)
SMILEY (8)	4 M; 4 F	15.00	always smiling (1), smiley (6), someone who can smile at themselves (1)
UPSET (8)	1 M; 7 F	14.00	easily upset (1), sometimes upset (2), upset (3), very upset at home (1), an upset girl (1)
FAN (8)	3 M; 5 F	14.00	a fangirl (1), a friends fan (1), a game of thrones fan (1), a helicopter fan (1), a Lego fan (1), a soap fan (1), a train fan (1), a YouTube fan (1)

NOT LIKE OTHERS (8)	1 M; 7 F	14.25	not as good as others (2), not good enough compared to others (1), not treated as well as I try to treat others (1), often comparing myself to others (1), not like others (2), not intimidated by other people (1)
TALENTED (8)	6 M; 2 F	14.63	not talented (1), talented (6), untalented (1)
SPECIAL (8)	5 M; 3 F	14.25	special (7), special in my own way (1)
STRUGGLING (8)	5 M; 3 F	15.13	struggling with work (1), struggling (2), struggling in maths (1), struggling to be a kind, empathetic person (1), struggling to think positive (1), struggling to sleep (1), struggling with eyesight (1)
SCHOOL YEAR (7)	2 M; 5 F	15.86	in sixth form (2), in year 10 (1), in year 11 (1), in year 9 (1), retaking the year (1), a 6th form student (1)
ME (7)	2 M; 5 F	14.57	me (7)
A LAUGH (7)	1 M; 6 F	15.00	a laugh (1), able to laugh a lot (1), always laughing (2), keen on laughing (1), someone who makes people laugh (1), up for a laugh (1)
AMBITIOUS (7)	2 M; 5 F	16.00	ambitious (7)
APPROACHABLE (7)	5 M; 2 F	16.14	approachable (7)
EXCITABLE (7)	4 M; 3 F	15.00	excitable (7)
FOOD (7)	3 M; 4 F	14.14	a fish lover, a foodie (2), fussy with food (vegetables), good at making food (1), good at making pancakes (1), very interested in food technology (1)
FORGETFUL (7)	2 M; 5 F	14.86	forgetful (7)

INTERESTED (7)	3 M; 4 F	15.86	interested in films (1), interested in learning (1), interested in physics (1), interested in psychology (1), interested in reading (1), interested in technology (1), really interested in film, writing and acting (1)
LIKEABLE (7)	15.14	likeable (4), liked (2), liked by my friends (1),	
GREAT (7)	3 M; 4 F	13.86	a great person (1), great (4), feeling great (1), not as great as other people (1)
NORMAL (7)	3 M; 4 F	15.14	normal (7)
RESTLESS (7)	4 M; 3 F	15.57	restless (7)
NEPHEW (6)	6 M	14.67	nephew (1), a nephew (5)
NERVOUS (6)	2 M; 4 F	14.00	a very nervous and anxious person (1), a very nervous person (1), nervous (3), very nervous about my image (1)
RUDE (6)	6 F	13.50	a rude person (1), quite rude (1), rude sometimes (1), rude/impolite (1), sometimes rude (2)
NERD (6)	4 M; 2 F	14.67	a nerd (5), nerdy (1)
ARGUMENTATIVE (6)	6 F	13.83	an argumentative person (1), argumentative (5)
COOKING (6)	3 M; 3 F	14.50	a cook (2), a good cook (2), good at cooking (2)
DISTRACTED (6)	1 M; 5 F	15.50	distracted (2), easily distracted (4)
ENJOYMENT (6)	3 M; 3 F	14.00	enjoying drama (1), enjoying life (3), enjoying photography (1), enjoying school (1)

FOCUSED (6)	1 M; 5 F	15.83	focused (4), focused where required (1), reasonably focused (1)
GRATEFUL (6)	4 M; 2 F	14.50	grateful (5), grateful for everyone who has ever been kind (1)
INSECURE (6)	6 F	15.33	insecure (6)
LANGUAGES (6)	2 M; 4 F	14.67	good at learning languages - they're fun (1), good at learning languages (1), really good at languages (1), bilingual (2), good at French (1)
LOGICAL (6)	4 M; 2 F	15.17	logical (5), logical in my thinking (1)
MATURE (6)	1 M; 5 F	14.17	mature (6)
RELAX (6)	2 M; 4 F	15.67	relaxed (3), relaxed at home (1), relaxing (1), never relaxing (1)
SUCCESSFUL (6)	1 M; 5 F	14.50	successful (5), not as successful as my friends (1)
HORRIBLE (6)	1 M; 6 F	15.17	a horrible person (1), a horrid person (1), fed up with people being horrible to me (1), horrible (1), quite horrible at times (1), someone who treats others horribly (1)
JOKER (6)	6 M	14.83	a joker (4), jokey (1), not good at jokes (1)
WRITER (6)	3 M; 3 F	14.67	keen on writing (1), very bad at writing (1), bad at handwriting (1), a keen writer (1), a writer (2)
ACHIEVE (6)	4 F; 2 M	14.50	an underachiever (1), not achieving my goals (1), uncertain about my ability to achieve my goals (1), a person who practices to achieve something (1), trying to achieve my dreams (1), achieving goals (1)
CHILLED (6)	4 M; 2 F	15.17	a pretty chilled dude (1), also chilled (1), chilled (1), chilled out (3)
AVERAGE (6)	2 M; 4 F	15.67	average (6)

CONCENTRATING (6)	3 M; 3 F	14.67	concentrating (3), bad at concentrating (1), not concentrating in lessons (1), not good at concentrating (1)
BATMAN (6)	3 M; 2 F	13.17	batman (6)
BOSSY (6)	1 M; 5 F	13.33	bossy (4), bossy sometimes (1), very bossy (1)
CLUMSY (6)	2 M; 4 F	14.67	clumsy (6)
FRUSTRATED (6)	2 M; 4 F	15.50	frustrated (4), frustrated at school (1), easily frustrated (1)
FINE (6)	4 M; 2 F	14.33	fine (6)
JOYFUL (6)	5 M; 1 F	13.50	joyful (5), joyful and jolly (1)
POPULAR (6)	4 M; 2 F	14.17	not popular (2), popular (2), quite popular (1), unpopular (1)
WORTH IT (6)	1 M; 5 F	14.50	worth it (2), worthy (1), not worth it (2), unsure if I am worthy of anything (1)
TEMPER (6)	2 M; 4 F	15.67	quick-tempered (1), short-tempered (4), well-tempered (1)
BANTER (5)	3 M; 2 F	15.60	a banter king (2), banterful (1), banterous (1), king of banter (1)
GOOD MOOD (5)	3 M; 2 F	14.20	always in a good mood (1), in a good mood (2), not moody (1), the type of person to lighten the mood (1)
ANIME (5)	14.40	an anime addict (1), an anime/manga fan (1), a person who loves anime (1),	

		anime (1), interested in anime (1)	
CALM (5)	3 M; 2 F	14.40	calm (3), calm in most situations (1), sometimes calm (1)
FASHION (5)	2 M; 3 F	15.20	a fashion designer (1), fashionable (1), into fashion (1), someone who loves having their own fashion taste (1), style-conscious (1)
PERFECTIONIST (5)	1 M; 4 F	16.00	a perfectionist (5)
INDIVIDUAL (5)	5 F	15.00	a good individual (1), an individual (1), an individual person (1), individual (2)
COMPUTER (5)	5 M	14.40	interested in computer science (1), interested in computers (1), a computer programmer (1), good at IT (1), good at computing (1)
LAID BACK (5)	3 M; 2 F	15.40	laid back (3), laid back - let people walk over me too much (1), laid back at times (1)
LEADER (5)	3 M; 2 F	14.80	a leader (2), a leader in groups (1), able to lead a group (1), leader (1)
LIFE LOVER (5)	2 M; 3 F	15.60	about dat life (1), glad to live the life I have (1), living a good life (1), pleased with life (1), trying to live my life right (1)
MISERABLE (5)	4 M; 1 F	13.20	miserable (2), miserable during the same lessons (1), miserable in the morning person (1), sometimes miserable (1)
PUNCTUAL (5)	5 M	14.80	punctual (2), always on time (1), bad at being on time (1), never late (1)
TRUTHFUL (5)	2 M; 3 F	14.80	truthful (5)
FAST (5)	5 M	14.00	a fast walker (1), fast (3), really fast, 100m in 11.16 seconds (1)

BETTER (5)	2 M; 3 F	15.20	better (1), better behaved than last year (1), better than I used to be (1), better than most (1), trying to become a better person (1)
COMFORTABLE (5)	1 M; 4 F	15.40	comfortable (1), comfortable in my own company (1), comfortable with my own company (1), comfortable with myself (2)
DRIVEN (5)	1 M; 3 F	16.20	driven (3), driven and work hard (1), driven if I have had a good night's sleep (1)
PLAYFUL (5)	3 M; 2 F	14.80	playful (5)
QUIRKY (5)	4 M; 1 F	15.80	quirky (5)
SILLY (5)	4 M; 1 F	14.60	silly (3), silly but mature (1), silly sometimes (1)
STRANGE (5)	1 M; 4 F	14.60	strange (4), strange/weird (1)
TRYING MY BEST (5)	5 F	14.40	trying my best (2), trying my best at all times (1), trying my best in school (1), trying my best with everything (1)
MOOD CHANGES (4)	1 M; 3 F	14.75	aware of my constant mood changes (1), changing moods (1), easily affected by my mood (1), prone to sudden mood changes (1)
BUSY (4)	2 M; 2 F	16.25	busy (4)
COMPASSIONATE (4)	1 M; 3 F	15.25	compassionate (4)
CURIOUS (4)	2 M; 2 F	15.25	curious (4)
EXTROVERT (4)	1 M; 3 F	16.50	sometimes extroverted (1), an extrovert (2), extroverted (1)
UNFOCUSED (4)	1 M; 3 F	15.75	hard to keep focused (1), not good at focusing (1), unfocused (2)
GYM (4)	4 M	16.75	gym lad (2), enthusiastic about gym (1), interested in the gym and working out (1)

IRRITABLE (4)	2 M; 2 F	15.75	irritable (3), irritated easily (1),
LIVELY (4)	2 M; 2 F	14.50	lively (3), lively/cheerful (1)
MESSY (4)	1 M; 3 F	15.00	messy (4)
MONEY (4)	1 M; 3 F	15.00	wanting more money (1), money orientated (1), trying to earn money (1), not rich (1)
SELFISH (4)	2 M; 2 F	14.25	sometimes selfish (1), a bit selfish (1), quite selfish (1), selfish (1)
STUBBORN (4)	1 M; 3 F	14.25	stubborn (4)
UNDERSTAND (4)	1 M; 3 F	14.50	hard to understand (1), someone who tries to understand everything (1), good at understanding people (1), hard to understand (1)
FAIL (4)	2 M; 2 F	14.75	a failure (2), failing (1), failed chippy (1)
GOD (4)	4 M	16.00	god (2), godlike (1), a god (1)
ROLE MODEL (4)	1 M; 3 F	15.75	a role model (2), a role model for my sister (1), being a role model (1)
CARED FOR (4)	2 M; 2 F	13.75	cared for (3), well cared for (1)
LOOKING FORWARD (4)	1 M; 3 F	15.25	always looking forward to the future (1), looking forward to the future (3)
NOT SURE ABOUT THE FUTURE (4)	1 M; 3 F	16.00	a person who doesn't know what to do in the future (1), not sure about the future (2), not sure about what I want to do when I'm older (1)
PROCRASTINATOR (4)	2 M; 2 F	14.75	a procrastinator (3), procrastinating (1)
TWIN (4)	4 F	15.00	a twin (4)

WASTE (4)	3 M; 1 F	13.75	a waste of space (3), waste of time (1)
ALIVE (4)	3 M; 1 F	14.75	alive (4)
IDIOT (4)	2 M; 2 F	13.00	an idiot (1), an idiot at times (1), an idiot sometimes (1), an idiot when it comes to pull and push doors (1)
PEACE (4)	1 M; 3 F	14.50	at peace (1), peaceful (2), peaceful and calm (1)
ENGLISH (4)	14 (1), 16 (2), 17 (1)	15.75	bad at English (1), hating English (1), not good at English (1), ok at English (1)
EVERYTHING (4)	2 M; 2 F	14.00	apparently good at everything (1), bad at everything (1), doing everything wrong (1), someone who wants to do well in everything (1)
BEHAVIOUR (4)	3 M; 1 F	14.50	badly behaved (1), misbehaved (1), well behaved (1), not happy with the way I behave in certain situations but I feel as though I can't help it (1)
BLUNT (4)	2 M; 2 F	14.75	blunt at times (1), sometimes blunt (1), straight to the point (2)
BOYFRIEND/GIRLFRIEND (4)	1 M; 3 F	16.33	a girlfriend (3), a boyfriend (1)
HOPEFUL (4)	1 M; 3 F	15.00	hopeful (4)
MY OWN PERSON (4)	4 F	15.25	my own person (3), my own person with my own decisions (1)
NOT GOOD ENOUGH (4)	1 M; 3 F	15.25	not good enough (3), not as good as I should be (1)
THE BEST (4)	4 M	13.75	not the best person I can be (1), the best (1), the best I can be (1), the best thing to happen to people who know me (1)

PARANOID (4)	1 M; 3 F	14.50	paranoid (3), often paranoid and anxious (1)
PRESSURE (4)	3 M; 1 F	15.25	pressured (2), under pressure (1), putting too much pressure on myself (1)
PROTECTIVE (4)	1 M; 3 F	14.00	protective (2), protective of my mates (1), overprotective (1)
SKILL (4)	4 M	15.25	skillful (3), skilled (1)
SLOW (4)	4 M	13.50	slow (3), very slow at the start of things (1)
TEMPERAMENTAL (4)	1 M; 3 F	16.00	temperamental (4)
UNWANTED (4)	1 M; 3 F	14.50	unwanted (3), unwanted sometimes (1)
BOYFRIEND/GIRLFRIEND (4)	1 M; 3 F	16.33	a girlfriend (3), a boyfriend (1)
NOT ALONE (3)	1 M; 2 F	15.33	not alone (3)
UNMOTIVATED (3)	1 M; 2 F	15.33	not motivated for school (1), unmotivated (1), unmotivated (I wish I was more) (1)
CAREFUL (3)	2 M; 1 F	13.33	careful (3)
CARER (3)	3 F	15.00	a young carer (1), a carer (1), a great animal carer (1)
CONCERNED (3)	3 M	16.33	concerned about my receding hairline (1), concerned at times (1), slightly concerned about the state of my hearing (1)
CONSCIOUS (3)	3 F	15.00	conscious (2), a very conscious person (1)
CUTE (3)	2 M; 1 F	14.00	cute (3)

DEDICATED (3)	2 M; 1 F	17.33	dedicated (3)
DOWN (3)	1 M; 2 F	15.00	down (1), feeling run down (1), sometimes putting myself down (1)
DRAMATIC (3)	1 M; 2 F	17.33	dramatic (2), overdramatic (1)
DREAMER (3)	3 F	15.00	a daydreamer (1), a dreamer (2)
FAIR (3)	2 M; 1 F	13.67	fair (3)
DAD (3)	1 M; 2 F	14.33	feeling strong hatred towards my dad (1), ignored by my dad (1), not wanted by my dad (1)
FEMINIST (3)	3 F	15.67	a feminist (1), A FEMINIST (1)
FORGIVING (3)	2 M; 1 F	13.67	forgiving (3)
HISTORY (3)	1 M; 2 F	15.00	a history prefect (1), alright at history (1), good at history (1)
HUMOROUS (3)	1 M; 2 F	16.67	humorous (3)
IRRITATING (3)	3 M	14.50	irritating (1), irritating at times (1), somewhat irritating (1)
UNLUCKY (3)	1 M; 1 F	14.33	unlucky (2), unlucky at times (1)
MISSING (3)	3 F	14.00	always missing my brothers (1), missing my nan and grandad (1), always missing someone (1)
CHILD (3)	2 M; 1 F	14.33	a child (3)
PARTY (3)	3 F	15.00	having a birthday party soon (1), not the party with my friends type (1), the life of a party (1)
PATIENT (3)	3 M	15.00	patient (3)
SPELLING (3)	2 M; 1 F	15.67	bad at spelling (1), not good at spelling (1), very bad at spelling (1)

SPONTANEOUS (3)	2 M; 1 F	14.50	spontaneous (3)
TEAM PLAYER (3)	1 M; 2 F	14.33	a team player (1), good at teamwork (1), team worker (1)
FIGHT (3)	1 M; 2 F	14.00	a fighter (2), good at starting fights (1)
AIR CADET (3)	2 M; 1 F	15.33	an air cadet (1), in the cadets (1), a former cadet (1)
ACTOR (3)	2 M; 1 F	14.00	a good actor (1), a talented actor (1), an actor (1)
SYMPATHY (3)	2 M; 1 F	14.67	unsympathetic (1), a person that in incapable of sympathising with others (1), sympathetic (1)
SCIENCE (3)	2 M; 1 F	14.67	a scientist (2), scientific (1)
WARM (3)	3 F	14.67	warm hearted (2), a warm person (1)
ADDICTED (3)	3 F	13.33	addicted to memes (1), addicted to my phone (1), addictive personality (1)
AGITATED (3)	1 M; 2 F	16.00	agitated (1), easily agitated (2)
BULLIED (3)	1 M; 2 F	14.00	bullied sometimes (1), always bullied outside of school (1), picked on (1)
APPRECIATIVE (3)	3 F	13.67	appreciative (1), very appreciate of everything (1), someone who appreciates every moment (good and bad) (1)
CHEMISTRY (3)	3 F	15.00	bad at chemistry (1), good at chemistry (1), not awful at chemistry (1)
BRIGHT (3)	1 M; 2 F	14.33	bright (3)
CHEEKY (3)	2 M; 1 F	15.00	cheeky (2), cheeky in a funny way (1)
CLINGY (3)	3 F	14.00	clingy (1), too clingy (1), very clingy at times (1)

COLD (3)	2 M; 1 F	15.00	cold (3)
DEPENDENT (3)	1 M; 2 F	14.33	dependent (2), dependent and trusting of my friends (1)
EMPTY (3)	1 M; 2 F	14.67	also very empty and sad sometimes (1), empty (2)
FABULOUS (3)	3 M	15.50	fabulous (3)
DRAMA (3)	3 F	15.33	good at drama (1), loving drama (1)
MAKE-UP (3)	3 F	13.33	good at makeup (2), into girlie things like makeup (1)
IMAGINATIVE (3)	1 M; 2 F	15.67	imaginative (3)
INSANE (3)	1 M; 2 F	13.67	insane (2), insane in a good way (1)
P.E (PHYSICAL EDUCATION) (3)	3 M	13.33	into P.E (1), rubbish at P.E (1), good at P.E (1)
MODERN (3)	1 M; 2 F	14.33	modern (3)
SIGHT (3)	2 M; 1 F	14.50	long sighted (1), nearly blind (1), visually impaired (1)
PERFECT (3)	3 F	13.67	not perfect (1), the 'perfect child' (1), not quite the perfect image I want to be (1)
REASOURCEFUL (3)	2 M; 1 F	17.00	reasonable (3)
THANKFUL (3)	2 M; 1 F	14.00	thankful (2), very, very thankful for my friends (1)
WONDERFUL (3)	3 F	13.67	wonderful (3)

EMOTIONLESS (2)	2 F	13.50	emotionless (1), someone who rarely feels emotion (1)
NOT SCARED (2)	2 M	14.00	not scared of dying (1), not scared of heights (1)
USEFUL (2)	2 M	16.00	useful (1), useful at times (1)
CHALLENGE (2)	2 M	14.00	always up for a challenge (1), challenged but push through it (1)
COMMITTED (2)	2 M	16.50	committed (1), committed to achieving goals (1)
COMPLICATED (2)	2 F	14.00	complicated (2)
CONTROLLING (2)	2 F	16.00	controlling (2)
CYNICAL (2)	2 M	17.00	cynical (2)
NOT DEPRESSED (2)	2 M	13.00	not clinically depressed (1), very rarely depressed (1)
DISCIPLINED (2)	2 M	16.50	disciplined (1), self-disciplined (1)
EASY GOING (2)	1 M; 1 F	14.00	easy to be around (1), easy to get along with (1),
EXCITING (2)	1 M; 1 F	13.00	exciting (2)
INQUISITIVE (2)	1 M; 1 F	14.50	inquisitive (2)
INTERNET (2)	13.50	internet obsessed (2)	

NOT LIKED (2)	1 M; 1 F	14.50	unliked (2)
IMMATURE (2)	1 M; 1 F	14.00	immature…occasionally (1), a bit immature (1)
MODEST (2)	2 M	17.50	modest (2)
OBSESSED (2)	2 F	16.00	easily obsessed with things (1), obsessed with game of thrones (1)
MIDDLE CHILD (2)	2 F	14.00	a middle child (2)
OUTDOOR (2)	1 M; 1 F	14.50	a person that loves to go out (1), a very outdoor person (1)
PESSIMIST (2)	1 M; 1 F	13.50	a pessimist (1), a pessimist internally (1)
PROBLEM SOLVER (2)	2 M	15.50	good at problem solving (1), good at solving problems (1)
RISK (2)	2 M	15.00	risky (1), a calculated risk taker (1)
SELFLESS (2)	3 M	16.00	selfless (2), selfless (sometimes) (1),
SENSIBLE (2)	1 M; 1 F	14.00	more sensible (1), sensible (1)
CONTRADICTIVE (2)	2 M	15.00	contradictive (1), very contradictive (1)
MISUNDERSTOOD (2)	1 M; 1 F	13.50	misunderstood (2)
BAD PERSON (2)	1 M; 1 F	14.50	a bad person (2)
DISAPPOINTMENT (2)	1 M; 1 F	16.50	a disappointment (2)

CLOSED (2)	1 M; 1 F	16.50	a closed person (1), self-enclosed (1)
A G (2)	2 M	15.50	a G (2)
WINNER (2)	1 M; 1 F	14.50	a gold medal winner (1), a good winner when I win (1)
HERO (2)	2 F	14.50	a hero (1), a hero (at school) (1)
HORSES (2)	2 F	15.50	a horse lover (1), into horses (1)
MOVIE PERSON (2)	1 M; 1 F	14.00	a movie person (2)
NUISANCE (2)	1 M; 1 F	13.50	a nuisance (1), a social nuisance (1)
A RELATIVE (2)	2 F	15.00	a relative (2)
SOCIALIST (2)	2 M	14.00	a socialist (2)
ACCEPTING (2)	2 F	15.50	accepting (2)
HURT (2)	1 M; 1 F	15.50	actually quite easily hurt but won't show (1), hurt (1)
ALRIGHT (2)	1 M; 1 F	15.50	alright (2)
PUTTING OTHERS FIRST (2)	1 M; 1 F	14.50	always doing things for others rather than myself (1), always putting others first (1),
GIVING ADVICE (2)	2 F	16.00	good at giving advice (1), always giving good advice (1)
ENCOURAGING (2)	1 M; 1 F	14.50	encouraging (1), an encouraging person (1)

IAMS CAT (2)	2 M	13.50	an Iams cat (2)
INSOMNIAC (2)	2 F	13.50	an insomniac (1), insomniac (1)
OVERREACTIVE (2)	2 F	15.50	an overreactor (1), overreactive (1)
UPBEAT (2)	2 M	15.50	upbeat (1), an upbeat person (1)
APPREHENSIVE (2)	2 F	16.50	apprehensive (1), apprehensive about how much work I'll do (1)
AUTISTIC (2)	2 M	14.00	autistic (2)
ADOPTED (2)	2 F	13.00	being adopted (1), adopted (1)
BITCHY (2)	2 F	14.00	bitchy (1), bitchy sometimes at parents (1)
BOAST (2)	2 F	14.00	boastful (1), not boastful (1)
CAPABLE (2)	2 F	15.50	capable (1), capable of things I enjoy (1)
CHARISMATIC (2)	2 M	16.00	charismatic (2)
CHARMING (2)	2 M	14.00	charming (2)
UNCOMFORTABLE (2)	1 M; 1 F	14.00	uncomfortable (1), uncomfortable in my own skin (1)
CRINGEY (2)	1 M; 1 F	13.50	cringey (2)

IN A RELATIONSHIP (2)	1 M; 1 F	16.50	dating (1), in a relationship (1)
PLEASED WITH MYSELF (2)	2 M	16.00	satisfied with myself (1), pleased with myself (1)
NOT HAPPY WITH MYSELF (2)	1 M; 1 F	14.50	displeased with myself (1), not particularly happy with myself (1)
NOT MYSELF (2)	2 F	15.00	not myself lately (1), not always myself (1)
DONE (2)	1 M; 1 F	13.00	done (2)
DYSLEXIC (2)	1 M; 1 F	14.00	dyslexic (1), mildly dyslexic (1)
REPLACEABLE (2)	2 F	14.00	easily replaced (1), replaceable (1)
ECCENTRIC (2)	1 M; 1 F	15.00	eccentric (2)
EDUCATED (2)	2 F	15.50	educated (2)
EMBARRASSING (2)	1 M; 1 F	14.00	embarrassing (2)
EMBARRASSED (2)	2 F	13.00	embarrassed (1), embarrassed at saying my thoughts sometimes (1)
EXHAUSTED (2)	1 M; 1 F	16.50	overly exhausted (1), exhausted (1)
EXPRESSIVE (2)	1 M; 1 F	16.00	expressive (1), too expressive (1)

LOW (2)	1 M; 1 F	14.50	feeling low (2)
FRAGILE (2)	1 M; 1 F	15.00	fragile (1), fragile but with support (1)
GIGGLY (2)	2 F	14.00	giggly (2)
GIVING UP (2)	1 M; 1 F	14.50	giving up (1), sometimes giving up (1)
IMPROVE (2)	2 F	14.50	willing to improve (1), going to improve my grades (1)
STUDYING (2)	2 F	15.50	not good at studying (1), good at studies (1)
HARD TO BE AROUND (2)	1 M; 1 F	15.00	hard to be around (1), sometimes not good to be around (1)
HORMONAL (2)	1 M; 1 F	15.50	hormonal (1), hormonal! (1)
IN CONFLICT (2)	1 M; 1 F	16.00	in conflict (2)
JEALOUS (2)	2 F	15.50	jealous (1), sometimes jealous (1)
JOLLY (2)	2 M	13.50	jolly (2)
LETHARGIC (2)	1 M; 1 F	15.50	lethargic (2)
LOST (2)	2 F	14.50	lost (2)
MANIPULATIVE (2)	2 M	17.50	manipulative (2)
MEAN (2)	1 M; 1 F	14.50	mean (2)
MENTALLY (2)	1 M; 1 F	15.00	mentally unstable (1), mentally weak (1)

MINDFUL (2)	2 F	14.00	mindful (1), mindful of others (1)
NEGATIVE (2)	2 F	14.00	negative a lot (1), very negative (1)
NOT A MORNING PERSON (2)	2 F	15.00	not a morning person (2)
SMOKING (2)	1 M; 1 F	14.00	a non-smoker (1), not a smoker (1)
PATRIOTIC (2)	2 M	14.00	patriotic (1), unpatriotic (1)
PERSISTANT (2)	2 F	14.00	persistent (1), persistent at times (1)
SECRETIVE (2)	1 M; 1 F	14.50	quite secretive and keep a lot to myself (1), secretive (1)
REASONABLE (2)	2 M	16.00	reasonable (2)
SELF-DEPRECATING (2)	2 F	15.00	a bit self-deprecating (1), self-deprecating (1)
WITHDRAWN (2)	1 M; 1 F	16.50	sometimes withdrawn (1), withdrawn (1)
SPICE (2)	2 M	15.00	spiced (1), spicy (1)
TACTICAL (2)	1 M; 1 F	13.50	tactical (2)
BEES KNEES (2)	1 M; 1 F	15.00	the bees knees (2)
TRYING (2)	1 M; 1 F	15.00	trying (2)
VAIN (2)	1 M; 1 F	16.00	vain (2)

WISE (2)	1 M; 1 F	15.50	wise (1), very wise (1)
WHO I AM (2)	2 F	15.50	accepted for who I am (1), who I am (1)
TRY NEW THINGS (2)	1 M; 1 F	15.00	willing to try new things (2)
WITTY (2)	1 M; 1 F	16.00	witty (2)
LESSONS (2)	2 M	14.00	always around distractions in lessons (1), working well in lessons (1)
UNCLASSIFIED (330)			a beast, an alcoholic, not committed, specific about complications, mostly unconcerned about my image, in control of myself, undisciplined, a let-down, dreamy, easy, uneasy, not enjoying school, impatient, very bad at remembering, not as good at my brothers, always wanting to see my nan, only living for my nan, mum and dog, one of two children, the eldest child, aware of others opinions, pathetic, a performer, realistic, reflective, sometimes serious, a shopaholic, a person that doesn't care what people think, thrilling, untidy, a vegetarian, vegan, disappointing, disappointed, a bit OCD, a blabber mouth, a brick wall in defense, a bumble bee, a burden, a cheese lover (I love cheese), a coffee drinker, a drug hater, film lover, a girly girl, a Gemini, a good enemy, a good loser, a good sportsman, a gooner, a grease monkey, hypocrite, a lizard-queen, a lumberjack, a mammal, mess up, a model, a motor head, a noodle baby, a one off character, a orange is the new black lover, a pain, an uncaring person, but I try not to show it, careless, a person that got called foreign, a person who changes their mind lots, a person with ADHD, a person with dyspraxia, defensive about my feelings, dishonest about how I feel, a rebel, a rule follower, a shoulder to cry on, a snitch, a square at everything, a Starbucks lover, a 'stay at home person', a survivor, a tomboy, a Tumblr user, a wimp, a person with feelings, able to see 2 sides of an argument, able to succeed, able to walk a dog confidently, adorable, aesthetic, against discrimination of any sort, agender, agile, all or nothing, also quite thick skinned, always dealing with new strife's and hardships, always in the way, always right, always shaky, always there, always wishing that I could change myself, an adolescent, an alpha male, emo, an ex-self-harmer, an indoor person, an NFI person, an otaku, apologetic, arrogant, not arrogant, aspirational, avoidant, bad at Physics, basically a Jedi, behind a mask at times, behind in work, believer, benevolent, betrayed, bold, breaking promises, breathing, burrowing myself in self-pity, brilliant, certified first aider, changeable, class, cocky, colourful, comical, conservative, convinced I exist for a

	reason, cooperative, courageous, crafty, creepy, cross, crying, cunning, currently loving Netflix, dealing with some hard times, deceptive, dependable, desirable, destroyed, difficult, putting too much pressure on myself, hard on myself, good at making a fool out of myself, finding it hard to define myself, more myself, distinctive, dominant, dopey, dyspraxic, sometimes frustrating others, easily inspired, easily wound up, educational, hating education, efficient, empowered, entertained, entertaining, extraordinary, faithful, fantastic, fed-up, feeling good, feeling like punching someone sometimes, fiery, fluffy, free, funky, fussy, getting through every day, given a lot of opportunities, giving, gobby, going through a rough patch with my parents, going on a gap year, bad at lots of things, bad sometimes, good at childcare, good at dying my brows, good at graphic design, good at hairdressing, good at looking after younger pupils, good at looking at memes, good at mechanics, good at putting my point across, good at swearing, good at telling time, good to anything people want me to do, good to be around, good with animals, good with children, good witted, greedy, gross sometimes, grouchy, guarded, hard to please, hated, hating the world, helpless, homesick, hot, humble, ignored, important, indifferent, informal, information seeking, in love with shreddies, innovative, intellectual, invisible, inviting, iron man, irresponsible, judged by others for my mistakes, knowing and helping, knowledgeable, left handed, left out, looked after, loving geography, mad, made fun of, made of atoms, Michael Bublé's wife, mucked around a lot, narcissistic, nasty sometimes, needed, never argue, no good at all, noisy, not 100% OK with life, not a little boy, not afraid to make tough decisions, not always trembling, not an early riser, not going to kill myself, not here, not in the right state of mind, not of low self-esteem just feel drained often, not racist, not respected, not self-important, not sure what I am, not that bad - but not that good either, not the same as everyone, not very good at the concept of "time and place", nurturing, obligated to feel however I want, observant, offended, on report, on the school council, one of a kind, only included in somethings, ordinary, putting in effort, pampered, passive, persevering, persuasive, picky, pointless, powerful, privileged, prone to saying too much when I'm allowed, quick minded, random, rational, really into memes, really loving media studies, relieved, romantic, Ronald McDonald, safe at home, sassy, satisfied, self-critical, sexy, shocked, sick of trying when I get nowhere, singled out, slightly pedantic, soft, someone, someone who has to act older, someone who never cries, someone who tries to please everybody, sometimes a pushover, sometimes amusing, sometimes cruel, spiffing, spiteful, SpongeBob, standard, stuck up, super boy, sweet, taking psychology, taking sociology, the big I am, the guy who eats McDonalds every day, the one and only (there's nobody I'd rather be), thirsty, thriving in chaos, trying to do well in school, uncertain, unpredictable, unstable, unsure, unusual, wanted, uplifting, usually in a group, very

	bad at remembering, very good with flags, volatile, vulnerable, wacky, wanting to excel in life, wanting to kill, welcoming, well off, willing, willing to change

15.4 Appendix 4. Supplementary material for Paper 2

Supplementary Material

Who am I? Classification and description of adolescent self-concept

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Adolescent coding scheme manual for the Twenty Statements Test

This section describes the classification scheme developed to code self-images generated by adolescents using the Twenty Statements Test (TST). Each category defined within the finalised coding scheme corresponds to an aspect of 'the self'. The following sections describe each of the 13 categories and each one provides an example of data classified within each code.

Active roles

This category included self-images that described 'active' identities. These images described specific roles (e.g., "I am a footballer", "I am a dancer"). Importantly self-images in this category included activities that individual were taking part in and allocating time for (e.g., to play football)

Hobbies and interests

Self-images that described an interest that a young person may have, for example "I am interested in football" were coded as 'Hobbies and Interests'. These self-images reflected a subject or topic a young person may enjoy (e.g., "I am interested in food technology") or an organisation they may support (e.g., "I am a Liverpool fan"). This category differed from 'Active roles' as the self-images included did not directly reference an activity, they took part in (e.g., 'I am interested in Football', does not mean that a person is a 'football player')

Core identity

Self-images that explicitly referenced a personal value or seem to reflect a central characteristic were coded as 'Core identity', for example, "I am Black and proud". This category also included self-images which related to a self-defining feature (e.g., "I am gay", "I am bi-sexual" "I am A-gender") or a self-defining personality trait (e.g., "I am a perfectionist"). This latter example i.e., "I am a perfectionist" was included as there was a consensus among the young people involved in the development of the coding scheme that "being a perfectionist, influences everything I do, so for me, it is part of what makes me, "me". Other self-images categorised as 'Core identity' described self-defining life choices (e.g., "I am a vegan") which reflected personal morals or self-defining roles (e.g., "I am a feminist"; "I am a Socialist").

Emotional self-reflection

This category included self-images that were emotional in content and indicated a degree of self-reflection (e.g., "I am also very sad and empty sometimes"). Importantly self-images described the *subject* of their emotion, for example, "I am worried and anxious about failing", "I am depressed about life and everything I do", "I am happy that I block out sadness"

Where self-images referred to more than one aspect of the self, the presence of an emotional adjective took precedence. For example, the self-image "I am frustrated at school" was coded as 'Emotional self-reflection' rather than 'Academic self". This was because there was a strong, emotional word (i.e., "frustrated") to describe the subject of the distress (i.e., school). The generation of this type of self-image may have involved more self-reflection than self-images coded as 'Academic self' (e.g., "I am OK at school").

I am unique

Self-images that included a description of 'the self' as a distinct entity, an individual, and as different from other people were coded in this group. Importantly, images related to setting 'the self' aside or apart from others, were coded in this category. Examples included "I am me", "I am one of a kind", "I am unique.".

Academic self

Self-images that described 'the self' in relation to the context or activities undertaken in an academic setting (e.g., a school) were classified in this category. Qualified images of 'the self' (e.g., "I am good at chemistry", "I am into maths") that were related to competency at school were also categorised here. However more emotional images of the self in relation to 'school' (e.g., "I am a sad student") were classified as 'Emotional self-reflection' given that the emotional adjectives ("sad", took higher order over the noun "student").

Demographics

This category included self-images that described information relating to socio-economic characteristics of young people, such as those that would be collected in a census. Examples included name, age, occupation, place of residence (e.g., "I am a student at X school", "I am living with my mum", "I am 17 years old", "I am a student").

Family relationships

Images of 'the self' that described family relationships were classified in this category. These statements reflected purely social roles (e.g., "I am a brother", "I am a daughter"). This category was not divided into 'Positive', 'Negative' or 'Neutral' given than less than .03% of self-images described the quality of family relationships.

Peer relationships

This category included self-images that referenced peer relationships. Images of 'the self' tended to describe the type and quality of social relationships with peers, thus, they tended to be positively or negatively valenced. Therefore, this category was further sub-divided into 'Positive' (e.g., "I am a good friend", "I am best friends with X"), 'Neutral' (e.g., "I am a friend", "I am part of a group of friends") or 'Negative' ("I am not a good friend to others", "I am bullied sometimes").

Self-images related to explicit interactions with others were also coded in this category (e.g., "I am a shoulder for my friends to cry on", "I am dating"). This category also included self-images that described the self in comparison to other people (e.g. "I am not as great as others"), however fewer than <1% of images were of this nature.

Aspirations

Self-images that were future-orientated (e.g., "I am trying to earn money"), or explicitly described the future (e.g., "I am hoping to be a doctor", "I am hoping to study music at university") were classified as 'Aspirations'. Thus, these images showed a clear intention of taking 'the self' somewhere, i.e., to achieve a future goal (e.g., to "I am going on a gap year") or described an outlook of 'the self' in the future (e.g., "I am hopeful".).

The valence of self-images classified as 'aspirations' varied, therefore this category was sub-divided into 'Positive' (e.g., "I am looking forward to my future"), 'Neutral" ("I am not sure about the future") or 'Negative' ("I am worried about the future").

Physical appearance

Images of 'the self' that described the individual's physical appearance were coded in this category (e.g., "I am pretty", "I am a wearer of glasses", "I am fat"). Given the nature of these images, descriptions were usually either positively or negatively valenced. Thus, this category was divided into; 'Positive' (e.g., "I am good looking"), Neutral (e.g., "I am blonde"), or 'Negative' (e.g., "I am ugly").

Importantly, some self-images were more complex and referenced more than one aspect of the self. For example, "I am not as pretty as my friends" referred to both 'Peer relationships' and 'Physical appearance'. To address this, a rule was created. Physical appearance took precedence. Thus, this self-image was coded as 'Physical appearance'. This is because 'Physical appearance' is suggested to be the most important factor underpinning global self-worth (i.e., how positively or negatively an individual perceives themselves) in young people (Harter, 2012).

Traits

Self-images that described personal attributes (e.g., "I am kind", "I am helpful", "I am boring") or emotional states (e.g., "I am angry", "I am sad", "I am happy") were coded in this category. Other less commonly generated self-images included in this category described specific competencies (e.g., "I am bad at listening", "I am good at making pancakes").

Self-images such as "I am happy person" or "I am a funny person" which explicitly referenced the 'type of person' an individual described themselves as, were also included in this category. However, if there was an explicit 'personal value' attached to these self-images, e.g., "I am proud to be an independent person" then this value would take priority and therefore the self-image would be coded as 'Core Identity'.

Other self-images were more difficult to code such as “I am approachable”; here there is an implicit link with relationships with other people. However, in these cases, the definition and synonyms were clarified, and a decision was made based on this. For example, ‘approachable’ is an adjective and is synonymous with words such as ‘friendly’, ‘helpful’, ‘pleasant’. Therefore, this image was categorised as a “Trait”.

Trait self-images were further sub-divided into ‘Positive’ (e.g. “I am happy”), ‘Neutral’ (e.g., “I am loud”) and ‘Negative’ (e.g., “I am boring”)

Hierarchy of codes

As discussed in the preceding sections, some categories were defined as ‘higher order’ and therefore took precedence. This hierarchy is displayed in Figure 1.6.

Level one included 9 categories; ‘Active Roles’, ‘Hobbies and Interests’, I am unique’, ‘Academic self’, ‘Demographics’, ‘Family relationships’, ‘Peer relationships’, ‘Aspirations’ and ‘Traits’. In instances where self-images referred to one category only, e.g., “I am a sister”, then coding was straight-forward and here the self-images were coded in ‘Family relationships’. However, if self-images e.g., “I am not as pretty as my friends” described content from both a category in Level 1 (e.g., ‘Peer relationships’) and a category in Level 2 e.g., ‘Physical appearance’ (i.e., ‘pretty), then that self-image was coded as ‘Physical appearance’. This is because ‘Physical appearance’ was deemed to be more important to young people and directly influence self-esteem.

At the top of the hierarchy was ‘Core identity’. Any self-images (e.g., “I am proud of my muscles”) that directly related to both ‘Physical appearance’ (i.e.., “muscles”), and ‘Core identity’ (i.e., “proud”) were coded as ‘Core identity’. This is because self-images explicitly referred to a personal value or seemed to reflect a central and therefore important characteristic.

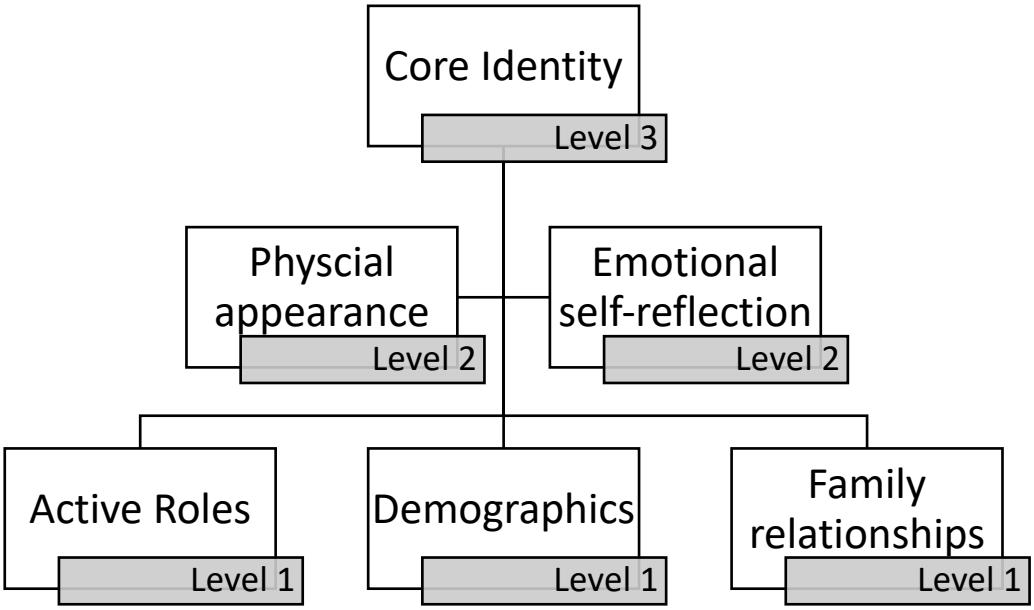

Figure 15.1. Hierarchy of TST categories

15.5 Appendix 5: Word cloud

Word clouds were created for commonly generated self-images. Specifically, using this method, it is possible to compare commonly described self-images generated by healthy adolescents and those with elevated symptoms of depression (see Figure 15.2 & Figure 15.3). Each word cloud displays the relative frequency of words generated by young people. The more common the word, the larger the text. Self-images that were generated once were excluded from this analysis.

Overall, there are more negative words present in the word cloud for adolescents with elevated symptoms of depression than for healthy young people. Some of the most common self-images generated by healthy young people were ‘Happy’, ‘Sporty’, ‘Funny’. Adolescents with elevated symptoms of depression commonly described their self as ‘Tired’, ‘Sad’, ‘Stressed’. Thus, young people with elevated symptoms of depression were more negative about their self, consistent with results presented in Paper 3. However, some positive words were commonly identified by both groups of young people – i.e., ‘Funny’, ‘Loving’, ‘Caring’ had a large text size in both figures.

Presenting data in this way is helpful for dissemination as it helps to convey the richness of data and also provides a ‘snapshot’ of how young people describe their self in respect to depression which is accessible.

Figure 15.2 Self-images generated by healthy adolescents (MFQ <12).

Figure 15.3 Self-images generated by adolescents with elevated depression symptoms (MFQ > 27).

15.6 Appendix 6: UREC Ethics Approval Letters

15.6.1 University of Reading approval email for the first study (school one).

15.6.1.1 *School University Ethics (SREC)*

From: Anastasia Christakou <a.christakou@reading.ac.uk>
Sent: 16 February 2015 11:50
To: PCLS Ethics
Cc: Jennifer Fisk; Shirley Ann Reynolds
Subject: Re: 2015-114-SR - Does mood impact memory retrieval and executive functioning in adolescents?

Thank you for your revisions, which have been approved.
Please find attached a signed copy of the SREC approved version of this project for your UREC submission.

Best wishes,
Anastasia

15.6.1.2 *University of Reading approval letter*

University of Reading

Coordinator for Quality Assurance in Research
Dr Mike Proven, BSc(Hons), PhD

Academic and Governance Services

Whiteknights House
Whiteknights, PO Box 217
Reading RG6 6AH

phone +44 (0)118 378 7119
fax +44 (0)118 378 8979
email m.j.proven@reading.ac.uk

Professor Shirley Reynolds
School of Psychology and Clinical Language Sciences
University of Reading
RG6 6AL

17 April 2015

Dear Shirley

UREC 15/13: Does mood impact memory retrieval and executive functioning in adolescents? *Favourable opinion*

Thank you for the response (email dated 31 March 2015 from Jennifer Fisk, including attachments, refers) addressing the issues raised by the UREC Sub-committee at its March 2015 meeting. On the basis of these responses and the revised documentation, I can confirm that the Chair is pleased to confirm a favourable ethical opinion.

The response from Jennifer was very clear, thorough and well-argued. The UREC sub-committee did still, on further review, have concerns about one or two of the more contentious issues (in particular the Study 1 'opt out' provisions) but – on balance – were minded to approve the project as amended.

Please note that the Committee will monitor the progress of projects to which it has given favourable ethical opinion approximately one year after such agreement, and then on a regular basis until its completion.

Please also find attached Safety Note 59: Incident Reporting in Human Interventional Studies at the University of Reading, to be followed should there be an incident arising from the conduct of this research.

The University Board for Research and Innovation has also asked that recipients of favourable ethical opinions from UREC be reminded of the provisions of the University Code of Good Practice in Research. A copy is attached and further information may be obtained here:

http://www.reading.ac.uk/internal/res/QualityAssuranceInResearch/reas-RSqar.aspx .

Yours sincerely

Dr M J Proven
Coordinator for Quality Assurance in Research (UREC Secretary)
cc: Dr John Wright (Chair); Dr Laurie Butler (Head of School); Jennifer Fisk (PhD student)

15.6.2 University of Reading approval email for the second study (school two)

15.6.2.1 *School University Ethics (SREC)*

From: Anastasia Christakou [mailto:a.christakou@reading.ac.uk]
Sent: 20 July 2016 09:42
To: PCLS Ethics
Subject: Re: FW: 2016-085-SR - Self-concept and depression in adolescents

This application has SREC approval to proceed to UREC.
Attached the signed forms.

Anastasia

15.6.2.2 *University of Reading approval letter*

University of Reading

Coordinator for Quality Assurance in Research
Dr Mike Proven, BSc(Hons), PhD

Academic and Governance Services

Whiteknights House
Whiteknights, PO Box 217
Reading RG6 6AH

phone +44 (0)118 378 7119
fax +44 (0)118 378 8979
email m.j.proven@reading.ac.uk

Professor Shirley Reynolds
School of Psychology and Clinical Language Sciences
University of Reading
RG6 6AL

30 August 2016

Dear Shirley

UREC 16/44: Self-concept and depression in adolescents. *Favourable opinion*

Thank you for the response (email dated 22 August 2016, from Emily Green and including attachments, refers) addressing the issues raised by the UREC Sub-committee in August 2016. On the basis of these responses and the revised documentation (including the proposed amendment), I can confirm that the Chair is pleased to confirm a favourable ethical opinion.

Please note that the Committee will monitor the progress of projects to which it has given favourable ethical opinion approximately one year after such agreement, and then on a regular basis until its completion.

Please also find attached Safety Note 59: Incident Reporting in Human Interventional Studies at the University of Reading, to be followed should there be an incident arising from the conduct of this research.

The University Board for Research and Innovation has also asked that recipients of favourable ethical opinions from UREC be reminded of the provisions of the University Code of Good Practice in Research. A copy is attached and further information may be obtained here:

http://www.reading.ac.uk/internal/res/QualityAssuranceInResearch/reas-RSqar.aspx .

Yours sincerely

Dr M J Proven
Coordinator for Quality Assurance in Research (UREC Secretary)
cc: Dr John Wright (Chair); Dr Laurie Butler (Head of School); Ms Emily Green

15.6.3 University of Reading approval email for third study (school three).

University of Reading

Coordinator for Quality Assurance in Research
Dr Mike Proven, BSc(Hons), PhD

Academic and Governance Services

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email m.j.proven@reading.ac.uk

Professor Shirley Reynolds
School of Psychology and Clinical Language Sciences
University of Reading
RG6 6AL

1 August 2017

Dear Shirley

UREC 16/44: Self-concept and depression in adolescents. *Amendment favourable opinion*

Thank you for your application (email dated 21 June 2017 from Emily Green and including attachments refers) requesting and detailing amendments to the above project (*recruitment of additional sample; incorporation of additional step in 'Twenty Statement Test; modification of data collection location/scheduling; extension of end date'*). I can confirm that the UREC Chair has reviewed that request and is happy for the project to continue.

Yours sincerely

Dr M J Proven
Coordinator for Quality Assurance in Research (UREC Secretary)
cc: Dr John Wright (Chair); Dr Laurie Butler (Head of School); Ms Emily Green

15.7 Appendix 7. Adolescent information sheets

15.7.1 Information sheet for adolescents aged 13-15 recruited from schools

15.7.1.1 *School one*

Department of Psychology and Clinical Language Sciences

University of Reading

Harry Pitt Building

Whiteknights Road

Reading RG6 6AL

INFORMATION ABOUT THE RESEARCH FOR ADOLESCENTS

Project Title: How Does Mood Affect Thinking in Adolescents (Study 1)

Hi,

We are inviting you to take part in a study we are doing.

Why is this project being done?

To investigate how mood relates to how teenagers think about their self-identity, and their own thoughts and experiences.

Why have I been asked to take part?

You have been asked to take part because your school has agreed to help us with this project. We are inviting you because you are aged between 13 and 15 years old and this is the age group we are interested in.

Do I have to take part?

Whether or not you take part in this study is completely up to you. You do not have to do this. Also, if you decide to take part and then change your mind, this won't matter at all. You won't have to give us a reason.

What will happen to me if I take part in the project?

We would like you to complete some worksheets in your mentoring sessions. They will take about 20 minutes. They include questions about how you feel and how you think about your own thoughts and experiences. We will also ask you to come up with some statements that describe you.

Might anything about the research upset me?

Do we have to take part?

Participation in this research is entirely voluntary. If you have any questions please do not hesitate to contact us by phone or email. We will be happy to tell you more about the research and to discuss any questions or concerns you might have.

Contact Details

Researcher: Jeni Fisk

Email: j.fisk@pgr.reading.ac.uk

Supervisor: Prof Shirley Reynolds

Email: s.a.reynolds@reading.ac.uk

Phone: 0118 378 8525

Many thanks for your help
Yours sincerely,
On Behalf of the Research Team at the University of Reading

15.7.1.2 *School two and three*

School of Psychology and Clinical Language Sciences
University of Reading
Harry Pitt Building
Whiteknights Road
Reading
RG6 6AL

Project Title: Examining ideas about the self in adolescents
INFORMATION FOR Young People aged 13-15

Hello,

We are inviting you to take part in a research study.

Why is this project being done?
We are interested in how young people think about themselves (their self-concept). We want to find out more about this in teenagers of different ages. We also want to see if mood and self-concept are linked in young people. This is important because it could help us prevent depression and improve treatments for young people.

Why have I been asked to take part?
You have been asked to take part because your school has agreed to help us with this project. We are inviting students in Year 9 to Year 13 to take part.

Do I have to take part?
No. Whether or not you take part in this study is **completely up to you and your parents**. You do not have to do this. Also, if you decide to take part and then change your mind, this won't matter at all. You won't have to give us a reason.

What will happen to me if I take part in the project?
We would like you to complete some worksheets in your tutorial sessions. They will take about 20 minutes. They include questions about your current mood and experiences. We will also ask you to come up with some statements that describe you.

Might anything about the research upset me?
Some of the questions about your mood might remind you of both happy and sad feelings. This is completely normal and OK. If you want to stop at any time, or take a break this will be fine. We can talk about this at the time or you might want to talk to your friends or a teacher or parent about it.

Will my information be kept private if I take part? Will anyone else know I'm doing this?
Everything you tell us as part of this project is treated as confidential; this means that nobody other than us will ever know what you have told us. The only time we would not be able to keep information confidential is if you tell us something which makes us worried about you or someone else. If this were to happen we would pass on this information to Teacher X or Teacher X who can help you
All your answers will be kept in locked cabinets and nothing will have your name on it. Once we have finished the project all the questionnaires will be shredded and computer files will be deleted

Did anyone else check the project is okay to do?
Before any research is allowed, it has to be checked by a group of people called an Ethics Committee. They make sure the research is safe. This study has been approved by the Reading University Ethics. Emily the researcher has been through the formal Disclosure and Barring Service process and has been trained to work with young people.

What if I have more questions?
If you have any questions about our study, either now or later, please feel free to talk to Emily, email or phone us. You have a right to know everything and we will be happy to tell you everything. Also, please discuss this with your parents, friends and teachers.

Thank you very much,

Emily Green (Researcher) e.g.green@pgr.reading.ac.uk

Prof Shirley Reynolds (Supervisor) s.a.reynolds@reading.ac.uk 0118 378 8525

Website: andyresearchclinic.com

15.7.2 Information sheet for adolescents aged 16-18 recruited from schools

15.7.2.1 *School one*

Department of Psychology and Clinical Language Sciences

University of Reading

Harry Pitt Building

Whiteknights Road

Reading RG6 6AL

INFORMATION ABOUT THE RESEARCH FOR ADOLESCENTS

Project Title: How Does Mood Affect Thinking in Adolescents (Study 1)

Why is this project being done?
To help us better understand mood problems in adolescents; to understand the impact of mood on adolescents' own thoughts, experiences and self-identity.

Why have I been asked to take part?
You have been asked to take part because your school has agreed to help us with this project. We are inviting you because you are aged between 16 and 18 years old and this is the age group we are interested in.

Do I have to take part?
Whether or not you take part in this study is **completely up to you**. You do not have to do this. Also, if you decide to take part and then change your mind, this won't matter at all. You won't have to give us a reason.

What will happen to me if I take part in the project?
We would like you to complete some worksheets in your mentoring session. They will take about 20 minutes. They include questions about how you feel and how you think about your own thoughts and experiences. We will also ask you to come up with some statements that describe you.

Might anything about the research upset me?
Some of the questions about your thoughts and feelings might remind you of both happy and sad feelings. This is completely normal and OK. If you want to stop at any time, or take a break this will be fine. We can talk about this at the time or you might want to talk to your friends or a teacher or parent about it.

Will my information be kept private if I take part? Will anyone else know I'm doing this?
Everything you tell us as part of this project is treated as confidential; this means that nobody other than us will ever know what you have told us. The only exception to this is if you tell us something which puts you or someone else at risk or if you score highly on one of our questionnaires and we are worried about your safety. If this were to happen we would talk to you first straightaway. All your answers will be kept in locked cabinets and nothing will have your name on it. Once we have finished the project all the questionnaires will be shredded and computer files will be deleted.

Did anyone else check the project is okay to do?
Before any research is allowed to happen, it has to be checked by a group of people called an Ethics Committee. They make sure the research is okay to do. This study has been looked at by the Reading University Ethics Committee and they were happy for it to go ahead. Everyone working on this study has been through the formal Criminal Records Bureau Disclosure process and has been approved by the School of Psychology of the University of Reading to work with children and adolescents.

What if I have more questions?
If you have any questions about our study, either now or later, please feel free to email us or phone to speak to us. You have a right to know everything and we will be happy to tell you everything.

Thanks,

Jeni Fisk (Researcher) email: j.fisk@pgr.reading.ac.uk

Prof Shirley Reynolds (Supervisor) email: s.a.reynolds@reading.ac.uk tel: 0118 378 8525

15.7.2.2 *School two and three*

Department of Psychology and Clinical Language Sciences
University of Reading
Harry Pitt Building
Whiteknights Road
Reading
RG6 6AL

Project Title: Examining self-concept in adolescents
INFORMATION FOR Young people aged 16-18

Hello,

We are inviting you to take part in a research study.

Why is this project being done?
Depression and low mood is a major health problem for young people, but we still do not really understand why it develops or how best to prevent it. This research project aims to help us understand depression in young people and how it relates to thoughts, experiences and self-identity. We hope that it will help us develop new and better ways to help young people and to prevent depression

Why have I been asked to take part?
You have been asked to take part because your school/college has agreed to help us with this research. We are inviting all students in the school between the ages of 13 and 18 years

Do I have to take part?
No. Whether or not you take part in this study is **completely up to you**. You do not have to do this. Also, if you decide to take part you can change your mind at any time. You won't have to give us a reason. Please talk to your parents, teachers and/or friends about the study and ask us if you have any questions or are not sure about something. If you are happy to take part, we will ask you to fill out and sign a consent form before you take part in the research.

What will happen to me if I take part?
We would like you to complete some questionnaires in a timetabled tutorial period. This will take about 15-20 minutes. The questionnaires will ask about your current mood and how you think about yourself.

Might anything about the research upset me?
Some of the questions might remind you of both happy and sad feelings. This is completely normal and OK. If you want to stop at any time or take a break this will be fine. We can talk about this at the time or you might want to talk to your friends or a teacher or parent about it.

Will my information be kept private if I take part? Will anyone else know I'm doing this?
Everything you tell us as part of this project is treated as confidential; this means that nobody other than us will ever know what you have told us. The only time we would not be able to keep information confidential is if you tell us something that makes us worried about you or someone else. If this were to happen, we would pass on this information to Teacher X or Teacher X who will then discuss it with you.

Everyone taking part in the study will be given an ID number so no one will know who has filled out the questionnaires. Your answers will be kept in locked cabinets. Once we have finished the project the questionnaires will be shredded.

Did anyone else check the project is okay to do?
Before any research is allowed, it has to be checked by a group of people called an Ethics Committee. They make sure the research is safe. This study has been approved by the Reading University Ethics Committee. Everyone working on this study has been through the formal Disclosure and Barring Service process and has been trained by the School of Psychology of the University of Reading to work with young people.

What if I have more questions?
If you have any questions about our study, either now or later, please feel free to talk to Emily, or email or phone us. You have a right to know everything and we will be happy to tell you everything. Also please take the opportunity to discuss this study with your friends, parents and/or teachers.

Thank you very much,

Emily Green (Researcher) email: e.g.green@pgr.reading.ac.uk

Prof Shirley Reynolds (Supervisor) email: s.a.reynolds@reading.ac.uk tel: 0118 378 8525

Website: andyresearchclinic.com

15.8 Appendix 8: Parent Information sheets

15.8.1 School one

Department of Psychology and Clinical Language Sciences

University of Reading

Harry Pitt Building

Whiteknights Road

Reading RG6 6AL

INFORMATION ABOUT THE RESEARCH FOR PARENTS

***Project Title*: How Does Mood affect the way adolescents think? (Study 1)**

What is the purpose of the study?

To help us better understand mood problems in adolescents; to understand the impact of mood on adolescents' own thoughts, experiences and self-identity.

Why are we inviting your son/daughter to take part?

Your son/daughter has been invited to take part because their school has agreed to take part in this project. Your child is aged between 13 and 18 and therefore in the age group we are working with.

Does my child have to take part?

It is up to you and your son/daughter to decide whether to join the study. If you agree to take part, you are still free to withdraw at any time without giving any reason.

This is an opt-out study. This means that if your child is under 16 and you **DO NOT** want your them to take part, please sign and return the attached form. If you do not return this form we will assume that you are happy for your child to take part in this research. Your child will also be asked if they are happy to take part – they are free to opt out themselves.

What will happen if my child takes part?

Your son/daughter will complete some questionnaires in their timetabled mentoring sessions. The questions will ask about feelings, thinking processes and self-concept.

What are the possible disadvantages and risks of taking part?

We do not expect there to be any disadvantages or risks involved in taking part in this research. Some of the tasks involved will require answering questions about feelings, and it is possible some adolescents may find this upsetting. However, if this was to happen we would offer to stop the research immediately. During the research we will adhere to all School safeguarding and child protection policies.

As the research will be carried out in school we do not require you or your child to come to the University at any point during the research. The study will be carried out on whole classes therefore your child will not miss any teaching.

What are the possible benefits?

Taking part will contribute to our gaining a greater understanding of how teenagers think and remember, and how this may relate to how they are feeling. Research investigating low mood in adolescents is limited and we hope to use this information to evaluate and understand how clinical treatments should be specifically designed for this age group.

What if there is a problem?

If you have any concern about any aspect of the study, you should ask to speak to Jeni Fisk, the researcher of the project. Please see the last page for contact details. If you remain unhappy and wish to complain formally, you can contact the supervisor of this research, Prof Shirley Reynolds, who will discuss any concerns you may have.

Will our taking part in the study be kept confidential?

All the information provided will be kept confidential. The only exception to this is if your child tells us something, which puts them, or someone else at risk. The information we collect (questionnaire answers) will not have any names on and will be kept strictly confidential in locked cabinets in a password-protected area of the university. All the information collected for the project will be destroyed as soon as they are no longer needed. The consent forms, however, will be kept for 5 years before disposal.

What will happen to the results of the research study?

The information we collect will be analysed and written up as part of a doctoral thesis (2017). We also hope to write these results up for publication in a scientific journal and at professional academic conferences. When we do this, no personal information will be given and if we quote anything that has been said by people taking part in the study, this will be anonymous and will not be traceable to a particular person. If you would like a report of the findings of our study, we will be happy to provide it. Please note that the publication of any such data may take a year or more after the completion of the study.

Who has reviewed the study?

All research at the University of Reading is reviewed by an independent group of people, called a Research Ethics Committee, to protect your interests. This application has been reviewed and given a favourable opinion by the University of Reading Research Ethics Committee. Everyone working on this study has been through the formal Criminal Records Bureau Disclosure process and has been approved by the School of Psychology of the University of Reading to work with children and adolescents.

Will there be any further studies?

We would like to invite some young people who take part in this study to take part in a future study. This would take about 55 minutes and your child would be interviewed individually at school. We would send you information about this separately, and we would ask you to send back a consent form, giving permission.

Do we have to take part?

Participation in this research is entirely voluntary. If you have any questions please do not hesitate to contact us by phone or email. We will be happy to tell you more about the research and to discuss any questions or concerns you might have.

Contact Details

Researcher: Jeni Fisk

Email: j.fisk@pgr.reading.ac.uk

Supervisor: Prof Shirley Reynolds

Email: s.a.reynolds@reading.ac.uk

Phone: 0118 378 8525

Many thanks for your help
Yours sincerely,
On Behalf of the Research Team at the University of Reading

15.8.2 School two and three

Department of Psychology and Clinical Language Sciences
University of Reading
Harry Pitt Building
Whiteknights Road
Reading
RG6 6AL

INFORMATION FOR PARENTS of Young People under 16
Project Title: Examining self-concept in adolescents

What is the purpose of the study?
Depression and low mood is a major health problem for young people, but we still do not really understand why it develops or how best to prevent it. Our research aims to help understand the experience of depression in young people and to examine how it relates to their thoughts, experiences and self-identity. This will help us develop new and better ways to help young people.

Why are we inviting your son/daughter to take part?
Your son/daughter has been invited to take part because their school has agreed to take part in this project, and we are inviting students in Years 9 to 13.

Does my child have to take part?
No. It is up to you and your son/daughter to decide whether to join the study. If you agree to take part, you are free to withdraw at any time without giving any reason.
This is an opt-out study. This means that if your child is under 16 and you DO NOT want them to take part, please let us know. You can do this by returning the attached form. If you prefer you can contact us directly – our contact details are at the end of this information sheet. If we do not hear from you, we will assume that you are happy for your child to take part in this research. We will also ask your son or daughter if they want to take part in the research– they are free to opt out themselves. If you change your mind later, you can withdraw your son or daughter from the research at any time.

What will happen if my child takes part?
Your son or daughter will complete some questionnaire at school during a timetabled form session. The questions will ask them about their sense of self (self-concept) and their current mood.

What are the possible disadvantages and risks of taking part?
We do not expect any disadvantages or risks to be involved in taking part in this research. Young people will be asked questions about their mood. They can choose not to answer any questions. Some questions might highlight negative feelings – these are quite common in young people. Students can stop at any time and we would immediately offer support if they were upset or distressed. During the research we will adhere to all school safeguarding and child protection policies. Additionally, all children will be given a resource list of helpful resources about well-being, sources of support and advice.

What are the possible benefits?
This research aims to improve our understanding of adolescent mental health and improve treatments. Most young people enjoy taking part in research and learning about how research is conducted with people.

What if there is a problem?
If you have any concern about any aspect of the study, you should ask to speak to Emily Green, the researcher. Please see the last page for contact details. If you remain unhappy and wish to complain formally, you can contact the supervisor of this research, Prof Shirley Reynolds, who will discuss any concerns you may have.

Will our taking part in the study be kept confidential?
All personal information provided will be kept confidential. The only exception to this is if your child tells us something, which puts them, or someone else, at risk. If this happens, we will inform the school who will follow their risk and safeguarding policies. The information we collect (questionnaire answers) will not have any names on and will be kept strictly confidential in locked cabinets in locked offices at the university. All the paper work collected will be destroyed as soon as they are no longer needed. The consent forms, however, will be kept for 5 years before disposal. If we feel any young person is at risk of harm or radicalization we will alert a nominated member of the school staff who will then follow the school procedures.

What will happen to the results of the research study?
The information we collect will be analysed and written up as part of a PhD thesis (due to be submitted in 2018). They will also be published in a professional, scientific journal and at professional academic conferences. No personal information will be included. If you would like a summary of the findings of our study please let us know and we will send you this (it will take about 6 months).

Who has reviewed the study?
To protect your interests all research at the University of Reading is reviewed by an independent group of people, called a Research Ethics Committee. This application has been approved by the University of Reading Research Ethics Committee. The researcher – Emily Green - has an enhanced Disclosure and Barring Service (DBS) and has been trained by the School of Psychology of the University of Reading to work with children and adolescents.

Do we have to take part?
No. Participating in this research is entirely voluntary. If you have any questions, please contact us by phone or email. We will be happy to discuss any questions or concerns you may have.

Thank you very much,

Emily Green (Researcher) email: e.g.green@pgr.reading.ac.uk

Prof Shirley Reynolds (Supervisor) email: s.a.reynolds@reading.ac.uk tel: 0118 378 8525

Website: andyresearchclinic.com

Department of Psychology and Clinical Language Sciences
University of Reading
Harry Pitt Building
Whiteknights Road
Reading
RG6 6AL

INFORMATION FOR PARENTS of Young People over 16
Project Title: Examining self-concept in adolescents

What is the purpose of the study?
Depression and low mood is a major health problem for young people, but we still do not really understand why it develops or how best to prevent it. Our research aims to help understand the experience of depression in young people and to examine how it relates to their thoughts, experiences and self-identity. This will help us develop new and better ways to help young people.

Why are we inviting your son/daughter to take part?
Your son/daughter has been invited to take part because their school has agreed to take part in this project, and we are inviting students in Years 9 to 13.

Does my child have to take part?
No. It is up to your son or daughter to decide whether to join the study. If your son/daughter agree to take part, they are free to withdraw at any time without giving any reason.
As your child is over 16, they can give consent to take part in the research. We would like them to discuss taking part with you and with their friends to make sure that they understand what is involved. When we visit their class, we will ask them to complete a consent form. This says that they have read the information about the research, had the opportunity to ask questions and are happy to take part. If they do not want to take part that is fine.
If after they do the research, they change their minds your son or daughter can withdraw themselves from the research at any time and we will destroy any data or information they have given us.

What will happen if my child takes part?
Your son or daughter will complete some questionnaire at school during a timetabled form session. The questions will ask them about their sense of self (self-concept) and their current mood.

What are the possible disadvantages and risks of taking part?
We do not expect any disadvantages or risks to be involved in taking part in this research. Young people will be asked questions about their mood. They can choose not to answer any questions. Some questions might highlight negative feelings – these are quite common in young people. Students can stop at any time and we would immediately offer support if they were upset or distressed. During the research we will adhere to all school safeguarding and child protection policies. Additionally, all young people will be given a resource list of helpful resources about well-being, sources of support and advice

What are the possible benefits?
This research aims to improve our understanding of adolescent mental health and improve treatments. Most young people enjoy taking part in research and learning about how research is conducted with people

What if there is a problem?
If you, your son or daughter have any concern about any aspect of the study, you should ask to speak to Emily Green, the researcher. Please see the last page for contact details. If you remain unhappy and wish to discuss your concerns further or complain about any aspect of the research, you can contact the supervisor of this research, Prof Shirley Reynolds.

Will our taking part in the study be kept confidential?
All personal information provided will be kept confidential. The only exception to this is if your child tells us something, which puts them, or someone else, at risk. If this happens, we will inform the school who will follow their risk and safeguarding policies. The information we collect (questionnaire answers) will not have any names on and will be kept strictly confidential in locked cabinets in locked offices at the university. All the paper work collected will be destroyed as soon as they are no longer needed. The consent forms, however, will be kept for 5 years before disposal. If we feel any young person is at risk of harm or radicalization we will alert a nominated member of the school staff who will then follow the school procedures.

What will happen to the results of the research study?
The information we collect will be analysed and written up as part of a PhD thesis (due to be submitted in 2018). They will also be published in a professional, scientific journal and at professional academic conferences. No personal information will be included. If you, your son or daughter would like a summary of the findings of our study please let us know and we will send you this (it will take about 6 months).

Who has reviewed the study?
To protect your interests all research at the University of Reading is reviewed by an independent group of people, called a Research Ethics Committee. This application has been approved by the University of Reading Research Ethics Committee. The researcher – Emily Green - has an enhanced Disclosure and Barring Service (DBS) and has been trained by the School of Psychology of the University of Reading to work with children and adolescents.

Does my son/daughter have to take part?
No. Participation in this research is entirely voluntary. If you have any questions, please contact us by phone or email. We will be happy to discuss any questions or concerns you may have.

Thank you very much,

Emily Green(Researcher) email: e.g.green@pgr.reading.ac.uk

Prof Shirley Reynolds (Supervisor) email: s.a.reynolds@reading.ac.uk tel: 0118 378 8525

Website: andyresearchclinic.com

15.9 Appendix 9: Consent forms

15.9.1 Assent forms for adolescents aged 13-15 years

15.9.1.1 *School one*

Department of Psychology and Clinical Language Sciences

University of Reading

Harry Pitt Building

Whiteknights Road

Reading RG6 6AL

ASSENT FORM FOR ADOLESCENTS

(under the age of 16)

Study One: Mood and Thinking in Adolescents

Please circle all you agree with:

Have you read (or had read to you) the information about this project?	YES/ NO
Has somebody explained this project to you?	YES/ NO
Do you understand what this project is about?	YES/ NO
Have you asked all the questions you want?	YES/ NO
Have you had your questions answered in a way you understand	YES/ NO/no questions
Do you understand it's OK to stop taking part at any time?	YES/ NO

Are you happy to take part?

YES/ NO

If any answers are 'no' or you don't want to take part, don't sign your name!

If you do want to take part, please write your name and today's date:

Your name _____ Date _____

Date of Birth: _____ Male/female (please circle)

The person who explained this project to you needs to sign too:

Print name _____

Sign _____

Date _____

15.9.1.2 *School two and three*

School of Psychology and Clinical Language Sciences
University of Reading
Harry Pitt Building
Whiteknights Road
Reading
RG6 6AL

ASSENT FORM for ages 13-15 years
Title of Project: Examining self-concept in adolescents

Please circle all you agree with:

Have you read (or had read to you) the information about this project? **YES/ NO**

Has somebody explained this project to you? **YES/ NO**

Do you understand what this project is about? **YES/ NO**

Do you understand it's OK to stop taking part at any time? **YES/ NO**

Have you asked all the questions you want? **YES/ NO**

If relevant have you had your questions answered in a way you understand? **YES/ NO**

Are you happy to take part? **YES/NO**

If any answers are 'no' or you do not want to take part, don't sign your name!

Your name: _____ Date: _____

Date of Birth:_____Male/female (please circle)

The person who explained this project to you needs to sign too:
Name of Researcher:_____Emily Green_____ Date: _____
Signature: _____

Are you happy to be contacted about Part 2? **YES/ NO**

(This means you will be asked, you do not have to take part!

If yes, please circle how you would you like to be contacted…

Phone call Text Email

15.9.2 Consent forms for adolescents aged 16-18 years

15.9.2.1 *School one*

Department of Psychology and Clinical Language Sciences

University of Reading

Harry Pitt Building

Whiteknights Road

Reading RG6 6AL

CONSENT FORM FOR ADOLESCENTS

(To be completed by the adolescent)

Study One: Mood and Thinking in Adolescents

Please circle all you agree with:

Have you read (or had read to you) the information about this project?	YES/ NO
Has somebody explained this project to you?	YES/ NO
Do you understand what this project is about?	YES/ NO
Have you asked all the questions you want?	YES/ NO
Have you had your questions answered in a way you understand	YES/ NO/no questions
Do you understand it's OK to stop taking part at any time?	YES/ NO

Are you happy to take part?
YES/ NO

If any answers are 'no' or you don't want to take part, don't sign your name!

If you do want to take part, please write your name and today's date:

Your name _____ Date _____

Date of Birth: Male/female (please circle)

The person who explained this project to you needs to sign too:

Print name _____

Sign _____

Date _____

15.9.2.2 *School two and three*

Department of Psychology and Clinical Language Sciences
University of Reading
Harry Pitt Building
Whiteknights Road
Reading RG6 6AL

CONSENT FORM FOR ADOLESCENTS aged 16-18
Part 1: Examining self-concept in adolescents

Please circle all you agree with:

Have you read (or had read to you) the information about this project? **YES/ NO**

Has somebody explained this project to you? **YES/ NO**

Do you understand what this project is about? **YES/ NO**

Do you understand it's OK to stop taking part at any time? **YES/ NO**

Have you asked all the questions you want? **YES/ NO**

If relevant have you had your questions answered in a way you understand? **YES/ NO**

Are you happy to take part? **YES/NO**

If any answers are 'no' or you do not want to take part, don't sign your name!

Your name: _____ Date: _____
Date of Birth:_____Male/female (please circle)

The person who explained this project to you needs to sign too:
Name of Researcher:_____Emily Green_____ Date: _____
Signature:_____

Are you happy to be contacted about Part 2? **YES/ NO**

(This means you will be asked, you do not have to take part!)

If yes, please circle how you would you like to be contacted…

Phone call Text Email

Please provide your contact details below

_____

15.10 Appendix 10: Opt-out parental consent form

15.10.1 School one

Department of Psychology and Clinical Language Sciences

University of Reading

Harry Pitt Building

Whiteknights Road

Reading RG6 6AL

OPT-OUT FORM

Title of Project: How does mood affect thinking in adolescents?

Researcher: Jeni Fisk

Supervisor: Prof. Shirley Reynolds

Please only complete and return this form if you DO NOT want your child to take part in this research.

I do not agree to my child participating in this research.

Your child's name: _____

Your Name: _____ Date: _____

Signature: _____

15.10.2 School two and three

Department of Psychology and Clinical Language Sciences
University of Reading
Harry Pitt Building
Whiteknights Road
Reading
RG6 6AL

OPT-OUT FORM

Title of Project: Examining self-concept in adolescents

Researcher: Emily Green
Supervisor: Prof. Shirley Reynolds

Please return this form if you DO NOT want your child to take part in this research.

I do not agree to my child participating in this research.

Your child's name: _____

Child's form: _____

Your Name:_____

Date: _____

Signature: _____

15.11 Appendix 11: Debrief sheet

15.11.1 School one

ADOLESCENT DEBRIEF SHEET

Project Supervisors:	Prof Shirley Reynolds:	s.a.reynolds@reading.ac.uk
	Prof Judi Ellis:	j.ellis@reading.ac.uk
Researcher:	Jeni Fisk:	j.fisk@pgr.reading.ac.uk

The aim of this study was to investigate how your mood relates to how you think about yourself.

Your results will be anonymously compared with those of other participants taking part in the study. If at any point you wish to withdraw your results or ask any questions concerning this investigation, please email the researcher or project supervisors (contact details above). The project has been reviewed by the University of Reading research Ethics Committee and has been approved.

The different questionnaires that you completed regarding mood and worries helped us to understand how you have been feeling. Everyone's feelings go up and down from time to time. This is perfectly normal and nothing to worry about. Sometimes we do go through periods of time when we feel down for quite a while. If you, or a friend, are feeling down there are lots of places that can help.

Sometimes people you already know can help, your parents, other family, a teacher, or a friend for example. We have included some information about other organisations that might be useful. Do have a look at this. If you feel that you definitely would like some help you can also talk to your house manager.

Thank you very much for helping us with this research. We hope you have found it interesting. If you would like to know more about our results, please let your teacher know and we would be happy to come back and tell you want we found out. If you would like us to send you a brief summary of what we found you can email us at this address j.fisk@pgr.reading.ac.uk (it will be ready in about 6 months).

15.11.2School two and three

ADOLESCENT DEBRIEF SHEET

Project Title: Examining self-concept in adolescents

Researcher:	Emily Green:	e.g.green@pgr.reading.ac.uk
Project Supervisors:	Prof Shirley Reynolds:	s.a.reynolds@reading.ac.uk
	Prof Judi Ellis:	j.a.ellis@reading.ac.uk

The aim of this study was to investigate how adolescents of different ages think about themselves. This is an important time of your life when our thoughts about ourselves develop and change. We are interested in how this is affected by our mood.

Your answers will be kept confidential. If at any point you wish to withdraw your answers or ask any questions about this study, please email me or my supervisors (contact details above). The project was approved by the University of Reading research Ethics Committee

We also asked you about your mood and how you are feeling. Everyone's feelings go up and down from time to time. This is perfectly normal and nothing to worry about. Sometimes we feel down for quite a while. If you, or a friend, are feeling down there are lots of places that can help.

Usually people you already know can help; for example, your parents, other family, a teacher, or a friend. Sometimes it's useful to talk to someone else so we have included information about other organizations that can help young people. Do have a look at this. If you feel that you definitely would like some help you can also talk to Teacher X or Teacher X at your school.

Thank you very much for helping us with this research. We hope you have found it interesting. If you would like to know more about our results, please let your teacher know and we would be happy to come back and tell you want we found out. If you would like us to send you a brief summary of what we found you can email us at this address e.g.green@pgr.reading.ac.uk (it will be ready in about 6 months).

15.12 Appendix 12: Sources of support

15.12.1 School one

Department of Psychology and Clinical Language Sciences

University of Reading

Harry Pitt Building

Whiteknights

Reading RG6 6AL

In this study you answered questions about your mood and feelings. Sometimes these things can be upsetting, or draw attention to difficulties you may not have noticed before. This leaflet is given to everyone involved in our studies that use these types of questions. It provides you with some potential sources of support, should you feel it would be helpful to talk to someone.

- **Your General Practitioner (GP)** (contact details vary)
  Your GP will be able to offer support and advice on possible treatment options for any mental health difficulties. It can be helpful to take someone with you if you are not used to talking to them.

- **Kettering and Corby Youth information:** KYI provide a range of friendly and accessible support services in the Northamptonshire area. Email: http://kyi.org.uk
  Tel: Corby 07402786101. Tel Kettering: 01536510089

- **Samaritans:** Tel: 08457 90 90 90, Email: Jo@Samaritans.org
  Samaritans provides confidential emotional support, 24 hours a day for people who are experiencing feelings of distress or despair. They are there to listen if you're worried about something, feel upset or confused, or you just want to talk to someone

- **Childline**: 0800 11 11.
  Free confidential 24hr helpline for young people who are aged up to 19 years old.

- **Papyrus:** Tel: 0800 068 41 41/ SMS:0776 209 697, Email: pat@papyrus-uk.org
  Papyrus is a UK national charity dedicated to the prevention of suicide and the promotion of positive mental health and emotional wellbeing in young people

- NHS Direct (England & Wales): **111**
  For health, advice and reassurance, 24 hours a day, 365 days a year

- **YoungMinds**: Charity committed to improving the mental health of

young people. www.youngminds.org.uk/

- **MoodGYM:** A free, interactive web program designed ti prevent and reduce depression. https://moodgym.anu.edu.au/welcome

- **Overcoming Teenage Low Mood & Depression: A five areas approach.** Dummett, N. & Williams, C. (2008). London: Hodder Arnold

- **Think Good – Feel Good**: A cognitive behavioural therapy work book for children and young people. Stallard, P. (2002). Chichester: John Wiley & Sons. (Plus additional online resources after purchasing the book). http://www.wileyeurope.com/go/thinkgoodfeelgood)

15.12.2 School two and three

Department of Psychology and Clinical Language Sciences
University of Reading
Harry Pitt Building
Whiteknights Reading RG6 6AL

Adolescent support sheet

In this study you answered questions about your mood and feelings. Sometimes these things can be upsetting or draw attention to difficulties you may not have noticed before. We are giving this leaflet to everyone who has taken part in our research at your school. It includes information about different types of support that you and/or your friends might find useful.

Support and advice

- **Your School (Pastoral Staff, based in XXX).**
  If you are feeling worried about something, feel upset or just want to talk to someone, visit room at your school, and a member of staff will be able to talk to you. You can also speak to XX, or any member of staff you trust. They will be able to offer you support and advice.

- **Your General Practitioner (GP) (contact details vary)**
  Your GP will be able to offer support and advice on possible treatment options for any mental health difficulties. It can be helpful to take someone with you if you are not used to talking to them.

- **Wiltshire Mind: Email: office@wiltshiremind.co.uk Tel: 01225 706532**
  Wiltshire Mind is based in Melksham and provides support services in Wiltshire for people who are feeling distressed. Wiltshire mind provides a range of friendly, safe places for anyone at risk of/ or experiencing mental health issues.

- **Samaritans: Tel: 08457 90 90 90, Email: Jo@Samaritans.org**
  Samaritans provides confidential emotional support, 24 hours a day for people who are experiencing feelings of distress or despair. They are there to listen if you're worried about something, feel upset or confused, or you just want to talk to someone.

- **Childline: 0800 11 11**
  Free confidential 24hr helpline for young people who are aged up to 19 years old

- **Papyrus: Tel: 0800 068 41 41/ SMS:0776 209 697, Email: pat@papyrus-uk.org**
  Papyrus is a UK national charity dedicated to the promotion of positive mental health and emotional wellbeing in young people.

Websites and online resources

- **Young Minds:**
  Charity committed to improving the mental health of young people. Learn about mental health and hear others' stories www.youngminds.org.uk/

- **Time to change**
  England's biggest programme to challenge mental health stigma and discrimination. To learn about mental health or to get involved in anti-stigma campaigns search: http://www.time-to-change.org.uk/

- **Re think mental illness**
  A charity dedicated to changing lives. For support, to learn more about what mental health is/mental health services and volunteering opportunities.
  http://www.rethink.org/

- **MoodGYM:** https://moodgym.anu.edu.au/welcome
  This is a free, interactive web programme for young people that is designed to prevent and reduce depression

Books

- **Reynolds, S. & Parkinson, M. (2015) Am I depressed? And what can I do about it?**
  The book adopts a narrative approach with graphic elements, incorporating case studies and including some interactive exercises. It provides an essential bridge for young people who have not yet asked for professional help as well as support for those who are waiting for treatment.

- **Reynolds S. & Parkinson, M. (2015) Teenage depression: A CBT guide for parents**
  This accessible companion book to Am I Depressed and What Can I do About it? makes use of the case studies, looking at the issues from the parents' point of view, and incorporates additional strategies for parents. From 'what to look out for', through what the evidence says about different forms of treatment, to family communication and relapse prevention. Each section includes troubleshooting boxes

- **Think Good – Feel Good:** This is a workbook for children and young people. Stallard, P. (2002). Chichester: John Wiley & Sons. (plus additional online resources after purchasing book
  http://www.wileyeurope.com/go/thinkgoodfeelgood)

15.13 Appendix 13: Demographics form. Used for all studies.

Demographics Form

Please complete the form.

Date of Birth:…….

Please circle your gender: Male Female

School Year: ……..

Ethnicity (please tick)

White British	Indian
White Irish	Pakistani
White Other	Bangladeshi
White and Black Caribbean	African
White and Black African	Caribbean
White and Black Asian	Chinese
Any other ethnic group (please state): _____	
I do not wish to state my ethnicity	

Thank you for completing this demographics form

15.14 Appendix 14: Mood and Feeling Questionnaire

Self-report version

MOOD AND FEELINGS QUESTIONNAIRE

This form is about how you might have been feeling or acting recently.

For each question, please check how much you have felt or acted this way *in the past two weeks*.

If a sentence was true about you most of the time, check TRUE.

If it was only sometimes true, check SOMETIMES.

If a sentence was not true about you, check NOT TRUE.

		TRUE	SOME TIMES	NOT TRUE
1.	I felt miserable or unhappy	☐	☐	☐
2.	I didn't enjoy anything at all	☐	☐	☐
3.	I was less hungry than usual	☐	☐	☐
4.	I ate more than usual	☐	☐	☐
5.	I felt so tired I just sat around and did nothing	☐	☐	☐
6.	I was moving and walking more slowly than usual	☐	☐	☐
7.	I was very restless	☐	☐	☐
8.	I felt I was no good anymore	☐	☐	☐
9.	I blamed myself for things that weren't my fault	☐	☐	☐
10.	It was hard for me to make up my mind	☐	☐	☐
11.	I felt grumpy and cross with my parents	☐	☐	☐
12.	I felt like talking less than usual	☐	☐	☐
13.	I was talking more slowly than usual	☐	☐	☐
14.	I cried a lot	☐	☐	☐

Self-report version

	TRUE	SOME TIMES	NOT TRUE
15. I thought there was nothing good for me in the future . . .	☐	☐	☐
16. I thought that life wasn't worth living	☐	☐	☐
17. I thought about death and dying	☐	☐	☐
18. I thought my family would be better off without me	☐	☐	☐
19. I thought about killing myself	☐	☐	☐
20. I didn't want to see my friends	☐	☐	☐
21. I found it hard to think properly or concentrate	☐	☐	☐
22. I thought bad things would happen to me	☐	☐	☐
23. I hated myself	☐	☐	☐
24. I felt I was a bad person	☐	☐	☐
25. I thought I looked ugly	☐	☐	☐
26. I worried about aches and pains	☐	☐	☐
27. I felt lonely	☐	☐	☐
28. I thought nobody really loved me	☐	☐	☐
29. I didn't have any fun at school	☐	☐	☐
30. I thought I could never be as good as other kids	☐	☐	☐
31. I did everything wrong	☐	☐	☐
32. I didn't sleep as well as I usually sleep	☐	☐	☐
33. I slept a lot more than usual	☐	☐	☐

15.15 Appendix 15: The Twenty Statements Test

15.15.1 The Twenty Statements Test for schools one and two

Who Am I? The Twenty Statement Test (TST)

Instructions

Please write down as many ways you can think of, that describe how you think of yourself. Each sentence begins with "I am". Write the statements in order they come to you.

1.	I am…
2.	I am…
3.	I am…
4.	I am…
5.	I am…
6.	I am…
7.	I am…
8.	I am…
9.	I am…
10.	I am…
11.	I am…
12.	I am…
13.	I am…
14.	I am…
15.	I am…
16.	I am…
17.	I am…
18.	I am…
19.	I am…
20.	I am…

15.15.2 The Twenty Statements Test for school three

Who Am I? The Twenty Statement Test (TST)

Instructions

Please write down as many ways you can think of, that describe how you think of yourself. Each sentence begins with "I am". Write the statements in order they come to you.

1.	I am…
2.	I am…
3.	I am…
4.	I am…
5.	I am…
6.	I am…
7.	I am…
8.	I am…
9.	I am…
10.	I am…
11.	I am…
12.	I am…
13.	I am…
14.	I am…
15.	I am…
16.	I am…
17.	I am…
18.	I am…
19.	I am…
20.	I am…

After you have completed as many statements as possible. Please circle THREE statements which are the most important to you, and best define you as a person.

15.16 Appendix 16: Possible Selves Task: A variant of the 'I Will Be' Task.

Future Task

Instructions

We are interested in how you imagine yourself in the future. Please write down as many ways as you can think of, that describes where you see yourself in the future. These statements should not describe yourself now. Each statement begins with "In the *future I will". Write statements in the order they come to you*

1.	In the future I will…
2.	In the future I will…
3.	In the future I will…
4.	In the future I will…
5.	In the future I will…
6.	In the future I will…
7.	In the future I will…
8.	In the future I will…
9.	In the future I will…
10.	In the future I will…
11.	In the future I will…
12.	In the future I will…
13.	In the future I will…
14.	In the future I will…
15.	In the future I will…
16.	In the future I will…
17.	In the future I will…
18.	In the future I will…
19.	In the future I will…
20.	In the future I will…

15.17 Appendix 17: Published version of Paper 1