Doctoral Thesis

Rumination and Avoidance as Mediators of the Relationship Between

Self-Compassion and Depression in Adolescents

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Abstract

Background

This study sought to investigate the mediating effects of rumination and cognitive-behavioural avoidance in the relationship between self-compassion and depression amongst adolescents.

Method

Ninety nonclinical adolescents completed self-report measures of self-compassion, depressive symptomatology, rumination (reflection and brooding subtypes) and cognitive-behavioural avoidance.

Results

Results showed that for the relationship between self-compassion and depression, brooding rumination, reflective rumination and total cognitive-behavioural avoidance emerged as significant mediators. Additionally, brooding rumination and cognitive-behavioural avoidance were collectively found to mediate the relationship between self-compassion and depressive symptoms.

Conclusion

These findings extend previous research from adult samples and suggest that self-compassion buffers against depressive symptoms by reducing unproductive repetitive thinking and avoidant coping in adolescents. This has important implications for promoting resilience amongst adolescents and helping both the prevention and treatment of adolescent depression.

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"The single most remarkable fact of human existence is how hard it is for human

beings to be happy."

(Hayes, Stosahl, & Wilson, 1999, p. 1)

1. Introduction

1.1 General Overview

Childhood and adolescence have a profound effect on our adult lives. Worryingly, psychiatric problems account for a significant proportion of ill health amongst children and adolescents (Davies, 2013) and are a compelling risk factor for mental health problems in adulthood (Copeland et al., 2013). Adolescent depression is a debilitating, often recurrent disorder, continuing into adulthood and has a large impact on a person's life. In a recent government report, entitled 'Future in mind – promoting, protecting and improving our children and young people's mental health and wellbeing' (Department of Health and NHS England, 2015), a five-year plan has been put forward to improve child and adolescent mental health. One of the main themes in this report is 'promoting resilience, prevention and early intervention'.

Considering this theme, it is important to identify which factors are protective and promote resilience against developing mental health problems. Despite adolescent depression being well researched the causes remain unclear, and various biological, social, behavioural and cognitive models have been put forward to offer an explanation. One factor which has been identified as possibly being protective against depression and low mood is self-compassion, which involves holding a kind attitude to oneself when experiencing emotional suffering or hardship (Neff, 2003a). Self-compassion is shown to negatively relate to depression and positively relate to wellbeing in both adult and adolescent samples (e.g. Barnard & Curry, 2011; Bluth & Blanton, 2013; Leary, Tate, Adams, Batts Allen & Hancock, 2007).

In order to further our understanding as to why being self-compassionate is protective, a growing area of research is focusing on the mechanisms through which a lack of self-compassion may lead to depressive symptoms. One emerging theory is

that self-compassion acts as a protective factor by facilitating non-avoiding coping techniques, as self-compassion is negatively associated with rumination; specifically the brooding/ self-focused sub-type, and forms of cognitive and behavioural avoidance (e.g. Allen & Leary, 2010; Neff, 2003a; Neff, Hsieh & Dejitterat, 2005; Neff, Kirkpatrick & Rude, 2007; Neff & Vonk, 2009). Indeed, those who lack self-compassion are more likely to engage in avoidant coping strategies and self-focused rumination, which have been found to impair emotion regulation and intensify depressive symptoms both in adults and adolescents (see Trew, 2011 and Rood, Roelofs, Bogels, Nolen-Hoeksema & Schouten, 2009 for reviews). These observed relationships suggest that brooding rumination and avoidance might mediate the relationship between self-compassion and depression. Research amongst clinical and community adult samples have provided preliminary support for this mediation model (e.g. Kreiger et al., 2013; Raes, 2010), however this has not yet been replicated amongst adolescents.

1.1.1 Aims of the investigation. The aim of this study was to explore the relationships between symptom-focused rumination (defined as brooding), cognitive and behavioural avoidance, self-compassion and depression within an adolescent population. In particular it sought to investigate the possible roles brooding rumination and cognitive and behavioural avoidance may play in the relationship between self-compassion and depression. This study is pertinent as there is limited research in this area. Findings can help to further understand the pathways of depression in adolescents and help inform early interventions.

1.1.2 Structure of the introduction. This chapter provides an overview of literature relevant to the current study. It starts by describing the symptomatology, diagnostic criteria, consequences of and prevalence rates for depression in adolescents.

Additionally, development and coping in adolescence are considered and how they can explain the development of depression in young people.

The protective factor of self-compassion is defined and explored, its relationship to depression discussed, and the therapeutic role of self-compassion considered. Furthermore, a literature review on the role of self-compassion amongst adolescents is described.

Following this the coping strategies of rumination and avoidance are considered and their relationship with depression are explored. A second literature review is described which examines the relationship between self-compassion and rumination and cognitive and behavioural avoidance.

Finally an overall summary of the literature is provided, and the aims and rationale of this study are presented. The chapter concludes with a statement of research questions and hypotheses. Throughout this chapter comparisons are made between the adult and adolescent literature and gender differences are also explored.

1.2 Depression

1.2.1 Depression in the wider context. Depression is a common mental disorder that can be recurrent or long lasting and can substantially impair an individual's ability to function at work or school or cope with daily life (World Health Organisation; WHO, 2012). It is debilitating and accounts for greater mortality, morbidity and economic costs than any other psychological disorder (Murray & Lopez, 1996). By 2030 clinical depression is forecasted to be the most globally disabling medical illness in the world (WHO, 2012). One explanation for the high mortality, morbidity and economic costs of depression is that the disorder is under-

recognised and undertreated in adults and even more so in adolescents (Saluja et al., 2004).

      1.2.2 Diagnostic criteria. According to the American Psychiatric Association (2013), Major Depressive Disorder (MDD) is diagnosed if an individual has depressed mood or a loss of interest or pleasure in daily activities for more than two weeks, whilst simultaneously showing signs of impaired social, occupational or educational functioning. Additionally, at least five of the following nine symptoms need to be present nearly every day: depressed mood or irritability; decreased interest or pleasure in activities; significant weight change (+/- 5%) or appetite disturbance; sleep disturbance; psychomotor retardation or agitation; fatigue or loss of energy; guilt or worthlessness; poor concentration and suicidality.

      1.2.3 Clinical presentation amongst children and adolescents. Overall the clinical presentation of MDD in adolescents is similar to that in adults. However there are some distinctions explained by the different physical, emotional, cognitive, and social developmental stages of children and adolescents compared to adults (e.g. Birmaher et al., 1996; Fergusson, Horwood, Ridder & Beautrais, 2005; Klein, Dougherty & Olino, 2005). These differing symptoms include mood lability; irritability; somatic symptoms; social withdrawal; school refusal or defiance and difficulty verbalising emotions (National Institute of Mental Health, 2015).

      1.2.3.1 Prevalence. Depressive symptoms have been shown to be common during adolescence. The prevalence of major depression is estimated as approximately 2% in children and 4% to 8% in adolescents (Birmaher et al., 1996). Onset rates have been shown to significantly increase from childhood to adolescence and continue to rise steeply during adolescence, with the onset highest between 15 and 18-19 years (e.g. Birmaher et al., 1996; Feehan, McGee & Williams, 1993;

Feehan, McGee, Raja & Williams, 1994; Hankin et al., 1998; Merikangas et al., 2010).

Rather alarmingly, in terms of cohort effects, it is suggested that every successive

generation is at a higher risk of developing depression in addition to the onset of this

being at a younger age (Birmaher et al., 1996).

Strikingly, between a fifth and one quarter of people have suffered from a

depressive disorder by the age of 19 (Lewinsohn, Rohde & Seeley, 1998). This

research suggests that middle adolescence may represent a pivotal time for an

increased vulnerability to the development of depressive symptoms and depression.

1.2.3.2 Comorbidity. Depressive disorders are often comorbid with other

disorders, in particular anxiety and eating disorders (for a review see Angold, Costello,

& Erkanli, 1999), with 40% to 90% of young people with depression having one or

more comorbid psychiatric disorders. Depression is commonly shown to manifest

itself after the onset of anxiety, however depression also increases the risk of

developing anxiety disorders and other psychiatric problems such as substance use

disorders and conduct disorders (Angold et al., 1999; Birmaher et al., 1996;

Lewinsohn et al., 1998, Lewinsohn, Pettit, Joiner & Seeley, 2003).

1.2.3.3 Clinical course. Depression can be recurrent and some children and

adolescents who have suffered from depression continue to do so throughout their life.

Longitudinal studies have shown the probability of the disorder recurring for

adolescents in their adult life is between 60% and 70% (Birmaher, Arbelaez & Brent,

2002; Costello et al., 2002). Dunn and Goodyer (2006) researched the long-term

psychiatric outcome of school-aged depression amongst a clinical sample, community

sample and non-depressed controls. They found recurrence of affective disorder to be

similar amongst clinical (57%) and community (56%) samples, whilst occurrence

amongst controls was much lower (14%). Interestingly, being female was predictive

of earlier occurrence or recurrence.

1.2.3.4 Gender differences. Hankin and colleagues (1998) identified a gender

difference in the increase in rates of depression across the 15 to 18 year age range,

with females shown to have a greater increase than males (females: from 4% to 23%,

males: from 1% to 11%). Additionally, prospective longitudinal studies investigating

children from pre-adolescence into young adulthood found that depressive symptoms

amongst females increase after the age of 13 whereas for males these remained

constant (Cole, Martin, Peeke, Seroczynski, & Fier, 1999; Ge, Lorenz, Conger, Elder,

& Simons, 1994; Peterson, Sarigiani, & Kennedy, 1991). This was also shown to be

the case cross-culturally (Wichstrom, 1999). Considering this, Bluth and Blanton

(2014) found no significant gender differences in depression amongst young

adolescents (11 – 14 years), whereas older female adolescents (14 – 18 years) were

shown to have higher levels of depression compared to their male counterparts. Cross-

sectional and prospective studies indicate that more females than males are diagnosed

with clinical depression after the age of 13 (Angold, Costello, & Worthman, 1998;

Hankin et al., 1998; Lewinsohn, Hoberman, Teri, & Hautzinger, 1985; Lewinsohn,

Hops, Roberts, Selley, & Andrews, 1993; Silberg et al., 1999, Weissman, Warner,

Wickramarante, Moreau, & Olfson, 1997). This gender difference in depression is

shown to persist throughout adulthood (Nolen-Hoeksema, 1990; Piccinelli &

Wilkinson, 2000). It is not known which factors influence these gender differences

but they are thought not to be simply a result of reporting biases (see Nolen-

Hoeksema, 1990).

1.2.3.5 Consequences. Research shows depression and depressive symptoms

have a major impact on adolescent functioning and are related to poor academic

performance; social problems; substance abuse; criminal behaviour; suicidal

behaviour; physical health problems; early pregnancy; increased exposure to negative

life events and poor psychosocial adjustment in later life (e.g. Birmaher et al., 1996;

Goodyer, Herbert & Tamplin, 2000; Merry et al., 2012). Additionally, if depression is

not treated it can interfere with emotional, cognitive and social development

(Birmaher et al., 2002; Lewinsohn, Rohde, Seeley, Klein & Gotlib, 2003b).

The prevention of depression is an area of increasing interest, with effective

community approaches focusing on strengthening protective factors and reducing risk

factors for the development of the disorder. As evidenced above, depression is known

to be prevalent during childhood and adolescence. Therefore, it is important to

implement prevention programmes early on in age. School-based programmes

targeting children and adolescent's problem solving and cognitive skills are one such

example. It is therefore clinically useful to investigate these protective and risk factors,

particularly amongst the adolescent period, in order to develop our understanding of

the disorder and inform and improve prevention and treatment programmes.

1.3 Development, Stress and Coping in Adolescence

   1.3.1 Adolescent development. Adolescence involves the phase of

development in which an individual transitions from childhood to adulthood. The start

and end points of adolescence are hard to define, with numerous physical,

physiological, cognitive and emotional transitions taking place. The brain is required

to navigate complex processes such as; identity development, asserting independence,

conflict with parental figures, managing social interactions, forming friendships and

romantic relationships, puberty and sexual maturation, managing academic demands

and changing socio-environmental contexts (Spear, 2000). During this phase many

neural, hormonal and physical changes occur. Developmental transformations in the brain include an increase in white matter (involved with neuronal communication), along with changes in the limbic system (specifically the amygdala), the development of the fronto-parietal systems and the superior temporal sulcus (Paus, 2005). The links between the prefrontal cortex and the limbic system are some of the last to develop in adolescence and are key to emotional learning and regulation, therefore making it difficult for adolescents to self-regulate (Casey, Jones & Hare, 2008). Brain development is also influenced by hormonal changes, including adrenal stress hormones, sex hormones and growth hormones (Sisk & Foster, 2004).

Due to an increase in brain matter, thinking skills improve within this stage of development. For example, abstract reasoning and social reasoning skills are developing, however the latter are more complex with a later onset (Keating & Clark, 1980). Interestingly, areas of brain maturation have been linked with the increasing cognitive and emotion related demands that adolescents encounter, for example within peer interactions and in processing verbal and non-verbal cues (Paus, 2005). Although research in the brain mapping of social cognition is in its infancy, existing research, as discussed in Paus' (2005) review, suggests adolescents are less able than adults to reliably interpret social cues (e.g. facial expressions) and emotions, due to associated areas in the brain not being fully developed (e.g. the superior temporal sulcus). As social reasoning develops, adolescents become more concerned by peer approval and may experience social anxiety or ruminate about how others perceive them (Dahl, 2004).

Adolescents can also have poor judgment, being shown to engage in more impulsive, emotion driven behaviours, having little consideration for the consequences of these (Dahl, 2004). Indeed pubertal maturation has been linked with

an increased inclination to engage in thrill seeking behaviours (Martin et al., 2002). Reasoning for this is that, in comparison to adults, adolescents are less likely to self-regulate and are shown to receive less appetitive value from day-to-day stimuli and as a result need to seek out stimuli that offer stronger positive reinforcement (Spear, 2000; Steinberg, 2006). Additionally, the pre-frontal cortex is more immature than the incentive driven limbic system. Consequently, the bottom-up connections from the limbic system to the pre-frontal cortex are stronger than the bottom-down connections. Therefore, where there is strong emotional reward from taking a risk, the limbic system is activated and can drive behaviour, with the pre-frontal cortex having limited control over one's emotional impulses (Casey et al., 2008). This is explained as being biologically driven rather than cognitively driven (Steinberg, 2006).

How do these ontogenetic changes in brain function relate to depression in adolescence? Research has shown that such developmental changes have been shown to correlate with emotional and behavioural changes (Graber, Brooks-Gunn & Petersen, 1996). Additionally, developmental changes in the limbic (specifically the hippocampus and amygdala) and striatal regions have been associated with the onset of depression (Whittle et al., 2014). If we pause to consider the function of these changes, this can help shed light on vulnerability to depression. Indeed, it is hypothesised that features typical of adolescence, for example pursuing social interactions and engaging in risk taking behaviours, serve an adaptive function in developing independence away from the family unit, as is needed in adulthood (e.g. Spear, 2000). However, this can also cause problems. For example, resisting social pressure has been shown to be difficult for adolescents, with adolescents taking more risks when in the presence of their peers. This is suggested to be due to adolescents having heightened sensitivity to the potential reward of risk taking (Chein, Albert,

O'Brien, Uckert & Steinberg, 2011). Additionally, this may also be explained by the importance of social acceptance during adolescence and the impact this has upon a person's self-concept. Indeed, adolescents are shown to have increased sensitivity to approval and feedback from their peers, particularly negative feedback (Thomaes et al., 2010). This may be antagonised due to adolescents being emotionally driven and more likely to misinterpret social cues.

Although biological and cognitive development have an impact upon one's emotions and behaviour, not all adolescents develop depression. It is important to consider how each person's developmental trajectory is individual and impacted differently by various influences, for example social and environmental factors.

1.3.2 Stress in adolescence. As discussed, adolescence is a transitional period of physical, social, emotional and cognitive change, involving many challenges that are important for successful growth and maturation (Susman & Dorn, 2009). Indeed, adolescence is one of the most stressful periods of life to navigate through, with a variety of shared or idiosyncratic stressors likely to occur (e.g. changing school; bullying; academic demands; parental divorce; interpersonal difficulties). Sometimes these can be overwhelming and cause a great deal of stress for an individual. Research suggests that these stressors increase between pre-adolescence and adolescence (Rudolph, 2002), and such a rise in stressors may likely explain the increase in the prevalence of depression between childhood, early and late adolescence. It is likely that the onset of depression may be mediated by the presence of these stressors, however the effects of these events depend on the individual's capacity to cope and their cognitive, behavioural, social and biological vulnerabilities (Birmaher & Brent, 2007; Byrne, Davenport & Mazanov, 2007; for a comprehensive overview, see Weis, 2013).

One such example of a stressor is receiving negative feedback from others. As discussed, adolescence is an important stage in which an individual develops their identity away from the family unit, becoming more reliant on friendships and their peer group, and increasingly sensitive to peer feedback. Within today's society a great deal of communication happens via the medium of social media (Madden et al., 2013). Adolescents have been shown to use the Internet as a way of forming and maintaining friendships (Borca, Bina, Keller, Gilbert & Begotti, 2015). However, due to a limited ability in regulating emotions, being susceptible to pressure from peers and an increased tendency to engage in risky behaviours, this form of communication can be unhelpful. For example, social media and Internet use offers a platform for adolescents to receive feedback from their peers, with negative responses being shown to reduce self-esteem and vice-versa (Thomaes et al., 2010). Research has shown that precursors to receiving negative feedback via the Internet include online social exploration and risky online behaviour (Koutamanis, Vossen & Valkenburg, 2015). Worryingly, negative online communication can be more severe than face-to-face contact, for example due to users being disinhibited (Suler, 2004). Internet use can also be anonymous, encouraging bullying. This negative feedback can have at least the same psychosocial impact as offline interactions, being linked with depression, anxiety and suicidality (Hinduja & Patchin, 2010; Tokunaga, 2010).

1.3.3 Coping in adolescence. Although many adolescents experience stress, not all develop depression. It is thought that the way an individual copes with the stressful experience influences the development of depression (Compas, Ey & Grant, 1993; Murberg & Bru, 2005).

Coping involves the conscious effort to minimise or tolerate stress that arises as a result of our experiences. It is defined as "constantly changing cognitive and

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behavioural efforts to manage specific external and/or internal demands that are

appraised as taxing or exceeding the resources of the person" (Lazarus & Folkman,

1984, p. 141). Lazarus and Folkman proposed the transactional model of stress and

coping, suggesting that stress occurs from the transaction between a person and their

environment. According to their model, stress is dependent upon the appraisal of the

significance of the stressor and the ability to cope with the stressor, in addition to

coping responses. Within the model, coping is conceptualised as either problem-

focused or emotion-focused (Lazarus & Folkman, 1984; Weiten & Lloyd, 2008).

Problem-focused coping involves dealing with the actual stressor, such as using

adaptive problem-solving skills. On the other hand, emotion-focused coping describes

thoughts and actions that are designed to reduce and minimise the emotions

associated with the stressor, for example embarrassment, anxiety and depression.

Some strategies of emotion-focused coping, for example avoidance, have been

shown to provide relief in the short term, whereas problem-focused coping is

associated with more stable and long term beneficial outcomes (Ben-Zur, 2009).

Indeed, amongst adolescents emotion-focused coping has been shown to be associated

with emotional and behavioural problems, whilst problem-focused coping is shown to

be more adaptive (Compas, Malcarne & Fondacaro, 1988). Additionally such coping

styles have been suggested to help explain the gender difference in depression, with

females engaging in more emotion-focused coping and males more problem-focused

coping (Billing & Moos, 1981).

In the wake of 'third-wave' psychological thinking more emphasis has been

placed upon adaptive emotion-focused coping, involving effective strategies that help

someone to cope with negative emotions, whilst still satisfying a person's basic needs

and achievement of their desired personal goals (e.g. Bridges, Denham & Ganiban,

2004). Indeed the ability to recognise, explore and understand our emotions has been linked with positive psychological functioning (Gross, 1998). Self-compassion (Neff, 2003a) has been discussed as one such strategy, being a protective factor against developing depression due to buffering against the impact of negative life events and helping people to cope with negative emotions. This is discussed in more detail below.

1.4 Self-Compassion

Self-compassion is a relatively new and growing concept in psychological research and is derived from Buddhist thought. Within Buddhism, compassion involves individuals being more understanding and nurturing towards themselves and others when experiencing challenging emotions. There are various psychological perspectives focusing on the concept of compassion, including evolutionary and social psychological approaches.

1.4.1 Self-compassion – an evolutionary perspective. Gilbert (2005) defined self-compassion as the ability to be kind towards the self during times of difficulty. Gilbert's theory of compassion borrows from Buddhist thought, and is derived from evolutionary, neurobiological and social psychological approaches. Gilbert (2009) proposes that there are three systems involved in emotion regulation; a system that detects and responds to threat (the threat and self-protection system), a system that motivates us to succeed and prosper (the incentive/ excitement system), and a soothing system which helps restore balance and feelings of calmness, safety and contentment (the soothing/ calming system). These three systems regulate one another and the more balanced these systems are the more improved wellbeing is.

The soothing/calming system is important to compassion. Gilbert (2005) drew on attachment theory (Ainsworth & Bowlby, 1991) to suggest that the more secure an

attachment relationship an individual had with their caregiver when an infant, the

more developed their soothing/calming system is. If the infant's distress is repeatedly

contained, calmed and soothed by their caregiver, the individual develops a healthy

tolerance for distress and internalises this affectionate and caring behaviour, helping

motivate them to care for themselves and others throughout their lives (Gilbert, 2005;

2009). However, an individual who experiences dismissive, unresponsive, critical,

unpredictable or cold care in their childhood is likely to develop an insecure

attachment. Therefore, in contrast to individuals with a secure attachment, they will

be more likely to internalise critical, negative and cold caring behaviours, and to be

less tolerant and compassionate towards themselves when experiencing distress. In

support of this, Neff and McGehee (2010) found secure attachment in young adults to

predict higher levels of self-compassion.

Gilbert (2005, 2010) suggests that being self-compassionate promotes

wellbeing due to deactivating the threat system and activating the soothing system,

resulting in the self-soothing of negative affect. This self-soothing is thought to

engender feelings of care, connection to others and emotional calm and is seen as an

important component in emotion regulation (Gilbert, 2005).

1.4.2 Self-compassion – a social psychological perspective. Neff (2003a;

2003b) is a pioneer in the research on self-compassion from a Western perspective,

deriving her model from Theravada Buddhism. She defines self-compassion as a

healthy way of relating to oneself (2003b). One of her key contributions has been the

development of the *Self-Compassion Scale* (SCS; Neff, 2003a), and the majority of

research on the construct have utilised this comprehensive measure. Neff

conceptualises self-compassion as "compassion turned inward" (Neff, 2012, p. 79).

This involves experiencing a non-judgmental attitude and feelings of kindness

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towards oneself, understanding suffering as part of common humanity, and being

aware of one's emotions in a balanced way without over-identifying with these (Neff

2003a; 2003b).

Neff (2003a) postulated that self-compassion is made up of the following three

bipolar components; *self-kindness versus self-judgement; common humanity versus*

isolation; and *mindfulness versus over-identification*. Self-kindness is characterised as

taking a non-judgmental stance and being caring rather than critical and judgmental

towards ourselves. Common humanity involves awareness that suffering and feelings

of inadequacy are part of a shared human experience, rather than being alone in this.

Lastly, mindfulness involves focusing our emotions, thoughts and attention on the

present moment in a decentered manner, as opposed to becoming consumed by

negative thoughts and feelings.

1.4.3 Self-compassion versus self-esteem. It is important to note that the

process by which self-compassion is suggested to be adaptive is different to that of

self-esteem (Leary et al., 2007). Although self-compassion and self-esteem have been

shown to positively correlate amongst adolescents (e.g. Barry, Loflin & Doucette,

2015), the two concepts are statistically distinguishable (Marshall et al., 2015; Neff,

2003a; 2011). Self-esteem involves holding positive beliefs about oneself and

evaluating the self highly in comparison to others (MacDonald, Saltzman & Leary,

2003); whereas self-compassion involves being kind and understanding to oneself in

the face of suffering (Neff, 2003a). Self-esteem has been shown to be more labile and

reactive than self-compassion, due to its reliance on self-other comparison and

experiences of success; whereas self-compassion is more stable and resilient as it is

not dependent on positive outcomes (Neff & Vonk, 2009). Self-compassion, in

comparison to self-esteem, has been shown to be associated with less negative

emotional reactions in response to a negative life event (Leary et al., 2007).

Additionally, a lack of self-compassion has been shown to be more predictive of

depression than a lack of self-esteem (Leary et al., 2007), with Neff (2003a) finding

self -compassion to be predictive of depression when self-esteem was controlled for.

Adolescence can be a highly stressful period and self-compassion is likely to

be more protective than self-esteem. This is due to self-esteem being dependent upon

positive experiences, whereas self-compassion offers an effective way of coping in

the face of aversive situations and experiences. Support for this comes from Marshall

and colleagues' (2015) research of self-compassion and self-esteem amongst a large

sample of adolescents. The researchers found that being self-compassionate reduced

the effects of low self-esteem on poor mental health and subsequently recommended

self-compassion training to help protect against situations that produce self-doubt.

1.4.4 Research on the relationship of self-compassion to depression. The

differences in conceptualisation between Neff (2003a, 2003b) and Gilbert's (2009)

models suggest subtle differences in the measurement of self-compassion. However,

both these models share similar ideas and predict compassion is associated with

improved wellbeing.

Over the last decade research on self-compassion has substantially grown and

has focused on how the construct is related to psychological functioning. Gilbert,

Clarke, Hempel, Miles and Irons (2004), and Gilbert, Baldwin, Irons, Baccus &

Palmer (2006) investigated the relationship between self-compassion, self-criticism

and depression through use of *The Forms of the Self-Criticising/ Attacking and Self-*

Reassurance Scale. The Self-Reassurance Scale was used to measure self-compassion,

and self-reassurance was shown to be significantly negatively associated with

depression and self-criticism (Gilbert et al., 2004, 2006). Despite self-reassurance

being theorised to reflect qualities of self-compassion such as caring and warmth

towards the self (Gilbert et al., 2004), it does not directly link with the three facets of

compassion from Neff's conceptualisation (2003a, 2003b). However, these findings

do provide initial support for the positive qualities of self-compassion.

In support of Gilbert and colleagues findings (2004, 2006), empirical research

using the *Self-Compassion Scale* (SCS; Neff, 2003b) indicates self-compassion to be

positively related to adaptive psychological functioning, and negatively related to

depression (e.g., Barnard & Curry, 2011; Ehret, Joorman & Berking, 2014; Leary et

al., 2007; Mills, Gilbert, Bellew, McEwan & Gale, 2007; Neff, 2003a, 2003b, 2012;

Neff & McGehee, 2010; Neff, Kirkpatrick & Rude, 2007; Neff, Rude & Kirkpatrick,

2007). This finding has been replicated in cross-cultural samples, including Thai and

Taiwanese samples (e.g. Neff, Pisitsungkagarn & Hsieh, 2008). Furthermore,

MacBeth and Gumley (2012) conducted a meta-analysis exploring the relationship

between self-compassion and psychopathology (depression, anxiety and psychosis),

and found a large effect size for this relationship ($r = -0.54$, $p < 0.01$).

Only Mills and colleagues (2007) and Ying (2010) have looked at the relation

between depression and the subscales of self-compassion. They found that self-

judgment, isolation and over-identification had a positive association with depression,

whereas self-kindness, mindfulness and common humanity were negatively

associated with depression, providing support for Neff's model (2003a, 2003b).

However the strength of these relationships was stronger for the negative components

of self-compassion, suggesting that depression is enhanced by increased self-

judgment, isolation and over-identification.

The strengths of these studies include the use of psychometric assessments

with good reliability and validity, and that the findings are consistent with one another.

However, these studies used self-report questionnaire measures, and therefore are susceptible to the social desirability bias. An additional limitation is that the results of these studies can be considered only as preliminary. For example, the majority of the samples were only moderately sized and consequently may not be large enough to assume the same patterns would be found or generalised to the wider population. Furthermore these studies utilised non-clinical samples, therefore the associations between self-compassion and depression may not be representative of individuals with clinical depression. Lastly, the majority of these studies utilised correlational, cross-sectional designs and thus the findings do not show conclusive evidence of the causality of the relationships observed.

 1.4.4.1 Prospective studies. Only one prospective study has been conducted to date. Within this study Raes (2011) provided evidence in support of self-compassion reducing depressive symptoms. The research involved 347 psychology undergraduate students completing self-report assessments of self-compassion and depression at two intervals across a five-month period. Findings showed that greater self-compassion at baseline, as compared to low levels of self-compassion, were predictive of greater reduction and/or smaller increases in depressive symptoms between time-points 1 and 2.

 1.4.4.2 Clinical studies. Due to the research linking self-compassion to psychological wellbeing, psychologists have become increasingly interested in therapies enhancing self-compassion. Programmes specifically increasing self-compassion include *Compassion-Focused Therapy* (CFT; Gilbert, 2009); the *Gestalt two-chair technique* (Greenberg, 1983, 1992); *Loving-Kindness Meditation* (LKM) and *Mindful Self-Compassion* (MSC; Neff & Germer, 2013).

CFT (Gilbert, 2009) was the first therapy specifically designed to improve self-compassionate behaviours and cognitive habits. In a pilot study of group-based CFT, Gilbert and Proctor (2006) gave six patients with severe and long-term complex mental health difficulties Compassionate Mind Training over 12 group sessions. At the end of the study, self-compassion was shown to have significantly increased, whereas self-criticism and depression had significantly reduced. Additionally, the Gestalt two-chair technique (Greenberg, 1983; 1992), a method used within CFT, was shown to produce increases in self-compassion and wellbeing, and reduce depression over a one-month period (Neff, Kirkpatrick & Rude, 2007).

Recently, Neff and Germer (2013) developed MSC, in which participants are provided with tools to improve self-compassion. Results from an RCT show MSC to be more effective at improving self-compassion than mindfulness interventions such as *Mindfulness-Based Stress Reduction* (MBSR; Shapiro, Astin, Bishop, & Cordova, 2005; Shapiro, Brown, & Biegel, 2007) and *Mindfulness-Based Cognitive Therapy* (MCT; Kuyken et al., 2010; Rimes & Wingrove, 2011). Furthermore, MSC was shown to significantly increase life satisfaction and reduce depression, anxiety, stress and avoidance. Similar findings have been shown for the effects of LKM, with increases in self-compassion shown to mediate reductions in depressive and PTSD symptomatology (Kearney et al., 2013).

Self-compassionate writing has also been proven to be an effective therapeutic approach, being shown to reduce shame proneness and improve positive affect more so than expressive writing or distraction in nonclinical samples (Johnson & O'Brien, 2013; Odou & Brinker, 2014a; 2014b). Additionally, Odou and Brinker (2014a; 2014b) showed trait self-compassion to significantly predict improvements in mood, with higher levels of self-compassion at baseline predicting increased positive affect

following a self-compassionate writing task. Furthermore, amongst a clinically depressed sample, Diedrich, Grant, Hofmann, Hiller and Berking (2014) induced depressive mood and found those who employed self-compassion were more able to regulate their mood, experiencing significantly less depressed mood as compared to controls.

Research about promoting self-compassion in adolescents is sparse. However MBSR has been shown to be effective for use with adolescents within schools (Edwards, Adams, Waldo, Hadfield & Biegel, 2014). Edwards and colleagues found a sample of Latino middle school students, following participation in the programme, to report a significant increase in levels of mindfulness and self-compassion, and a significant decrease in stress and depressive symptomatology.

Despite the research highlighting a clear relationship between the increase in self-compassion and decrease in depression, some slightly inconsistent findings have been shown. Smeets, Neff, Alberts and Peters (2014) evaluated the effectiveness of a three-week self-compassion programme, and although they found levels of self-compassion to significantly increase, depression was not shown to decrease. Explaining these discrepant findings, the authors speculate that this may reflect the brief intervention, and that a longer-term intervention may be needed in order to reduce mood.

These findings from prospective and clinical studies support the concept of self-compassion serving as a protective factor for depression, with self-compassion reducing depressive symptoms. Self-compassion has been conceptualised to improve mood due to providing an effective way of accepting and processing negative emotions, in turn leading to an increase in positive affect. Indeed self-compassion acts both on positive and negative affect, whereas other coping strategies, such as

distraction, only act on negative affect (e.g. Odou & Brinker 2014b) and are therefore

less effective. However, there is still paucity in the research as the majority of this

focuses on adult samples and not adolescent samples.

1.4.5 Self-compassion in adolescents.

1.4.5.1 Literature search strategy. For the purpose of this research a literature

review was conducted focusing on the role of self-compassion within adolescent

samples. Computerised databases, Web of Science, PsychINFO and MEDLINE, were

searched to identify relevant studies. A two-component search strategy was used, with

the following key terms; Component 1: ('self compassion' and 'self-compassion',

please note compassion was not used due to generating very large numbers of

articles); and Component 2 ('adolescence', 'adolescent, 'child', 'youth'). Truncation

(*) was used to ensure different variants of words were obtained and no date

restriction was imposed. Google Scholar was used to search for in-press studies

involving these components that were not yet indexed on databases. Additionally,

further studies were obtained from manually searching the reference list in key papers.

All searches were combined, any duplicates were removed and abstracts were

assessed for suitability. Studies were eligible if they included a standardised or

validated measure of self-compassion. Studies were excluded if they were not

published in English, or in a peer-reviewed journal, e.g. theses, dissertations, book

chapters, conference abstracts or study protocols. Nine papers met inclusion and are

reviewed below.

1.4.5.2 Literature search findings. Self-compassion has only recently

received consideration in an adolescent population. Neff and McGeehee (2010)

carried out the initial study within this population and found that self-compassion was

negatively related to depression and anxiety in adolescents ($N = 235$, $M_{age} = 15.2$,

range 14 – 17 years, $r = -.60$) and young adults ($N = 287, M_{age} = 21.1$, range 19 – 24

years, $r = -.51$), and was strongly associated with wellbeing. No significant

differences were found between the young adult and adolescent samples and it was

suggested this was due to young adults going through emerging adulthood, a

developmental phase suggested by Arnett (2000) in which people (aged 18 – 25

years) neither consider themselves adolescents or adults and are still maturing and

forming their identity.

Further studies provide support for a positive relationship between self-

compassion and wellbeing in adolescents. For example, amongst a sample of 406

children aged 8 to 12 years, Sutton (2014) found self-compassion (as measured by a

SCS constructed for children) was negatively correlated with depression ($r = -.50$),

anxiety, and negative affect; whilst positively correlated with positive affect,

satisfaction with life and optimism. Additionally, Bluth and Blanton (2013) found

self-compassion and negative affect to be highly negatively correlated ($r = -.64$) in a

sample of 65 adolescents (aged 14 – 18 years). Furthermore, Bluth and Blanton

(2014) found in a sample of 90 adolescents aged 11 to 18 years that self-compassion

was positively related to emotional wellbeing and negatively correlated with negative

affect ($r = -.60$). The research showed that the phase of adolescence moderated the

relationship between self-compassion and wellbeing, with the relationship between

self-compassion and negative affect becoming stronger in older adolescents as

compared to younger adolescents.

Barry and colleagues (2014) found self-compassion to be negatively

associated with narcissism, aggression, anxiety and depression, and positively related

to self-esteem amongst a sample of male adolescents attending a residential

programme ($N = 251$, range 16 – 18 years). Interestingly, the over-identification and

isolation subscales of the SCS were identified as being most relevant in explaining the

relationship between self-compassion and depression.

Mosewich, Kowalski, Sabiston, Sedgwick and Tracy (2011) have also shown

self-compassion to be adaptive, following their research focusing on self-compassion

and self-esteem as a resource for adolescent female athletes. Findings from 151

females (M_{age} = 15.1 years, SD = 1.2 years) demonstrated that self-compassion, over

and above self-esteem, was more likely to reduce all of the following: shame

proneness; guilt-free shame proneness; fear of failure; body consciousness; shame-

free guilt and fear of negative evaluation.

One longitudinal study has looked at the relationship between self-compassion

and child maltreatment earlier on in life in a group of adolescents. Tanaka, Wekerle,

Schmuck and Paglia-Boak (2011) investigated this relationship amongst a child-

welfare sample of 117 youths aged 16 to 20 years (M_{age} 18.1), who had taken part in

the Maltreatment and Adolescent Pathways longitudinal study two years previously

(Goldstein et al., 2011; Stewart, McGonnell, Wekerle & Adlaf, 2011; Wekerle, Leung,

Goldstein, Thornton & Tonmyr, 2009; Wekerle, Leung, Wall et al., 2009). The study

involved two data points; initial testing of child maltreatment and a two-year follow

up measuring for self-compassion; depression; general health; alcohol use; substance

use and suicidality. Child maltreatment factors including emotional abuse, physical

abuse and emotional neglect were all negatively associated with self-compassion

scores, and emotional abuse (when controlling for age and gender) was uniquely

linked with lower levels of self-compassion. Additionally they found that levels of

self-compassion were significantly negatively correlated with depressive

symptomatology (r = -.37). The research suggests that those experiencing more

emotional abuse in childhood are less likely to be self-compassionate later in

adolescence, providing support for Gilbert's attachment-based model of compassion (2005; 2009). Additionally the findings highlighted that, in comparison to adolescents with high self-compassion scores, those with low self-compassion were more likely to have anxiety or depression in addition to increased psychological distress, alcohol use and serious suicide attempts.

Vettese, Dyer, Li, and Wekerle (2011) examined similar variables in a sample of 81 adolescents and young adults (M_{age} = 19.49, range 16 – 24 years) seeking treatment for substance use. The researchers found that self-compassion was negatively related to emotion dysregulation (r = -0.69) and childhood maltreatment, and mediated the relationship between childhood maltreatment history and emotion regulation difficulties. Additionally, self-compassion predicted emotion regulation difficulties more than history of maltreatment during childhood, substance use and current severity of psychological distress.

Bluth and Blanton (2013) and Játiva and Cerezo (2014) also provide support for the mediating role of self-compassion in the relationship between negative early life experiences (such as victimisation and maltreatment) and psychological maladjustment in later life. Additionally, Játiva and Cerezo found participants (N = 152, range 15 – 18 years) with lower levels of self-compassion were significantly more likely to experience psychological maladjustment and to have greater internalising (e.g. depression) or externalising problems (e.g. rule breaking or attention seeking behaviour) as compared to their peers who were more self-compassionate.

From the research presented above it would appear that self-compassion is negatively related to psychopathology and emotion dysregulation in adolescent samples. Interestingly, self-compassion has also been shown to mediate the

relationship between negative early life experiences and psychological maladjustment

(Bluth & Blanton, 2013; Játiva & Cerezo, 2014; Vettese, et al., 2011). These findings

are therefore indicative of a relationship between self-compassion, emotion

dysregulation and psychological maladjustment.

When interpreting the meaning of these combined findings it is important to

consider the limitations of the research. For example, the majority of the samples

researched were only moderately sized and therefore may not be large enough to

assume the same patterns would be found or generalised to the wider population. A

second limitation is that they all utilised correlational, cross-sectional designs and

therefore the findings do not speak to the issue of causality in the relationships

observed. Lastly, these studies used self-report questionnaire measures and therefore

are susceptible to the social desirability bias. However, despite the outlined

limitations, the findings from the research all align and demonstrate that self-

compassion would appear to play a significant role in predicting mental health and

wellbeing among adolescents and young adults.

1.4.6 Gender differences in self-compassion. As with depression, there has

also been shown to be a gender difference in self-compassion amongst adults, with

females being less self-compassionate than males (e.g. Neff, 2003a; Neff & Vonk,

2009). Amongst adolescent samples there is contradictory evidence regarding the

gender difference in self-compassion. For example Neff and McGehee (2010) found

no gender difference, whereas in Tanaka and colleagues' (2011) study, self-

compassion scores were shown to be higher amongst males. Additionally, their

findings showed older female adolescents to be significantly less self-compassionate

both than males of the same age and also younger adolescents of both genders.

Furthermore, Bluth and Blanton (2014) found older female adolescents (range 14 – 18

years) to have lower levels of self-compassion as compared to their male counterparts, although no gender difference was observed amongst younger adolescents (range 11 – 14 years). This fits with the trajectory of the gender difference in depression in adolescence.

1.5 The Mechanism of the Relationship Between Self-Compassion and Depression

Self-compassion has been shown to be an adaptive coping strategy, buffering against the impact of negative events and reducing symptoms of depression. However, so far there is limited evidence on the pathways through which this happens.

Neff (2003b) conceptualised self-compassion as being positively related with effective psychological functioning due to holding clear and accurate self-appraisals, therefore being able to accept one's limitations and self-regulate in the face of failure. Additionally, compassion can alleviate negative states associated with suffering, allowing more careful processing of the negative information being received (Aspinwall, 1998). On the basis of this, Neff (2003b) predicted self-compassion to help with self-regulation, for example with reducing risk taking. Furthermore, Neff postulated that accurate self-appraisals should help individuals to identify how their own actions may maintain or exacerbate a stressful situation, therefore allowing them to act in a ''problem-focused'' way. In support of this Allen and Leary (2010) conclude that self-compassion is a protective factor, buffering against negative and stressful life events due to promoting non-avoiding coping techniques such as seeking support, positive cognitive reframing and problem solving. Consistent with this, self-compassion has been shown to draw upon helpful internal and external coping strategies such as emotional-regulation and appropriate meaning making, which are

considered important to appropriately navigate threatening or stressful situations

(Masten & Wright, 2009).

It is interesting to consider how self-compassion relates to specific common

stressors experienced by adolescents. For example, as discussed in section 1.3.2,

Internet and social media use are rife amongst this age group, and can have a negative

impact upon psychological well-being (Hinduja & Patchin, 2010; Tokunaga, 2010).

At present, there is no research to the author's knowledge investigating the

relationship between self-compassion and Internet or social media use. However,

considering the protective mechanism of self-compassion and applying this to

adolescents, it may be that those with greater levels of self-compassion would be

more problem-focused, being less inclined to engage in risky behaviour (for example

online risky behaviour) and would be more able to remove themselves from a stressor

(for example removing themselves from social media in the face of bullying). This

form of coping may reduce the negative impact social networking can have upon

psychological functioning. This may also apply to other stressors affecting

adolescents, such as coping with academic failure and the influences of the media.

In contrast, those who lack self-compassion have been shown to engage in

maladaptive emotion-focused coping strategies including focusing on negative

emotions (rumination) and avoidance-orientated coping (e.g. Neff et al., 2005).

Interestingly Barry and colleagues (2014) showed the over-identification and isolation

subscales of the SCS to be most relevant in explaining the relationship between self-

compassion and depression amongst adolescents. Indeed this may be explained by

increased rumination (over-identifying with one's emotions) and avoidance (isolating

oneself from others). As discussed, focusing on negative emotions and avoidance-

orientated coping is shown amongst those low in self-compassion (e.g. Neff et al.,

2005), and rumination and avoidance (cognitive and behavioural) have been suggested as mechanisms of the relationship between a lack of self-compassion and depressive symptomatology in adults (Johnson & O'Brien, 2013; Kreiger et al., 2013; Raes, 2010). Considering adolescents and the stressors they face, it may be that those low in self-compassion are more concerned with how others perceive them, being more inclined to ruminate about their limitations, avoid social situations through fear of judgment (socialising over the Internet instead; as discussed in Shepherd & Edelmann, 2005) and be less able to behave in a problem-focused way. It is therefore of interest to explore these coping styles in the relationship between self-compassion and depression amongst adolescents, and these factors are discussed below.

1.5.1 Rumination.

1.5.1.1 Rumination in adult depression. The word "*ruminate*" comes from the Latin word "ruminare", meaning "to chew over again". Clinically speaking rumination refers to a repetitive form of thinking, in which an individual focuses on symptoms of emotional distress, without trying to problem-solve (Nolen-Hoeksema, 1991; Nolen-Hoeksema, Morrow & Fredrickson, 1993; Watkins, 2008).

Rumination is considered a maladaptive emotion regulation strategy, being shown to promote avoidance of processing negative emotion, thus impeding effective emotion processing and causing negative emotions to become more salient (Martin & Tesser, 1996; Smith & Alloy, 2009). Studies of rumination and depression in adult samples show the two constructs to be strongly related, with rumination predicting the onset of depression (Lyubomirsky & Tkach, 2003; Nolen-Hoeksema, 2000; Nolen-Hoeksema, Wisco & Lyubomirsky 2008). Investigating this relationship further in a longitudinal study, Spasojevic and Alloy (2001) found rumination to mediate the relationship between vulnerability to depression and subsequent depressive episodes.

According to the Response Styles Theory (RST; Nolen-Hoeksema, 1991), ruminative responses bias thinking negatively and interfere with adaptive cognitive strategies such as problem solving, thus prolonging and increasing depressive symptoms. Consistent with the RST, rumination in adults has consistently been found to exacerbate symptoms of depression and increase the likelihood of the onset, length and severity of a depressive episode (Brinker & Dozois, 2009; Just & Alloy, 1997; Nolen-Hoeksema, Morrow & Fredrickson, 1993; Nolen-Hoeksema, Parker & Larson, 1994; see Nolen-Hoeksema et al., 2008 and Watkins, 2008 for a review). Furthermore, rumination has been shown to enhance negative thinking and lower mood in experimental studies (e.g., Lyubomirsky & Nolen-Hoeksema, 1995; Watkins & Moulds, 2005), in addition to impairing thinking, effective problem solving, social support, and goal-focused behaviour (Nolen-Hoeksema et al., 2008).

1.5.1.1.1 Subtypes of rumination in adults. A growing body of research among adults has shown that rumination is not a unitary construct. Two component factors have been identified; *brooding* and *self-reflection,* with these being differentially related to depressive symptoms and negative affect (Bagby & Parker, 2001; Burwell & Shirk, 2007; Cox, Enns, & Taylor, 2001; Roberts, Gilboa, & Gotlib, 1998; Treynor, Gonzalez & Nolen-Hoeksema, 2003; for review, see Watkins, 2008).

Self-reflection is a form of rumination that involves actively gaining insight into problems, and has been shown not to be predictive of depression, instead involving a more problem-focused style of coping (Nolen-Hoeksema, 1991; Treynor et al., 2003; Wyer, 1996). Brooding, conversely, is a symptom-focused (and emotion-focused) form of rumination involving self-critically or passively focusing on depressive symptoms, with a failure to disengage from negative emotions. Research shows brooding to increase the likelihood of the onset, length and severity of a

depressive episode (e.g. Bagby & Parker, 2001; Cox et al., 2001; Ito, Takenaka,

Tomita & Agira, 2006; Moberly & Watkins, 2008; Rimes & Watkins, 2005; Roberts,

et al., 1998; Roelofs, Huibers, Peeters, Arntz, & van Os, 2008; Takano, Sakamoto &

Tanno, 2011; Treynor et al., 2003). Furthermore, research has shown that the

relationship between negative emotionality and depressive symptoms is mediated by

brooding (Arger, Sanchez, Simonson & Mezulis, 2012). These findings imply that

self-critically dwelling on symptoms and feelings, rather than gaining insight into

one's emotions and actively trying to improve these, is a maladaptive emotion

regulation strategy and increases the risk of developing depressive symptoms.

   1.5.1.2 Rumination in adolescent depression. The majority of research

investigating the relationship between rumination and depression has involved adult

samples. However, researchers have become increasingly interested in looking at this

relationship in adolescents. Mirroring findings amongst adults, research investigating

the relationship between rumination and depression has found that having a

ruminative response style increases the likelihood of experiencing depressive

symptoms in child and adolescent samples (e.g. Abela, Vanderbilt & Rochon, 2004;

Chen & Li, 2013; Hampel, 2007; Hankin, 2008; Jose & Brown, 2008; Nolen-

Hoeksema & Girgus, 1994, see Rood et al., 2009 for a review). Furthermore, high

levels of rumination have been shown to predict depression amongst children and

adolescents (Abela, Aydin & Auerbach, 2007; Abela & Hankin, 2011; Abela,

Parkinson, Stolow & Starrs, 2009; Alloy et al., 2012; Driscoll, Lopez & Kistner,

2007; Goodyer, Herbert & Tamplin, 2003; Nolen-Hoeksema, Stice, Wade & Bohon,

2007). Additionally, Abela and Hankin (2011) found rumination to moderate the

relationship between negative and stressful life events and symptoms of depression in

adolescents.

It is important to consider that levels of rumination may increase in accordance with current depressive symptoms, and therefore the strong relationships observed may instead reflect the relationship between depressive symptoms and the subsequent development of a depressive disorder. However when controlling for existing depressive symptoms, and adjusting for confounding variables, research has shown that rumination is still significantly associated with the future onset of depression (Abela, Brozina & Haigh, 2002; Abela & Hankin, 2011; Broderick & Korteland, 2004; Goodyer et al., 2003; Schwartz & Koenig, 1996; Wilkinson, Croudace & Goodyer, 2013).

1.5.1.2.1 Subtypes of rumination in adolescents. Research amongst adolescents also provides support for the different subtypes of rumination. Amongst a non-clinical adolescent sample, Burwell and Shirk (2007) found a large correlation between brooding and depressive symptoms ($r = .69$, $p < .001$), whereas, although significant, the correlation between reflection and depressive symptoms was small ($r = .17$, $p < .05$). However, further recent research amongst community samples of adolescents suggests the discrepancy between the two subtypes' relationship with depressive symptoms was not as large. For example, amongst younger adolescents ($N = 138$, $M_{age} = 10.8$, range $= 9 - 13$ years), Verstraeten, Bijttebier, Vasey and Raes (2011) found brooding ($r = .56$, $p = <.001$) to be similarly related to depressive symptoms as reflective rumination ($r = .4$, $p = <.001$). Additionally, amongst older adolescents ($N = 111$, $M_{age} = 16.4$, range $= 14 - 19$ years), Cox, Funasaki, Smith and Mezulis (2012) found these subtypes to be related to depression almost identically (brooding; $r = .57$, $p = <.001$, reflection; $r = .52$, $p = <.001$). Despite this, Cox and colleagues' (2012) prospective study show brooding, but not reflection, to moderate the relationship between stress and depressive symptoms. Additionally, in keeping

with findings from a young adult sample (Arger et al., 2012), research has shown that

brooding also mediates the relationship between negative emotionality and depressive

symptoms in adolescents (Mezulis, Simonson, McCauley & Vander Stoep, 2011;

Verstraeten et al., 2011). Furthermore, the brooding sub-type of rumination was

shown to mediate the relationship between the experience of emotional abuse in

childhood and the development of depression in adolescence (Padilla-Paredes &

Calvete, 2014).

These findings highlight a difference between the brooding and reflection

subtypes of rumination, and indicate the necessity for distinguishing between these

two constructs in both clinical research and clinical practice. Such a distinction can

help to facilitate better understanding of rumination and also lead to improved

assessment and identification of risk factors of depression.

1.5.1.3 Gender differences in rumination. Rumination has also been

suggested to account for the gender difference between depression in males and

females. In Watkins' (2008) review of the literature, depressive rumination was

shown to explain in part the gender difference in depression as, once statistically

adjusted, no significant gender difference was found (e.g. Butler & Nolen-Hoeksema,

1994; Nolen-Hoeksema, Larson & Grayson, 1999). Investigating this further, Johnson

and Whisman (2013) conducted a meta-analysis looking at gender differences in

rumination. Results from the quantitative analysis showed that females ruminated

more than males, though the effect size was small *(d = .24)*. However, when

comparing this to Rood and colleagues' (2009) meta-analysis looking at gender

differences in rumination amongst children and adolescents, it is apparent that the

magnitude of this difference is at its largest amongst the adolescent age group. For

example, Rood and colleagues' research found a small gender difference in

rumination in children, with females significantly more likely to ruminate than males

(*d = .14*). However, the gender difference in adolescents was shown to be much larger

(*d = .36*), with the researchers suggesting that this increase parallels the surge in

depression rates in this age group. This provides support for the theory that

rumination accounts for the increase of depressive symptoms and the emergence of

gender differences in depression during adolescence, with girls entering adolescence

with an increased tendency to respond to stress with rumination as compared to boys

(Nolen-Hoeksema & Girgus, 1994).

Considering the subtypes of rumination, levels of reflection have been shown

to be significantly greater in females than males, with no gender difference observed

for brooding rumination (e.g. Burwell & Shirk, 2007). However, although levels of

brooding may be similar across genders, the process of brooding and how this is

related to depressive symptoms is suggested to be different, with brooding rumination

mediating the increase of depressive symptoms in females and not in males (Burwell

& Shirk, 2007).

1.5.2 Avoidance. As discussed, avoidance of negative emotional states may

provide relief in the short-term, but in doing so may prevent problem-focused

solutions. As self-compassion involves adaptive emotion-focused coping, which

comprises accepting and acknowledging one's own emotions, it is predicted that

avoidance is a factor that may explain why a lack of self-compassion causes an

increase in depressive symptomatology when responding to stressors.

1.5.2.1 Avoidance in adult depression. Avoidance, despite originally being

associated with anxiety disorders, has recently gained attention within the depression

literature (for a review see Trew, 2011). It is considered a maladaptive way of coping

with a stressor as, according to behavioural theories, avoidant coping strategies

remove an individual from environments in which rewards or reinforcers are present

and increase the risk of the onset and maintenance of depression (e.g. Martell, Addis

& Jacobson, 2001). In support of this, a lack of positive reinforcement has been

shown to lead to negative mood and increased depressive symptoms (e.g. Joiner,

Lewinsohn, & Seeley, 2002). Avoidance includes both behavioural and cognitive

avoidance and findings from research on adults show that both of these are associated

with depressive symptoms in clinical and non-clinical samples. Behavioural

avoidance consists of overt behaviours in which people, places, and situations are

avoided due to the fear of negative experiences. Cognitive avoidance, on the other

hand, involves covert behaviours in which unwanted thoughts are avoided due to

finding these aversive. Thought suppression, which involves deliberately trying to

suppress negative thoughts, is a form of such avoidance. Additional forms of

cognitive avoidance include disengagement with (refusing to engage with) and denial

of (refusing to acknowledge) painful thoughts and feelings. These cognitive strategies

have been shown to be unhelpful, interfering with reappraisals of negative thoughts

and instead enhancing and increasing the frequency of these distorted beliefs (e.g.

Beck, 1976; Clark, 1988; Rassin, Merkelbach & Muris, 2000; Roemer & Borkovec,

1994; Wegner & Zanakos, 1994).

Ottenbreit and Dobson (2004) found cognitive-behavioural avoidance, as

measured by the *Cognitive-Behavioural Avoidance Scale* (CBAS), to be moderately

correlated with depression ($r = 0.48$ for both females and males on the *Beck*

Depression Inventory-II). This scale measures for social and non-social forms of

cognitive and behavioural avoidance, and the researchers found all of these subscales

to have significant relationships with depression scores; the strongest relationship

being observed for cognitive non-social avoidance ($r = 0.45$ for females and $r = 0.41$

for males). The relationship observed between depression and behavioural non-social

avoidance was higher for females ($r = 0.41$) than males ($r = 0.34$), although this was

not significant. Lastly, the relationship between depression and behavioural social

avoidance ($r = 0.36$ for females and $r = 0.3$ for males) was similar to the relationship

with cognitive social avoidance ($r = 0.36$ for females and $r = 0.39$ for males) with

little gender difference observed. In addition to Ottenbreit and Dobson's findings,

Moulds and colleagues (2007) found cognitive-behavioural avoidance, also measured

by the CBAS, to be significantly correlated with depression ($r = 0.62$ on the BDI-II)

in addition to the behavioural social ($r = .46$) and non-social ($r = .57$), and the

cognitive social ($r = .44$) and non-social ($r = .45$) subscales. Furthermore, the

relationship between behavioural and cognitive avoidance and depression has been

shown to be mediated by lack of positive reinforcement (Carvalho & Hopko, 2011).

   1.5.2.2 Avoidance in adolescent depression. Although the vast majority of

research in this domain has been carried out amongst adults, there is also support for

avoidance being related to depression in adolescent samples. For example, in a

sample of pre-adolescent and adolescent students, avoidance was shown to be a risk

factor for mental health disorders in both males and females (Steinhausen & Metzke,

2001). Supporting these findings, Compas, Boyer and Stanger (2006) compared

coping styles in adolescents suffering from chronic pain, and found disengagement

coping (involving denial, avoidance and wishful thinking) to predict higher levels of

anxiety, depression and somatic complaints as compared to primary control

engagement coping (involving problem solving, emotional expression, and emotional

regulation) and secondary control engagement coping (positive thinking, cognitive

restructuring, acceptance and distraction).

Investigating avoidance and coping across childhood and adolescence in an Austrian sample, Hampel (2007) found middle adolescence (12-14 year olds) to be an age whereupon more maladaptive coping strategies were employed. For example, compared to both late childhood (8 – 10 year olds) and early adolescence (10 – 12 year olds), higher levels of avoidance were reported amongst middle adolescents. This coping style of avoidance seems to gradually increase as children develop, with early adolescents shown to report significantly higher levels of passive avoidance as compared to younger children. Furthermore, the study found decreased levels of problem-focused and adaptive coping strategies in middle adolescence as compared to the other two sub-groups.

Lastly, Flouri and Mavroveli (2013) investigated the mediating or moderating effects of emotion regulation (cognitive reappraisal and expressive suppression) and coping styles (distraction, avoidance, support seeking and coping) in the relationship between life stress and problem behaviour in adolescents. Although emotion regulation and coping were not shown to mediate this relationship, having an avoidant coping style was significantly related to an increase in problem behaviour.

It would appear that during adolescence avoidance serves as an unhelpful coping strategy. Additionally, as with rumination, the trajectory of avoidance mirrors that of depression in adolescents.

1.5.2.3 Gender differences in avoidance. Due to the paucity of research in adolescent samples, gender differences were explored amongst adults. There is mixed evidence for a gender difference in avoidant coping from adult samples, with some research indicating females being more avoidant than males (e.g. Blalock & Joiner, 2000), and other research finding no difference (e.g. Ottenbreit & Dobson, 2004). Due to these contradictory findings, it would be interesting to investigate this further and

to see if this coping strategy can account for some of the gender discrepancy in

depression amongst adolescents.

1.5.3 The Relationship between Rumination and Avoidance. Amongst

adult samples rumination has been conceptualised as a cognitive avoidance strategy,

and may explain why rumination is related with depression (Moulds et al., 2007).

Dickson, Ciesla and Reilly (2012) suggest that those engaging in rumination do so in

an attempt to escape their emotions and rumination in turn leads to prolonged

depressed mood. Indeed, findings have shown rumination to correlate with

experiential avoidance (e.g. Cribb, Moulds & Carter, 2006; Giorgio et al., 2010).

Additionally, Watkins and Moulds (2007) found depressive rumination involves

abstract thinking, serving the function of avoiding the elicitation of aversive imagery

and memories. Furthermore studies have found maladaptive rumination to be

associated with abstract thinking (e.g., Watkins & Teasdale, 2001), over-general

autobiographical memory (e.g., Park, Goodyer, & Teasdale, 2004), thought

suppression (Wenzlaff & Luxton, 2003) and cognitive avoidance (Moulds et al.,

2007). Wenzlaff and Luxton found that the more negative thoughts were suppressed,

the more these remerged and were ruminated on, subsequently leading to increased

depressive symptomatology.

Additionally, amongst adult samples rumination has been suggested to

function as an avoidant behaviour, for example causing avoidance of social situations

in order to prevent perceived negative experiences, such as rejection from others

(Goldiamond & Dyrud, 1968; Nolen-Hoeksema et al., 2008). In accordance with

behavioural theories (e.g. Lewinsohn, Clarke, Hops & Andrews, 1990), this strategy

may provide relief in the short term; however, long term this results in decreased

positive reinforcement and the development and maintenance of depressive symptoms

(Jacobson et al., 2001; Martell, Addis, & Jacobson, 2001). In support of this theory behavioural avoidance has been positively correlated with rumination in non-clinical samples (Cribb et al., 2006; Giorgio et al., 2010; Moulds et al., 2007). However, Dickson and colleagues (2012) did not find behavioural avoidance to be predictive of rumination, or indeed sadness, and instead suggest that this might be a result of rumination. Brockmeyer and colleagues (2014) concur with this theory, finding behavioural avoidance, in conjunction with motive satisfaction (a key component of positive reinforcement), to mediate the relationship between rumination and depression.

Additionally, amongst adult samples, brooding and reflective rumination have been shown to share different relationships with other coping strategies. Indeed, brooding rumination was shown to be associated with voluntary disengagement strategies such as avoidance and denial, whereas reflection was associated with positive strategies such as cognitive restructuring and problem solving (Burwell & Shirk, 2007). Furthermore, Moulds and colleagues (2007) found only brooding rumination ($r = .35$) and not reflective rumination ($r = .07$) to be significantly correlated with cognitive-behavioural avoidance. These findings therefore provide further support for reflection to be more protective, whilst brooding rumination is maladaptive, limiting the ability to disengage from negative emotions.

1.6 The Relationship of Self-Compassion to Rumination and Avoidance

Both rumination and avoidance have been found to impair emotion regulation, leading to and intensifying depressed mood and anxiety in both adults and adolescents (Hankin, 2008; Ottenbreit & Dobson, 2004; Nolen-Hoeksema & Morrow, 1991; Spasojevic & Alloy, 2001; Wegner & Zanakos, 1994; for recent reviews, see Nolen-

Hoeksema et al., 2008; Watkins, 2008). Due to the oppositional qualities between self-compassion and the maladaptive coping strategies of rumination and avoidance, it is possible that these strategies play a role in the negative relationship between self-compassion and depression, as evidenced in the research literature.

1.6.1 Literature search strategy. In exploring the relationship between self-compassion and the maladaptive coping strategies of rumination and cognitive and behavioural avoidance, the research literature was reviewed. This looked at research within adult samples due to the lack of research amongst adolescent samples. Computerised databases, Web of Science, PsychINFO and MEDLINE, were searched to identify relevant studies. A two-component search strategy was used, with the following key terms; Component 1 ('self compassion' or 'self-compassion'); and Component 2 ('rumination', 'repetitive thinking', 'thought suppression', 'cognitive avoidance', 'denial', or 'disengagement', 'avoidance', 'behavioural avoidance'). Truncation (*) was used to ensure different variants of words were obtained, and no date restriction was imposed. Google Scholar was used to search for in-press studies involving these components that were not yet indexed on databases. Studies were eligible if they included a standardised or validated measure of self-compassion, and a validated measure of rumination or cognitive or behavioural avoidance. Studies were excluded if they were not published in English, or in a peer-reviewed journal, e.g. theses, dissertations, book chapters, conference abstracts or study protocols.

Fourteen studies met the inclusion criteria and are reviewed below. Of these, eleven investigated the relationship between self-compassion and rumination and seven investigated the relationship between avoidance and self-compassion; these are reviewed in the sections below.

1.6.2 Self-compassion and rumination - literature search findings. Nine of the eleven studies were cross-sectional; the majority of these were sampled from the general population (Neff & Vonk, 2009) and undergraduate students (Arimitsu & Hofmann, 2015; Johnson & Nozick, 2011; Johnson & O'Brien, 2013; Neff, 2003a; Raes, 2010), and one was conducted with clinically depressed outpatients (Kreiger et al., 2013).

Neff (2003a, study 2) conducted the first study investigating the relationship between self-compassion and rumination. A large sample of 232 undergraduate students was randomly selected to complete self-report questionnaires. The *Ruminative Response Scale* was used (RRS; Nolen-Hoeksema & Morrow, 1991) to measure rumination, which had good psychometric properties. Appropriate statistical analyses were conducted and findings indicated that self-compassion was significantly negatively correlated with rumination ($r = -.50$, $p < .01$). This is a large effect size according to Cohen's (1988) guidelines.

Following this, Neff and Vonk (2009, study 1) explored how self-compassion and self-esteem relate to psychological functioning. Opportunistic sampling recruited a large sample of 2,187 participants from the community. They used an 8-item self-report measure of the *Reflection and Rumination Questionnaire* (RRQ; Trapnell & Campbell, 1999), which had high internal consistency. Correlations showed large effect sizes for rumination to be significantly negatively associated with self-compassion ($r = -.52$, $p < .001$), more so than self-esteem ($r = -.40$, $p < .001$).

Johnson and Nozick (2011) assessed the influence of identity styles, psychological adjustment, self-reflective processing and defensiveness on identity commitment and self-concept clarity in 154 undergraduates. They used the 12-item scales measuring self-rumination and self-reflection of the RRQ (Trapnell &

Campbell, 1999), which was shown to have good psychometric properties.

Correlational analyses showed a large effect size for self-rumination to be

significantly negatively associated with self-compassion ($r = -.58$, $p < .001$), whereas

self-reflection had a positive correlation with self-compassion ($r = .08$, *ns*), although

this was not significant. This supports existing evidence in the literature

distinguishing between maladaptive and more adaptive forms of rumination (e.g.

Treynor et al., 2003).

Recently, Odou and Brinker (2014a; 2014b) have explored the relationship

between rumination, self-compassion and mood, finding self-compassion to be

significantly negatively related to rumination (2014a, $r = -.40$, $p < .001$; 2014b, $r = -.46$, $p < .001$). Both studies used the *Ruminative Thinking Scale* (Brinker & Dozois,

2009) to measure ruminative thinking, which the developers have shown to have good

psychometric properties and to not confound depressed mood with ruminative

thinking.

Raes (2010) was the first researcher to examine the mediating effects of

brooding and reflection rumination in the relationship between self-compassion and

depression, amongst 271 undergraduates. Correlational analysis showed both the

reflection and brooding subscales of the RRS to be significantly correlated with the

SCS; however brooding ($r = -.55$, $p < .001$) had a large effect size and reflection a

small effect size ($r = -.19$, $p < .01$). Interestingly, when mediational analyses

(Bootstrapping; Preacher & Hayes, 2008) were performed, brooding, and not

reflection, was shown to partially mediate the relationship between self-compassion

and both depression and anxiety.

Following this, Kreiger and colleagues (2013) investigated rumination as a

mediator of the relationship between self-compassion and depression in 142

depressed outpatients. To measure rumination they used the subscales of symptom-focused and self-focused rumination, from the German short form of the *Response Styles Questionnaire* (RSQ; Buerger & Kuehner, 2007; Nolen-Hoeksema & Morrow, 1991). These subscales demonstrated good psychometric properties. Correlational analysis showed symptom-focused ($r = -.19$, $p < .05$), but not self-focused ($r = -.16$, *ns*), rumination to be significantly negatively associated with self-compassion, although the effect size for this was small. Despite this, mediational analysis (Preacher and Hayes, 2008) showed symptom-focused rumination to mediate the relationship between self-compassion and depression, supporting previous findings from Raes (2010).

Additionally, Johnson & O'Brien (2013) investigated rumination as a mediator in the relationship between self-compassion and depressive symptoms in 335 undergraduate students. They used the 12-item RRQ (Trapnell & Campbell, 1999), however unlike Johnson and Nozick (2011) they only looked at total rumination and did not distinguish between self-rumination and self-reflection. Correlational analyses showed rumination to be significantly negatively associated with self-compassion ($r = -.52$, $p < .001$). Through meditational analysis (Preacher & Hayes, 2008) the researchers found rumination, in addition to shame and self-esteem, to significantly mediate this relationship.

Arimitsu and Hofmann (2015) have most recently explored the relationship between self-compassion, negative automatic thoughts and negative affect amongst a sample of 231 Japanese undergraduate students. They used the *Depression Anxiety Cognition Scale* (DACS; Fukui, 1998). They found scores on the DACS to be negatively associated with self-compassion ($r = -.61$, $p < .001$). Furthermore, negative automatic thoughts were shown to mediate the relationship between self-compassion

and depression, remaining a mediator even when positive automatic thoughts were controlled for.

One limitation of the studies so far discussed was their cross-sectional designs. However, two longitudinal studies met the criteria for inclusion in the review; one a randomised controlled trial sampled from the general population (Robins, Keng, Ekblad & Brantley, 2012), and the other a treatment cohort study sampled from postgraduate students (Neff, Kirkpatrick & Rude, 2007). Neff and colleagues investigated psychological changes after the Gestalt two-chair exercise (Greenberg, 1983). Forty undergraduates were randomly selected and completed a variety of self-report measures including the RRS. Appropriate statistical analyses were performed and results showed that those who experienced an increase in self-compassion from the intervention over a one-month period also experienced significantly decreased rumination ($r = -.40$, $p < .01$), with a medium-large effect size. Results provide insight into the direction of the relationship between rumination and self-compassion, highlighting the importance of interventions increasing self-compassion in order to minimise negative cognitive processes that cause psychological distress.

Additionally, Robins and colleagues (2012) examined the effects of MBSR on processes involved in emotion regulation, with a two-month follow-up. They employed stringent inclusion and exclusion criteria, and recruited and successfully followed-up 41 participants, who were randomly assigned to receive MBSR within two weeks or placed on a waiting list. They used the total score of the RRS, and intercorrelations performed at baseline showed rumination to be significantly negatively related to self-compassion ($r = -.51$, $p < .01$), with a large effect size. Pre-versus post-intervention for both groups showed significantly increased levels of self-compassion, whilst rumination levels decreased, albeit not significantly. Based on

intercorrelational findings, one might expect rumination to significantly reduce as

self-compassion increases. However, it may be that MBSR, although increasing

overall self-compassion, does not tap into a specific area that is associated with

rumination.

1.6.3 Self-compassion and avoidance – literature search findings. Seven

studies explored the relationship between avoidance and self-compassion. Six of these

were cross-sectional, with the majority sampled from undergraduate students

(Johnson & Nozick, 2011; Neff, 2003a; Neff et al., 2005; Thompson & Waltz; 2008),

and two sampled from a community clinical sample (Costa & Pinto-Gouveia, 2013;

Kreiger et al., 2013). The last was a cohort treatment evaluation using a sample of

postgraduate students (Neff, Kirkpatrick & Rude, 2007).

Beginning with the cross-sectional research, two studies, previously explained,

explored the relationship between self-compassion and thought suppression (Neff,

2003a; Neff, Kirkpatrick & Rude, 2007). Both used the *White Bear Suppression*

Inventory to measure thought suppression, shown to be both reliable and valid (Muris,

Merckelbach & Horselenberg, 1996), and employed appropriate statistical analysis.

Findings showed that self-compassion was negatively correlated with thought

suppression, with Neff (2003a) finding a medium effect size ($r = -.37, p < .01$).

Additionally, Neff, Kirkpatrick and Rude (2007) showed that those who experienced

an increase in self-compassion over a one-month period also experienced significantly

decreased thought suppression ($r = -.55, p < .01$), finding a large effect size. Results

provide further insight into the direction of the relationship between self-compassion

and thought-suppression, suggesting those who have higher levels of self-compassion

engage in thought suppression less frequently.

Neff and colleagues (2005) were the first to explore the relationship between self-compassion and the cognitive processes of denial and mental disengagement. In their study 110 participants were evaluated after receiving an unsatisfactory mid-term grade. They were instructed to complete subscales of *The COPE Inventory* (Carver, Scheier & Weintraub, 1989), a measure with good psychometric properties, whilst focusing on their reactions to their poor test performance. Effect sizes were small to medium, with self-compassion being significantly negatively correlated with the two cognitive avoidance strategies; denial ($r = -.22$, $p < .05$) and mental disengagement ($r = -.20$, $p < .05$) but not to the behavioural avoidance coping strategy of behavioural disengagement.

Johnson and Nozick (2011), as discussed earlier, also explored the relationship between self-compassion and denial, but did not support Neff and colleagues' (2005) findings. They used an abbreviated 10-item subscale of *Denial from the Balanced Inventory of Desirable Responding* (Paulhus, 1991). This achieved a fairly low Cronbach's alpha of .56; however when adjusted for the shortened length of the scale, a Cronbach's alpha of .72 was achieved, which is close to the values typically obtained by this scale (Paulhus & Reid, 1991). Results showed denial to be positively related with self-compassion, although this was not significant ($r = .15$, *ns*). Additionally they explored avoidance using the 10-item *Diffuse-Avoidant scale* from the *Identity Style Inventory* (Berzonsky, 1992), achieving a Cronbach's alpha of .76, consistent with values reported elsewhere (Berzonsky, 1992; 2003). Results showed there to be no significant negative relationship between avoidance and self-compassion ($r = -.09$, *ns*).

Contradicting these findings, Thompson and Waltz (2008) examined the link between posttraumatic stress symptoms (PSS) and self-compassion using the

avoidance subscale of the *Posttraumatic Stress Diagnostic Scale* (Foa, Cashman,

Jaycox, & Perry, 1997). The psychometric properties of this measure were

appropriate, and relevant statistical analyses were performed. In a sample of 210

undergraduates (100 of whom had experienced a traumatic event in which they feared

death or physical injury to themselves or another) the researchers found that self-

compassion correlated with avoidance with a small to medium effect size ($r = -.24$, p

$<.05$).

In a clinical sample Costa and Pinto-Gouveia (2013) assessed coping,

experiential avoidance, self-compassion and psychological distress in 103 adults with

chronic pain, recruited on an opportunistic basis. To measure experiential avoidance

the 10-item Acceptance and Action Questionnaire (Hayes et al., 2004) was used,

which has good psychometric properties. A significant negative relationship was

found between self-compassion and experiential avoidance ($r = -.69$, $p <.001$), with a

large effect size.

Developing the research on self-compassion and cognitive avoidance, Kreiger

and colleagues (2013), as previously discussed, investigated avoidance (cognitive and

behavioural) as a mediator of the relationship between self-compassion and

depression. They used the CBAS (Ottenbreit & Dobson, 2004), which had good

internal consistency, to measure avoidance in 142 depressed adults. Self-compassion

was found to significantly negatively relate to total cognitive-behavioural avoidance

($r = -.30$, $p <.01$), with a medium effect size. Regarding behavioural avoidance, self-

compassion was significantly related to behavioural social ($r = -.27$, $p <.01$), and

behavioural non-social avoidance ($r = -.32$, $p <.01$), both with medium effect sizes.

Additionally, similar findings were shown for the relationship between self-

compassion and cognitive non-social avoidance ($r = -.23$, $p <.01$), with a small to

medium effect size; however this did not remain for cognitive social avoidance ($r = -.16$, *ns*). Furthermore, mediational analysis (Bootstrapping analysis; Preacher & Hayes, 2008) showed cognitive non-social avoidance, along with social and non-social behavioural avoidance, to mediate the relationship between self-compassion and depression. Strikingly, these mediating variables, combined with symptom-focused rumination, completely mediated the relationship between self-compassion and depression.

1.6.4 Quality of the existing research. All of the studies reviewed provided a good rationale for their research questions and utilised appropriate experimental designs and statistical analyses for the research questions being asked (Coolican, 2004). However, they were not without their limitations.

A number of these limitations reflect the relative youth of self-compassion research. For example, the use of the SCS (Neff, 2003a) across all data sets enables clear comparisons. The SCS has also been proven to have good construct validity, test-retest ability and internal consistency, with the reviewed studies reporting a Cronbach's alpha of between .90 and .95. However all the reviewed studies only compared the total SCS score, and not the subscale scores, with the maladaptive coping styles. Therefore, the way the data were reported limits exploration of the results. In addition, the findings were based entirely on self-reports, potentially limiting the ability to accurately assess levels of self-compassion and cognitive processes. However, the SCS has been shown to have appropriate discriminant validity, as responses to the SCS are not significantly influenced by a social desirability bias (Neff 2003a).

Furthermore, although sample sizes were fairly large, the majority of studies recruited a convenience sample of university students, which may limit

generalisability. Additionally the gender distribution in the reported studies is skewed, with female participants representing over 70% of the sample, thus further threatening generalisability.

Consistent limitations of the reviewed studies include the inability to determine causality. Although the research suggests a strong negative correlation between maladaptive coping strategies and self-compassion, due to the studies mainly having a cross-sectional design and relying on correlation analysis, the directionality of effects between variables remain unclear.

1.6.5 Summary of the findings from the literature. In summary, all studies investigating the relationship between rumination and self-compassion found rumination to be significantly negatively related to self-compassion in both clinical and non-clinical samples, with the majority finding large effect sizes according to Cohen's (1988) guidelines. Additionally, in studies comparing sub-types of rumination, symptom-focused rumination (brooding) was more strongly negatively correlated with self-compassion than self-reflective rumination (Johnson & Nozick, 2011; Kreiger et al., 2013; Raes, 2010), supporting previous findings (e.g. Treynor et al., 2003). Furthermore symptom-focused, and not self-focused, rumination was also shown to mediate the relationship between self-compassion and depression (Kreiger et al., 2013; Raes, 2010).

Similar findings were shown for the relationship between avoidance and self-compassion, with all studies apart from Johnson and Nozick (2011) finding avoidance to be significantly related to self-compassion. The discrepant findings may reflect the low internal consistency of the abbreviated denial measure used in Johnson and Nozick's study, potentially reducing the magnitude of effects that this variable may have otherwise demonstrated. Additional discrepant findings were for the relationship

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between cognitive avoidance and self-compassion, and behavioural avoidance and self-compassion, with some research showing behavioural avoidance (Kreiger et al., 2013) and other research showing cognitive avoidance (Neff et al., 2005) to be more strongly related to self-compassion. These different findings may reflect the different measures of avoidance used.

This review concludes that self-compassion is significantly negatively related to the maladaptive coping processes discussed. Additionally, research indicates these coping processes play a mediating role in the relationship between self-compassion and psychopathologies, such as depression and anxiety, both in clinical and non-clinical adult samples (Johnson & O'Brien, 2013; Kreiger et al., 2013; Raes, 2010). These findings are pertinent to therapies that promote emotion regulation strategies and positive cognitive processing, for example ACT (Hayes et al., 1999), CFT (Gilbert, 2005, 2009) and MBCT (Segal et al., 2002); however more robust evidence is needed to consolidate these.

1.7 Rationale for the Current Study

As discussed, depression is a debilitating and largely unrecognised problem in adolescents. Furthermore, adolescent depression has a large financial cost within Child and Adolescent Mental Health Services (Knapp, Scott & Davies, 1999), with costs continuing into adult services (Knapp, McCrone, Fombonne, Beecham & Woster, 2002). Such factors highlight the public health significance of adolescent depression and the need to intervene early and effectively. According to models of coping, an effective method of preventing adolescent depression, and intervening effectively is to enhance effective coping strategies and reduce maladaptive coping strategies. From reviewing the literature it would appear that self-compassion is an

adaptive emotion-focused coping strategy, buffering against symptoms of depression in both adults and adolescents. However, less is known about why this is and researchers have become increasingly interested in investigating the pathways underlying this relationship. The maladaptive coping strategies of avoidance and rumination have been suggested to mediate this relationship, and findings in support of this theory have been reported amongst adult samples; however this has not yet been researched in the adolescent population.

There is a need for research exploring cognitive vulnerability and protective factors in relation to depressive symptoms amongst adolescents (Abela & Hankin, 2008). Compared to adults, adolescents are at different stages of cognitive, emotional, behavioural and physical development, and it is therefore essential for promising psychological theories from adult research to be replicated amongst adolescent samples (Garber, 2000). This is important given how adolescence has been likened to a "greenhouse" for cultivating identity, life skills and compassion (Lerner, Dowling & Anderson, 2003; Roeser & Pinela, 2014). Additionally, during adolescence cognitive skills, such as emotion regulation abilities, are being mastered (e.g. Aldwin, 1994). The number of stressors requiring emotion regulation usually increase in adolescence and subsequently the use of emotion regulation strategies increase. Indeed, the coping strategies of rumination and avoidance are reported to emerge and develop during adolescent development and reflect the trajectory of depression. Therefore, exploring the underlying pathways between self-compassion and depression in adolescents is important in order to determine whether similar findings can be found to those in an adult population. Such research may inform prevention and early intervention programmes for adolescent depression.

In light of the literature reviewed, this study wished to explore a mediation model (Figure 1), already identified within the adult literature (Kreiger et al., 2013), in which brooding rumination and cognitive-behavioural avoidance mediate the relationship between self-compassion and depression in adolescents. The model suggests that a lack of self-compassion is a vulnerability factor for depression, due to promoting the generation of negative thoughts and behaviours like brooding rumination and cognitive and behavioural avoidance, which are known to lead to and maintain depressive symptoms. Brooding rumination, and not reflective rumination, is suggested to be involved in this process due to findings from the literature showing this to be a more maladaptive form of coping, being emotion-focused rather than problem-focused (e.g. Mezulis et al., 2011; Verstraeten et al., 2011; Wyer, 1996).
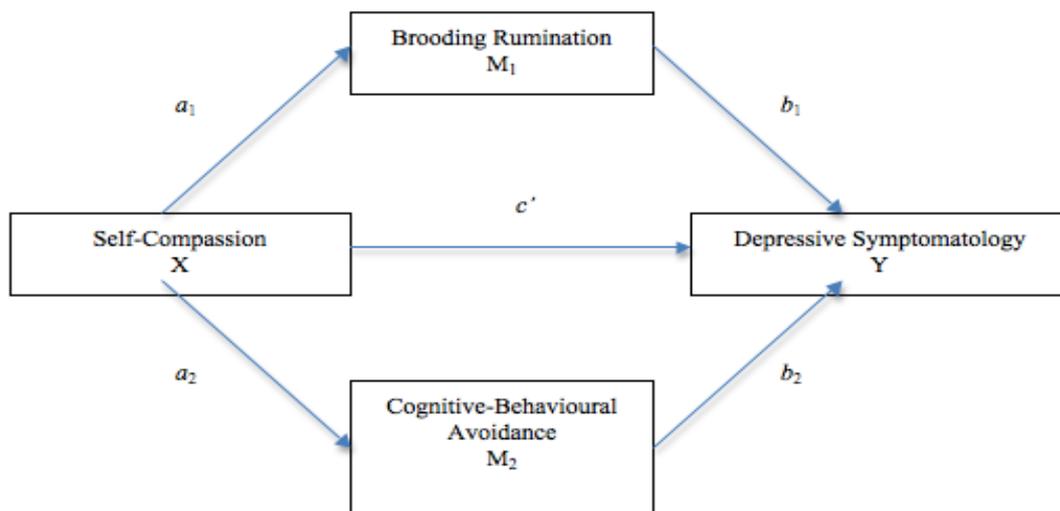
Figure 1. Parallel multiple mediation model being tested (on the basis of Hayes, 2013). Adapted from "Self-Compassion in Depression: Associations With Depressive Symptoms, Rumination, and Avoidance in Depressed Outpatients," by T. Kreiger, D. Altenstein, I. Baettig, N. Doerig and M. G. Holtforth, 2013, *Behavior Therapy, 44,* p. 508.

Note. Self-compassion = predictor variable, brooding rumination = mediating variable 1, cognitive-behavioural avoidance = mediating variable 2, depressive symptomatology = outcome variable, a = indirect effect; b = indirect effect; c' = direct effect; X = predictor variable; M = mediating variable; Y = outcome variable. X affects Y indirectly through M_1 and M_2.

Baron and Kenny (1986) suggest that for a mediation model to be proposed and tested, the following three assumptions must be met; the predictor and outcome variable need to be significantly related, a significant relationship needs to exist between the predictor variable and the mediator variable, and lastly the mediator variable needs to be significantly related to the outcome variable. In order to test these conditions, the study began by examining the relationships between self-compassion (the predictor variable), depressive symptomatology (the outcome variable) and the mediating variables of cognitive-behavioural avoidance and rumination (brooding and reflection subtypes).

This is the first study to explore self-compassion and these coping strategies amongst an adolescent population and it is interesting to determine how these relate to one another in comparison to the adult literature. Additionally, the sub-scales of self-compassion were measured in order to explore how these relate to the other variables measured. This was considered important as only three studies have explored how the subscales relate to depression amongst an adolescent population (Barry et al., 2014; Mills et al., 2007; Ying, 2010). Furthermore, no other study has investigated the subscales in relation to rumination and avoidance. This research also aimed to generate a more developed understanding of the relationship between self-compassion and depressive symptoms, and to determine whether ruminative (brooding and reflection rumination) and avoidant (cognitive-behavioural avoidance) processes mediate this relationship. Finally, with all these conditions being met, the research sought to test out a parallel multiple mediation model, which will be described below.

A cross-sectional design was chosen as it allows for the preliminary investigation of relationships between these variables within an adolescent sample

where there is limited existing research, establishing a direction for future research.

Additionally, a longitudinal design would not have been achievable within the

timeframe of the research. Adolescents aged 14 to 18 years were investigated due to

previous research suggesting it to be a pertinent time when cognitive factors may

begin to moderate the presentation of depression, with there being a nearly two-fold

increase in the incidence of major depressive disorder between the ages of 13-14

years and 17-18 years (Merikangas et al., 2010).

1.8 Research Questions and Hypotheses

The research questions and hypotheses draw upon and seek to further explore

theories relating to depression, self-compassion, rumination and avoidance amongst

adolescents. Based on the review of the literature, three research questions are

proposed, ultimately leading to the testing of the mediation model discussed above.

The research questions and hypotheses are outlined below.

1.8.1 Research questions.

1. What relationships exist between self-compassion, rumination (brooding

and reflection), avoidance (cognitive and behavioural) and depressive symptoms in an

adolescent population?

2. Do rumination (brooding and reflection) and avoidance (cognitive and

behavioural) play mediating roles within the relationship between self-compassion

and depression in an adolescent population?

3. Does total cognitive-behavioural avoidance and brooding rumination

collectively mediate the relationship between self-compassion and depression in an

adolescent population?

1.8.2 Research hypotheses.

1.1 Total self-compassion scores and the helpful constructs of self-compassion (self-kindness, common humanity and mindfulness subscales) will be negatively related to depressive symptomatology, whereas the maladaptive constructs of self-compassion (self-judgment, isolation and over-identification subscales) will be positively related to depressive symptomatology.

1.2 Self-compassion will be negatively associated with brooding and reflective rumination (although more strongly with the brooding subtype) and cognitive and behavioural avoidance.

1.3 Brooding and reflective rumination (specifically brooding) and cognitive and behavioural avoidance will be significantly related to depressive symptomatology.

1.4 Brooding and reflective rumination (specifically brooding) will be significantly positively related to cognitive and behavioural avoidance.

2. Brooding rumination and cognitive-behavioural avoidance will mediate the relationship between self-compassion and depression.

3. Brooding rumination and cognitive-behavioural avoidance will collectively mediate in parallel the relationship between self-compassion and depression.

2. Method

2.1 Chapter Overview

This chapter begins with a description of the design of this study, followed by a description of participants. The assessment measures used in the study are then described, detailing their psychometric properties and the rationale for their use. Following this, ethical considerations are discussed, before the procedure of the study is explained in detail. Finally, the statistical analysis of the results is outlined.

2.2 Design

This study used a non-experimental, cross-sectional survey design to address its three research questions (section 1.8). Quantitative data were collected using structured self-report questionnaires. Within-subject comparisons were made and participants were seen at one time point.

2.3 Participants

2.3.1 Inclusion and exclusion criteria. Participants were included in the study if they were between the ages of 14 and 18 years old, which is within year 10 to year 13 of the England and Wales school system. Dual consent was required for the study and participants were excluded from the study if they did not give their assent (if below the age of 16 years) or consent (if aged 16 years or above), or if their parent or guardian did not give their consent for the child to take part.

2.3.2 Sample size. The sample size for this study was determined from Fritz and MacKinnon's (2007) article outlining the required sample size to detect a mediated effect using bias corrected bootstrapping. The estimation was made on the

basis of expecting a medium effect size, as according to similar research in an adult

population, medium-large effect sizes were found (Johnson & O'Brien, 2013; Kreiger

et al., 2013; Raes, 2010). According to Fritz and MacKinnon, using the bias-corrected

bootstrap test of mediation (Efron & Tibshirani, 1993; Manly, 1997) as the planned

method for data analysis, a sample size of 71 is required to detect a medium effect

size, with 0.39 alpha, 0.39 beta and 0.8 power (see Appendix A for the table extracted

from Fritz and MacKinnon, 2007). A total number of 90 participants were used for

analysis in the current study.

2.3.3 Recruitment. Participants were recruited from four schools in Suffolk.

Both state schools and independent schools were approached, in order to obtain a

broad sample and to recruit participants from different socioeconomic backgrounds. A

letter outlining the research and inviting schools to take part was sent to headteachers

in Suffolk (Appendix B). As an incentive for schools to take part headteachers were

informed that the researcher would offer a teaching session on 'Clinical Psychology

in Practice' to their schools, with three of the schools accepting this. The teaching

sessions took place during a psychology class, a tutorial group or a Personal, Social,

Health, and Economic (PSHE) session. The presentation was informal and lasted

approximately 30 minutes and allowed time for questions. The subject matter of the

presentation focused primarily on explaining the job role of a Clinical Psychologist,

what the training involves and information about the route into training.

Within two weeks of the letter being sent to the headteacher a follow-up

telephone phone call was made, to determine the school's interest in participating in

the research. The researcher offered all the headteachers the opportunity to meet to

discuss the study further in order to address any questions or concerns. Those

headteachers who were interested were asked to provide written consent, collected by

the researcher, giving permission for their school to be involved in the research

(Appendix C). After consent had been obtained it was negotiated as to how many

pupils would be given information packs, depending on what the headteacher felt to

be appropriate and manageable, and how these would be distributed.

Five schools were initially approached, with four expressing an interest in

taking part in the study. Of the four schools that agreed to take part in the research

one was a rural (from a village or a small town) independent school, one an urban

(from a large town or city) independent school, one rural state school and one urban

state school. All schools were coeducational. A qualitative description of each of the

schools involved in this research can be found in Appendix D.

The researcher attended school assemblies and discussed the research with the

pupils, before handing out information packs to anyone who was interested. Included

in these packs were a Covering Letter and Information Sheet for Pupils and for their

parent or guardian (Appendix E and F). Also included was an Expression of Interest

Form for the pupil (Appendix G), a Parent/Guardian Consent Form (Appendix H) and

a Parent/Guardian Demographic Questionnaire (Appendix I). Participants were

notified in their information sheets that they would be entered into a prize draw to win

a £25 Amazon gift voucher as a thank you for taking part in the research.

Adolescents who were interested in taking part in the study and had parental

consent were asked to complete their Expression of Interest Form and to take this in

an envelope to their school office, along with their Parent/Guardian Consent Form

and the parent/guardian demographic sheet. These were stored securely with an

appointed member of staff. The researcher contacted the schools two weeks after the

information packs had been distributed to determine how many forms had been

returned and to arrange with the school when these forms would be collected and when data collection would take place.

Data collection took place at the pre-agreed time, as arranged between the researcher and the headteacher of the school. All pupils who returned their Expression of Interest Form and Parent/Guardian Consent Form were invited to take part in the study.

2.3.4 Demographic information. 90 adolescents participated in the study. 28 of the sample were male (31 %) and 62 were female (69 %). The mean age of the sample was 15.57 (SD =1.15), with all adolescents aged between 14 and 18 years old. Table 1 outlines a summary of the demographic data for the sample.

Approximately 886 participants were invited to take part across all four schools. From those approached, 515 took away a research information pack. A total of 102 adolescents returned Expression of Interest and Parental Consent Forms, and 90 of these participated. This gave an overall participation rate of 10.1%, rising to 17.5% when including only those adolescents who took a research information pack from the researcher. Twelve adolescents expressed an interest but did not participate, this was due to having other school commitments (66.7%), being unwell (25%) or not attending data collection (8.3%). 90 participants were used in the final analysis.

Table 2 shows a summary of recruitment within each school, outlining how many pupils were approached, how many expressed an interest and had parental consent, and how many took part. Table 3 outlines a summary of participants recruited from each school.

Table 1

Demographic Data for the Sample (N = 90)

		n (%)
Gender	Male	28 (31)
	Female	62 (69)
Age	14	19 (21)
	15	26 (29)
	16	24 (27)
	17	17 (19)
	18	4 (4)
Ethnicity	White British	71 (79)
	Chinese	3 (3)
	Black African	3 (3)
	Russian	1 (1)
	Australian	1 (1)
	Romanian	1 (1)
	Spanish	1 (1)
	German	1 (1)
	Libyan	1 (1)
	Bulgarian/Serbian	1 (1)
	Cypriot	1 (1)
	White British/ Asian	1 (1)
	White British/ Gypsy	1 (1)
	Filipino	1 (1)
	Indian	1 (1)
	Did not answer (DNA)	1 (1)
English as First Language	Yes	75 (83)
	No	11 (12)
	DNA	4 (4)
Dyslexic	Yes	4 (4)
	No	70 (78)
	DNA	16 (18)
Diagnosed Mental Health Problem	No	67 (74)
	Depression	1 (1)
	Anxiety	3 (3)
	Attention Deficit Disorder	1 (1)
	ASD	1 (1)
	DNA	17 (19)

		n (%)
Level of Education (Parent)	No formal qualifications	1 (1)
	Key Skills	0 (0)
	GCSE	10 (11)
	CSE	2 (2)
	BTEC	3 (3)
	A levels	7 (8)
	NVQ	2 (2)
	Foundation degree	1 (1)
	Bachelor's degree	11 (12)
	Diploma	11 (12)
	Master's degree	7 (8)
	Professional degree	6 (7)
	Doctoral degree	1 (1)
	DNA	28 (31)

Table 2

A Summary of Recruitment Within Each School

School	Rural/ Urban	State/ Independent	Total Approached[a]	Total Information Packs Taken	Total Interested	Total Participated
School 1	Rural	Independent	298	212	49	43 (14.4%)
School 2	Urban	Independent	380	149	19	17 (4.5%)
School 3	Rural	State	150	96	13	12 (8%)
School 4	Urban	State	58	58	21	18 (31%)

Note. Total response rates shown in brackets.
[a] Approximate figure

Table 3

Description of the Sample by School

School	State/Independent	Total N	% of Total Sample	Female	Male	Mean Age (yrs.)
1	Independent	43	48.3%	27	16	*15.63*
2	Independent	17	19.1%	13	4	*16.06*
3	State	12	13.5%	11	1	*16.5*
4	State	18	19.1%	11	7	*14.33*
					Total Mean Age (yrs.)	*15.57*

2.4 Assessment Measures

Questionnaire measures were used to assess for depressive symptomatology, cognitive-behavioural avoidance, rumination and self-compassion; all are outlined and explored in further detail below. The measures have all been validated for adolescent samples but were selected due to ease of availability, and the cost and time to administer, and also in order to allow direct comparison with previous research. Demographic information was collected from the participant (gender, age and the name of their school, Appendix J). Demographic information about the child was also collected from the parent or guardian at the point of consent, relating to their child's ethnicity, first language, and whether they had been diagnosed with a learning difficulty or a mental health difficulty. Furthermore, parents were asked about their own current employment and education level.

2.4.1 Center for Epidemiological Studies Depression Scale (CES-D;

Radloff, 1977; Appendix K).

2.4.1.1 Description. The CES-D is a self-report questionnaire designed to

assess symptoms of depression. It consists of 20 items and is validated for use with

those aged 14 years and older. Respondents are asked to indicate how strongly they

have felt or have acted a certain way within the past week (e.g. "I was happy", "I felt

lonely, like I didn't have any friends"*),* using a four-point-Likert scale (from *"rarely*

or none of the time" to *"most or all of the time"*). Total scores range from 0 to 60,

with 16 as the cut-off score to indicate clinical depression (Orme, Reis & Herz, 1986).

2.4.1.2 Psychometric properties and rationale for use. The CES-D is deemed

appropriate for use with adolescents (Dierker et al., 2001; Fendrich, Weissman, &

Warner, 1990; Garrison, Addy, Jackson, Mckeown & Waller, 1991; Orme et al.,

1986; Roberts, Andrews, Lewinsohn, & Hops, 1990; see Sharp & Lipsy, 2002 for a

review) and has been shown to have good internal consistency (Cronbach's α = .86 -

.9; Dierker et al., 2001), sensitivity and specificity. However, it has been shown to be

oversensitive and to lead to false positives (Myers & Winters, 2002; Roberts,

Lewinsohn & Seeley, 1991), with the proportion of true cases among those exceeding

the cut-off being shown to be between 10-30% (Garrison et al., 1991; Roberts et al.,

1991).

This measure was selected for use in this study due its brevity, good

psychometric qualities, ease of scoring and appropriateness for use within an

adolescent population.

Administration of this scale during this study took approximately three to five

minutes and it was free of charge to use.

2.4.2 Self-Compassion Scale (SCS; Neff, 2003a; Appendix L).

2.4.2.1 Description. The SCS is a 26-item self-report scale, designed to assess

the levels of compassion an individual has towards themselves during difficult times.

It consists of six subscales including self-kindness (e.g. "I try to be loving towards

myself when I am feeling emotional pain"); self-judgment (e.g. "When I see parts of

myself that I don't like, I get down on myself"); common humanity (e.g. "I try to see

my failings as part of being human"); isolation (e.g. "When I'm feeling down, I tend

to feel like most other people are probably happier than I am"); mindfulness (e.g.

"When I'm feeling down I try to deal with my feelings with curiosity and openness")

and over-identification (e.g. "When something upsets me I get carried away with my

feelings"). Self-kindness, common humanity and mindfulness are believed to reflect a

measure of self-compassion whilst self-judgment, isolation and over-identification are

described as measuring a 'coldness' to oneself (Neff, 2003a). Each item is rated on a

five-point Likert scale, ranging from *almost never* (one) to *almost always* (five).

Subscale scores and an overall score are generated, measuring an individual's

level of self-compassion, with higher scores indicating increased compassion towards

the self. Subscale and total self-compassion scores are generated from averaging the

responses to the total items on the full measure, or the subscales.

The SCS was originally developed for use with an adult population however,

the SCS has been used for those aged 14 years and over (e.g. Neff & McGehee, 2010).

2.4.2.2 Psychometric properties and rationale for use. The SCS has

demonstrated good internal consistency of $\alpha = .94$ (Neff et al., 2005; Neff,

Kirkpatrick & Rude, 2007) and test-retest reliability over three weeks ranging from r

=.80 to .88 for individual subscales, and r = .93 for overall scores (Neff, 2003a).

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Additionally, when used with adolescents internal consistency remains high

(Cronbach's α = .90; Neff & McGehee, 2010).

This scale was selected for use in this study due its brevity, good psychometric

qualities and early indications of its appropriateness for use within an adolescent

population. Subscale scores were used to maximise exploration of the results.

Administration of this scale during this study took approximately 5 to 7

minutes and it was free of charge to use.

2.4.3 Ruminative Response Scale (RRS; Nolen-Hoeksema et al., 1999;

Appendix M).

2.4.3.1 Description. The RRS is a 22-item measure taken from the Response

Styles Questionnaire (RSQ; Nolen-Hoeksema et al., 1993), which was developed to

measure mood-related ruminative response style. It describes responses to low-mood

that are self-focused, symptom-focused, and also focuses on the possible

consequences and causes of the mood. The measure asks participants to rate on a

four-point-Likert scale the extent to which they agree (1 = *almost never* – 4 = *almost*

always) with statements such as: "When you feel down, sad, or depressed you think

about how alone you feel". According to Treynor and colleagues (2003), the RRS

also includes subscales that measure brooding and reflective rumination, with their

study finding support for the two-factor model of rumination. Each subscale consists

of five items and are unconfounded with depression-related content. This study was

interested in measuring these two subscales.

2.4.3.2 Psychometric properties and rationale for use. The RRS is a reliable

self-report measure with high internal consistency for the brooding and reflection

subscale respectively (Cronbach's α = .79 and .71, Cox et al., 2012; Cronbach's α

= .78 and .75, Raes, 2010), with internal consistency remaining high when used with

adolescents (Cronbach's α = .91, Cox et al., 2012; Cronbach's α = .94; Dickson et al.,

2012). Previous studies have reported acceptable convergent and predictive validity

for the measure (Butler & Nolen-Hoeksema, 1994; Nolen-Hoeksema & Morrow,

1991).

This scale was selected for use in this study due its brevity, good psychometric

qualities and appropriateness for use within an adolescent population.

Administration of this scale during this study took approximately 3 to 5

minutes and it was free of charge to use.

2.4.4 Cognitive-Behavioural Avoidance Scale (CBAS; Ottenbreit &

Dobson, 2004; Appendix N).

2.4.4.1 Description. The CBAS is a multidimensional self-report measure

assessing cognitive social (e.g. "I fail to discuss tension that builds in a friendship")

and non-social avoidance (e.g. "I avoid making decisions about my future"), and

behavioural social (e.g. "I tend to make up excuses to get out of social activities") and

non-social avoidance (e.g. "I avoid trying new activities that involve the potential for

failure").

2.4.4.2 Psychometric properties and rationale for use. In the original study

Ottenbreit and Dobson (2004) demonstrated the CBAS to show good internal

consistency, strong test-retest reliability and good convergent and divergent validity.

Additionally, Dickson and colleagues' (2012) adapted scale achieved good internal

consistency for both the behavioural and cognitive avoidance scales respectively

(Cronbach's α = .63 and .81).

This scale was selected for use in this study due its brevity, good psychometric

qualities and appropriateness for use within an adolescent population.

Administration of this scale during this study took approximately 5 to 8
minutes and it was free of charge to use.

2.5 Ethical Considerations

      2.5.1 Ethical approval. Ethical approval was granted by the Faculty of
Medicine and Health Ethics Committee at the University of East Anglia (Appendix
O). Guidelines from the British Psychological Society were followed, as research
with adolescents requires careful consideration and involves various ethical issues.
The Local Education Authority was informed, with an email being sent to the Suffolk
County Council explaining the study and enquiring about approval. In correspondence
responding to this email a representative from Suffolk County Council (S. Glazer,
personal communication, March 8, 2014) permitted the study, explaining that
additional approval from Suffolk research governance was not required (Appendix P).

      2.5.2 Informed consent. Upon receipt of ethical approval, information
about the research was sent out in a letter to the headteachers of the schools; a follow-
up telephone call was made to determine their interest in conducting the research
within their school and to answer any questions. The headteachers were also offered
the opportunity for the researcher to come into the school and to explain the study in
further detail. The researcher obtained written consent from the headteacher of the
schools that expressed interest to take part.

      All potential participants from within the consenting schools were given an
information sheet to read before deciding to give their assent (if under the age of 16
years) or consent (if aged 16 years or over) to take part. An information sheet was
given to their parent or guardian, before deciding to give their parental/guardian
consent. These were sent out at least two weeks before data collection to allow

sufficient time for their full consideration. The information sheets contained full

details of the study, including the nature and purpose of the research. The language

used to describe the study was checked for readability using the Gunning fog index

(Gunning, 1952). Text for a near universal understanding requires an index score of

less than 8, and text for a wide audience requires an index score of less than 12. The

parent and young person information sheets scored 10.27 and 8.36 respectively;

deeming them appropriate for the target audience and helping further ensure that

consent was as informed as possible. Participants were asked to return an Expression

of Interest Form along with their Guardian Consent Form if they felt they would like

to take part in the study. It was emphasised that parental or guardian consent was

needed for all participants, regardless of their age. Reasoning for this was from a risk

management perspective; ensuring parents were aware that their child was taking part

in the research and allowing a point of contact if the young people revealed

themselves to be above the cut-off score for depressive symptomatology. The contact

details for the researcher and the research supervisors were provided in the

information sheets for both the young person and their parent or guardian, in order

that any questions or concerns could be answered.

At the point of data collection, the researcher described the study to the pupils

who had returned an Expression of Interest and Parental Consent Form. Prior to

consent pupils were given the study information sheet again. Approximately five

minutes were given for questions to be raised before written assent (if aged under 16

years) or consent (if aged 16 years or over) was collected (see Appendices Q and R).

Assent or consent was obtained from all participants; only those who provided written

assent or consent were able to participate in the study.

Participants and their guardians were informed that participation was voluntary, did not affect their education in any way and they had the right to withdraw themselves or their data at any point during or after the study without the need for an explanation. This was stated within the information sheets in addition to being verbally explained before written assent or consent was collected from the participants.

2.5.3 Confidentiality and anonymity. To maintain anonymity and confidentiality participant names were not entered on questionnaires. However, to identify participants' data, for example if they met or exceeded the cut-off score of 16 on the CES-D or if their data needed to be withdrawn, each questionnaire was uniquely coded with three digits. Participants were provided with a separate demographic sheet containing this code, in which to write their name, gender, date of birth, and school name. The demographic information was stored securely and separately from the rest of the participants' data.

Participants were informed that their individual data would not be shared with the school or their parents and only the researcher and the research supervisors would have access to this information. However, it was explained that if they exceeded the cut-off point for clinical depression on the CES-D their parents would be sent a letter by the researcher to inform them of these findings and to provide the contact details of relevant support agencies (Appendix S). They were notified that the questionnaires would be scored within 24 hours of administration to promptly identify any such individuals.

2.5.4 Data storage. The research adhered to the requirements of the Data Protection Act 1998 (Office of Public Sector Information, 1998) and was in accordance with UEA's guidelines on Good Practice in Research. The raw data were

stored in a locked filing cabinet, accessible only to the researcher and supervisors.

The demographic information, specifying the names of the participants, was stored in

a separate filing cabinet to ensure confidentiality. Upon completion of the research,

data were stored in accordance with standard research procedures of the University of

East Anglia.

       2.5.5 Managing distress. One further ethical consideration was how to

appropriately manage distress should an adolescent experience this as a result of

participating in the research. The researcher was aware of the sensitive nature of some

of the questionnaires and it was clearly explained to participants in their information

letter, in the initial briefing of the study, and also on each questionnaire, that they

were free to stop participation at any point. Furthermore, participants were able to

raise concerns with the researcher at any time point during data collection. During the

study, no participants became visibly distressed or raised concerns. However, it was

agreed that if a pupil were to become upset in anyway, the researcher would have

stopped their participation in the study and the adolescent would have been given the

opportunity to talk to the researcher, or the suitably skilled member of staff who was

present during the research, in a separate confidential setting. Following this, if

deemed to be appropriate and no further concerns had been raised, the pupil would

have been advised to return and join their classmates who were not participating in

the research. However, if this were not appropriate, a suitable staff member would

have been identified (e.g. lead of Personal Health Social Education [PHSE], school

nurse, head of pastoral care), and the pupil would have been taken into their care and

able to seek additional support from them.

       Following data collection, there was a verbal de-briefing from the researcher,

and participants were encouraged to talk to their parents, teachers or family doctor if

the questionnaires raised any worries for them or if they felt upset in anyway.

Participants were also given a written de-briefing sheet (Appendix T), detailing

contact information of the researcher and related helplines.

Although no participants became visibly distressed during data collection,

36 (40% of the sample) adolescents scored above the cut-off score on the CES-D. As

agreed with the Ethics Committee, a sensitively worded letter was sent to the parents

of these pupils to inform them of this. Within this letter they were provided with the

contact details of relevant support agencies and advised to contact their general

practitioner if they had concerns.

2.5.6 Providing feedback. All participating schools were provided with a

written summary report of the findings of the study. The schools made this report

available to all interested participants and their parents or guardians.

2.6 Procedure

Details about recruitment for the study are discussed in section 2.3.3. At the

point of data collection, pupils who had returned an Expression of Interest Form and a

corresponding Parent or Guardian Consent Form were invited to hear more about the

study and to discuss with the researcher any of their questions or concerns. This was

carried out in groups of up to 25 (there were two separate points of data collection at

school 1, to account for the large number of participants) and took place in a separate

quiet classroom, with a suitably skilled member of school staff present. The face-to-

face group method of data collection was chosen to try and maximise response rate, as

other methods such as postal survey studies commonly receive a poor response rate

(Edwards et al., 2002). Those pupils who still wished to take part in the study were

asked to sign and date an Assent Form if they were under the age of 16 years, or a

Consent Form if they were aged 16 years or over. As explained in the Pupil

Information Sheet, it was reiterated that only those with parent/guardian consent

would be able to participate.

Following assent (for those aged under 16 years) and consent (for those aged

16 years or over) being obtained from pupils, participants were each given a pack

containing the four research questionnaires and a demographic sheet. Pupils were

asked to complete the demographic sheet first and this was collected separately from

the research questionnaires in order to protect confidentiality. Participants were asked

to complete the questionnaires one at a time, in any order, without consulting each

other. Each questionnaire included instructions on how to complete the measure,

including information reminding them that they were able to stop completing these at

any point, and did not need to answer questions they did not feel happy with. The

researcher was available throughout to answer any questions and there was a suitably

skilled member of staff present to provide further support and oversee the research.

After each pupil had completed the research questionnaires they were asked to deposit

these in a sealed box in the classroom, in order to protect anonymity. Once all

participants had finished the participants were thanked for taking part and were given

a written Pupil Debriefing Sheet in addition to receiving a verbal debrief as a group.

Participants were also given the opportunity to ask any questions. Following this, the

researcher checked with all participants that they were not distressed in anyway and

that they were happy to return to their class. A flow chart of the procedure of the

study is shown in figure 2.

Contact letter and information sheet sent to headteachers of selected schools (Appendix F)

Researcher contacted the headteacher of selected schools by telephone to discuss the study and determine interest.

| School not interested | No further contact | | School interested |

Researcher arranged a time to visit the school to obtain **headteacher consent** (Appendix G) and distribute **information packs for pupils and parents** and arranged a date for data collection.

The information packs were distributed to the pupils and their parents by the method deemed most suitable by the headteacher. The packs included a **covering letter and information sheet for the pupil** (Appendix H), **a covering letter and information sheet for the parent/ guardian** (Appendix I), a **pupil expression of interest form** (Appendix J), a **parent/ guardian consent form** (Appendix K) and a **demographic sheet for parents/guardians** to complete (Appendix L).

The researcher liaised with the school to determine how many forms have been returned, in order to prepare for data collection and to arrange the most appropriate method of data collection (e.g. to take place within a classroom or school hall).

Pupils who had returned a completed **'pupil expression of interest form'** and '**parent/ guardian consent form'** to their school were invited to take part.

The researcher came into the school at the pre-agreed time to collect the data. A suitably skilled member of school staff was present throughout.

The study was re-explained to those eligible, before time was given for questions. After pupil assent/ consent was collected, the study commenced.

Assent was collected from all those under the age of 16 years (Appendix M), and **consent** from all those aged 16 and over (Appendix N).

Pupils were asked to complete the **four questionnaires** (Appendices B – E) and the **pupil demographic sheet** (Appendix P).

The demographic sheet was collected separately, and the pupils were asked to put all of their other questionnaires in a sealed box in the classroom.

Following completion, pupils were verbally debriefed and given a **written debrief sheet** (Appendix Q).

The researcher checked through the scores on the depression measure (see Appendix B) within 24 hours. If any **pupil scored above the cut-off score** on this questionnaire, indicating depression, **a letter was sent out to their parent/ guardian informing them of this** (see Appendix O)

A written report of the study was provided to the schools that participated.

Figure 2. Flowchart of the study procedure.

2.7 Statistical Analysis

The raw data from the questionnaires were entered onto a computer database and analysed using the Statistical Packages for Social Sciences (SPSS) for Windows version 22. The data were initially screened in order to check for normality and to identify any potential outliers or data points that would have interfered with the interferential statistical analysis. Non-parametric statistical analyses were performed due to the data violating the assumptions of a normal distribution. Details on assumption testing and skewness and kurtosis figures are provided in section 3.2.3.

2.7.1 Analysis for hypothesis one. To explore the relationship between self-compassion, rumination, behavioural and cognitive avoidance, and depression, a Spearman's rank order correlation analysis was performed between the scores on all the four measures of the CES-D, SCS, RRS, and the CBAS and their subscales. In order to reduce the likelihood of type I errors Bonferroni corrections were applied (Field, 2005). This method calculates an adjusted alpha level by dividing the traditional alpha level (.05) by the number of tests performed.

2.7.2 Analysis for hypothesis two. To explore whether rumination (reflection and brooding) and cognitive-behavioural avoidance mediate the relationship between self-compassion and depression, single mediation models (with brooding-rumination, reflection-rumination, CBAS total avoidance, CBAS behavioural social avoidance, CBAS behavioural non-social avoidance, CBAS cognitive social avoidance, and CBAS cognitive non-social avoidance all run as separate mediators) were tested using Hayes' (2013) bias-corrected bootstrapping procedure. Details on mediation analyses are provided in section 2.8.

2.7.3 Analysis for hypothesis three. To explore whether brooding-rumination and cognitive-behavioural avoidance mediate the relationship between self-

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compassion and depression, a parallel multiple mediation model (with brooding-rumination and CBAS total avoidance run together as mediating variables) was tested using Hayes' (2013) bias-corrected bootstrapping procedure. Details on parallel multiple mediation are provided in section 2.8.

2.7.4 Subsidiary analyses. To address whether there were any gender or age differences for the observed relationships, Mann-Whitney U tests (exploring gender) and Spearman Rank order correlations (exploring age) were performed.

2.8 Mediation Models

A mediating model attempts to identify the process that underlies the relationship between a predictor variable (X) and an outcome variable (Y) (see Figure 3).
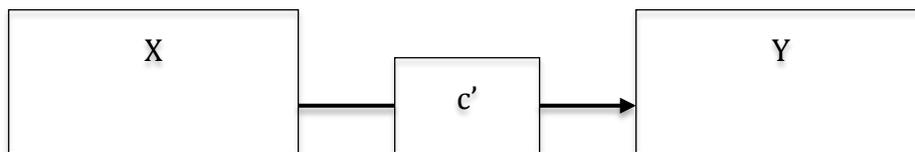
Figure 3. Visual representation of a direct effect, with c' representing the effect of X on Y. A model based on Preacher and Hayes, 2004.

Note. X = predictor variable; c' = direct effect; Y = outcome variable.

2.8.1 Simple mediation model. A simple mediation model describes the process by which variable X influences variable Y through a mediator variable (M). A mediator variable is an intermediate process that plays an important role in the relationship between the X and Y variables (see Figure 4). In this study self-compassion was modelled as the predictor variable (X), depressive symptomatology the outcome variable (Y), and rumination (brooding and reflection subscales) and cognitive-behavioural avoidance were the mediating variables (M).

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In the simple mediation model (figure 4) the a path represents the relationship

between X and M, the b path represents the relationship between M and Y, and the c'

path (as seen in figure 3) represents the relationship between X and Y. The ab path

represents the specific indirect effect of X on Y through M. Lastly, the c path

represents the direct effect of X on Y after controlling for M, and is calculated by

summing the direct (c') and the indirect (ab) effects (c = c' + ab; Hayes, 2013).
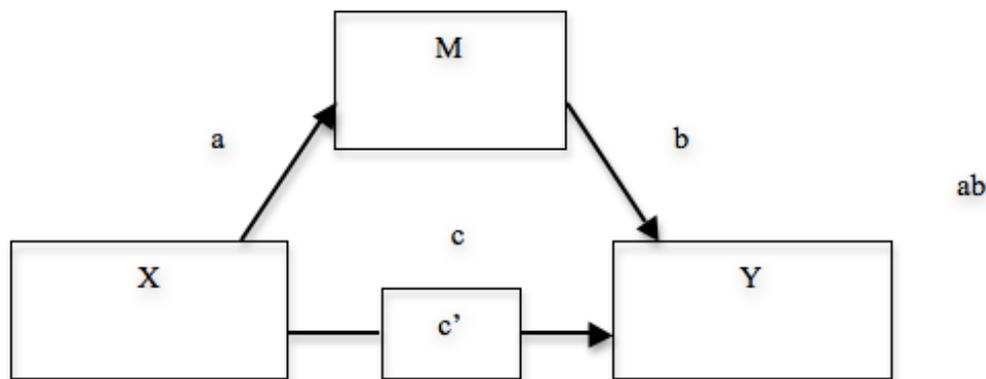
Figure 4. Visual representation of simple mediation, based on Preacher and Hayes
(2004). X affects Y indirectly through M.

Note. a = indirect effect; b = indirect effect; c' = direct effect; X = predictor variable; M = mediating
variable; Y = outcome variable; c = total effect.

2.8.2 Parallel multiple mediation model. A parallel multiple mediation

model describes the process by which variable X influences variable Y through two or

more mediator variables (M_1, M_2 etc.; Figure 4). In the parallel multiple mediation

model (Figure 5) the a_1 path represents the relationship between X and M_1, with the b_1

path representing the relationship between M_1 and Y, and the a_2 path represents the

relationship between X and M_2, with the b_2 path representing the relationship between

M_2 and Y. The c' path (as seen in Figure 3) represents the relationship between X and

Y. The a_1b_1 path represents the specific indirect effect of X on Y through M_1, whilst

the a_2b_2 path represents the specific indirect effect of X on Y through M_2. The specific

indirect effect of X on Y through M_1 and M_2 is represented by ab ($a_1b_1 + a_2b_2$). Lastly,

the c path represents the direct effect of X on Y after controlling for M_1 and M_2, and

is calculated by summing the direct (c') and the indirect (ab) effects (c = c' + ab;

Hayes, 2013). The variables being explored within this study slot into this model in

following way; self-compassion as the predictor variable (X), brooding rumination as

M_1 and cognitive-behavioural avoidance as M_2, and depressive symptomatology as the

outcome variable (Y). This model is visually demonstrated in Figure 1.
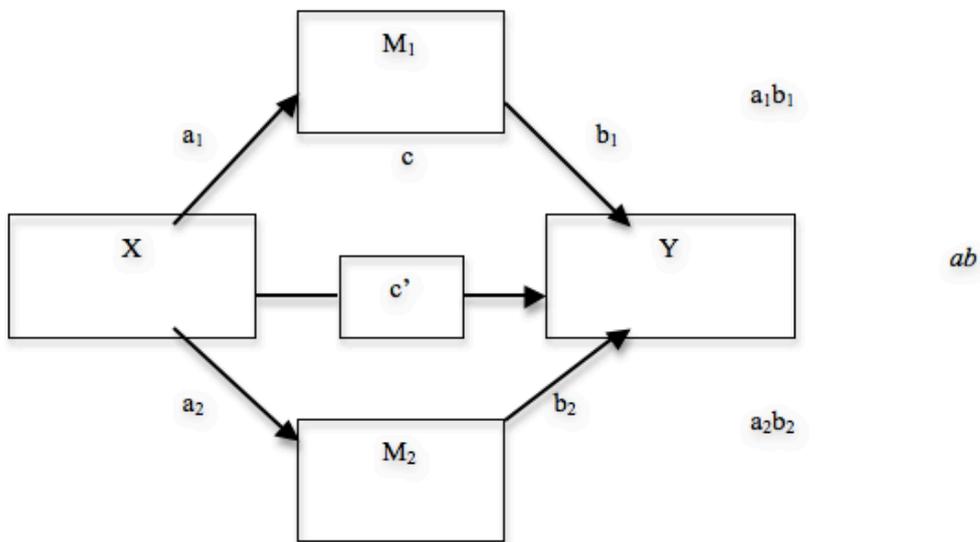
Figure 5. Visual representation of parallel multiple mediation, based on Hayes
(2013). X affects Y indirectly through M_1 and M_2.

Note. a = indirect effect; b = indirect effect; c' = direct effect; X = predictor variable; M = mediating
variable; Y = outcome variable; c = total effect; ab = total indirect effect.

3. Results

3.1 Overview of the Results Section

This chapter begins with a description of the initial examination of the data. Following this descriptive data are presented, then the statistical procedures used to test the research hypotheses and the outcomes of these are described. The section concludes with a summary of the results.

3.2 Exploration of the Data

All data were screened to check for normal distribution, missing data and outliers, to determine whether statistical assumptions were met. The data from one participant were excluded from the data analyses involving the CBAS and RRS measures, due to these containing a large amount of missing data. The final sample size used for data analysis was $N = 90$, with $N = 89$ for tests involving the CBAS and RRS variables. Please note; unless otherwise specified, an alpha level of .05 was used for all statistical tests.

3.2.1 Missing data. Attempts were made to control for missing data, for example asking participants to read through and check the questions at the time of completion. However, in order to manage potential experiences of distress, participants were also told that if they did not feel comfortable answering a question, they did not have to. Data were missing from 21 (23.33%) participants, with a total of 57 (0.64%) missing item values from the entire data set. Data were missing from one or two items across the four measures for 20 participants (CES-D, CBAS, RRS and SCS). However, for one case (1.01% of the total sample) as discussed above, a total of 25 items were missing from the RRS and CBAS, due to the participant appearing to have missed one side of the questionnaire for both of these measures. Therefore

these measures for this participant were excluded from further data analysis, due to
being unable to calculate total and sub-scale scores. From data exploration, missing
data were shown to be less than 5% for each variable and missing at random. For
these missing items, data were entered using mean substitution, with the mean values
for each subscale score being imputed (Tabachnick & Fidell, 2007).

3.2.2 Outliers. Boxplots were produced to screen for any outliers prior to
analysis. The four main variables (CES-D, CBAS total, RRS total and SCS total)
were explored and only one outlier was identified, this being from both the CES-D
and the SCS (see Appendix U for boxplots). The subscale variables were also
investigated, with no outliers being present for the CBAS cognitive non-social
avoidance scale, the RRS brooding, or the SCS common-humanity, SCS mindfulness,
SCS self-judgment, SCS isolation and the SCS over-identification subscales.
However the CBAS behavioural social, the CBAS cognitive social and the SCS self-
kindness subscales were all identified as having one outlier, the RRS reflection to
have two, and CBAS behavioural non-social identified to have three outliers. Outliers
are considered either to be due to measurement error, a participant not being from the
population being researched, or indicative of diversity in the population. From
looking closely at the outliers, it appears that the outliers are representative of the
diverse population and are indeed 'real' data and not due to measurement error. For
example, the outlier on the CES-D and SCS was due to one participant having a high
score of depressive symptomatology and a low score of self-compassion, which
correlates in the predicted direction and is an entirely feasible finding within the
adolescent population. Therefore, it was preferable to include the participants' data
and not remove the outliers. Boxplots and histograms were also produced to visually
check for out of range scores within the variables; none were visible.

Table 4

Normality Characteristics of the Data

Measure	N	M (SD)	Skewness (SE)	Kurtosis (SE)	Range	Shapiro-Wilk
Depression						
CES-D	90	16.02 (10.64)	.87 (.25) ***	.6 (.5) *ns*	1-54	.94***
Cognitive-Behavioural Avoidance						
CBAS T	89	65.33 (18.14)	.67 (.26) **	-.36 (.51) *ns*	35-110	.95***
CBAS-BS	89	14.78 (5.36)	.91 (.26) ***	.66 (.51) *ns*	8-34	.92***
CBAS-BN	89	16.24 (5.24)	.76 (.26) **	.17 (.51) *ns*	8-32	.95***
CBAS-CS	89	15.68 (5.57)	.59 (.26) *	.11 (.51) *	7-31	.96**
CBAS-CN	89	18.61 (6.31)	.78 (.26) **	.01 (.51) *ns*	9-38	.93***
Rumination						
RRS-T	89	44.2 (12.72)	.54 (.26) *	-.81 (.51) *ns*	24-75	.94***
RRS-R	89	9.23 (3.39)	.73 (.26) **	-.25 (.51) *ns*	5-18	.95**
RRS-B	89	10.73 (3.45)	.62 (.26) **	-.26 (.51) *ns*	5-20	.93***
Self-Compassion						
SCS-T	90	2.96 (.68)	-.47 (.25) *	-.24 (.5) *ns*	1-4.34	.97 *ns*
SCS-SK	90	2.47 (.83)	.38 (.25) *ns*	-.21 (.5) *ns*	1-4.8	.98 *ns*
SCS-CH	90	2.84 (.94)	-.001 (.25) *ns*	-.83 (.5) *	1-4.75	.98 *ns*
SCS-M	90	2.93 (.86)	.15 (.25) *ns*	-.16 (.5) *ns*	1-5	.98 *ns*
SCS-SJ	90	2.93 (.97)	-.001 (.25) *ns*	-.67 (.5) *ns*	1-5	.98 *ns*
SCS-I	90	2.75 (1.01)	.26 (.25) *ns*	-.67 (.5) *ns*	1-5	.97*
SCS-OI	90	2.82 (1.05)	.32 (.25) *ns*	-.84 (.5) *ns*	1-5	.96**

Note. CESD = Center for Epidemiological Studies Depression Scale, CBAS = Cognitive Behavioural Avoidance Scale, T = Total, BS = Behavioural Social, BN = Behavioural Non-Social, CS = Cognitive Social, CN = Cognitive Non-Social, RRS = Ruminative Response Scale, T = Total, R = Reflection, B = Brooding, SCS = Self-Compassion Scale, T = Total, SK = Self-Kindness, CH = Common Humanity, M = Mindfulness, SJ = Self-Judgment, I = Isolation, OI = Over-Identification.
*$p < .05$. **$p < .01$. ***$p < .001$. ns = not significant.

   3.2.3 Assumption testing. The data distribution was assessed using

histograms, normal quantile-quantile (Q-Q) plots and the Shapiro-Wilk test of

normality, which has been recommended for use with small sample sizes (Razali &

Wah, 2011). From visual descriptive data (e.g. histograms), the CES-D, the CBAS

and the RRS total and subscale scores appeared to be positively skewed (see

Appendix V for histograms of total and subscale scores). *Z*-scores were calculated

from the skewness and kurtosis values, and findings showed these to be significantly

positively skewed, *p* = .05. These *z*-scores were therefore indicative of non-normally

distributed data. Table 4 shows skewness and kurtosis values in addition to their

standard error, along with the total number, mean, standard deviation and the range of

each variable. Table 4 also presents the Shapiro-Wilk test findings, with all measures

and subscales except for the SCS total, SCS self-kindness, SCS common humanity,

SCS mindfulness, and SCS self-judgment shown to be non-normally distributed.

3.3 Descriptive Data

   3.3.1 CES-D. The CES-D was used to detect the level of depressive symptoms.

A mean score of 16.02 (*SD* = 10.64) was found and the distribution was shown to be

positively skewed (skewness = .87, p < .001). In a non-clinical community study of

632 American adolescents aged 13 – 15 years old, the CES-D was completed as part

of a routine health class (Dierker et al., 2001). Findings from this study gave similar

mean scores for the CES-D for females (*M* = 17.2, *SD* = 11.17) and males (*M* = 14.1,

SD = 8.87) compared with the current sample of female (*M* = 17.9, *SD* = 10.83) and

male (*M* = 11.38, *SD* = 8.67) adolescents. Unfortunately a pooled mean score was not

reported, therefore not allowing for direct comparison to the total mean score of this

study. However Radloff (1991) reported combined mean scores for 355 American

junior school students (age 11-15 years; $M = 16.6$, $SD = 9.19$), and 282 American

high school students (age 15 – 18 years; $M = 17.9$, $SD = 10.83$), as obtained from a

convenience non-clinical community sample. These scores are similar to the mean

score from this sample ($M = 16.02$, $SD = 10.64$).

Of the current sample, 36 participants (40%) met or exceeded the cut-off score

of 16 on the CES-D. This value is fairly typical for this age group with similar

findings being found previously within a non-clinical community sample for

adolescents aged 11-15 years (49.48%) and for adolescents aged 15-18 years

(53.36%; Radloff, 1991). In response to these high percentages Radloff raised the cut-

off to 28, a value that was designed to be more clinically meaningful and found

12.95% of adolescents aged 11-15 years to exceed the cut-off and 17.79% of

adolescents aged 15-18 years to exceed the cut-off. Within the current study, 12

(13.33%) of adolescents exceeded this raised cut-off, which is comparable. These

findings suggest that the sample population of the present study is fairly typical in

terms of the prevalence of depressive symptoms in an adolescent sample. The CES-D

was shown to have good internal consistency in this adolescent sample with a

Cronbach's $\alpha = .91$ which is similar and exceeds the values reported by Dierker and

colleagues (2001) and Radloff (1991) of $\alpha = .85 - .9$.

3.3.2 CBAS. The CBAS was used to detect the level of cognitive and

behavioural avoidance. A mean score of 65.33 ($SD = 18.14$) was found and the

distribution was shown to be significantly positively skewed (skewness = .67, p < .01).

The total and subscale mean scores are similar to those found within a non-clinical

sample of 104 undergraduates, with these findings reported in Table 5 (Moulds et al.,

2007).

Table 5

CBAS Mean Scores in Comparison to Moulds and Colleagues (2007) Findings

	Current Study		Moulds and colleagues (2007)	
Measure	*M*	*SD*	*M*	*SD*
CBAS-T	65.33	18.14	59.4	15.9
CBAS-BS	14.78	5.36	14.52	6.04
CBAS-BN	16.24	5.24	12.89	4.04
CBAS-CS	15.68	5.57	13.06	4.58
CBAS-CN	18.61	6.31	18.8	6.18

Note. CBAS = Cognitive Behavioural Avoidance Scale, T = Total, BS = Behavioural Social, BN = Behavioural Non-Social, CS = Cognitive Social, CN = Cognitive Non-Social.

Although comparisons could not be made with an adolescent sample due to mean values not being reported in the literature, these findings suggest that the levels of avoidance within this sample are fairly typical for a non-clinical adult sample.

The CBAS was shown to have good internal consistency in this adolescent sample for the total scale (Cronbach's α = .91), and the subscales; CBAS behavioural social (Cronbach's α = .81), CBAS behavioural non-social (Cronbach's α = .78), CBAS cognitive social (Cronbach's α = .81) and the CBAS cognitive non-social (Cronbach's α = .8). These values exceed the values reported by Dickson and colleagues (2012), who used an adapted CBAS for a sample of 78 non-clinical adolescents and found a Cronbach's α = .63 for the behavioural scales, and a Cronbach's α = .81 for the cognitive scales. This suggests that the original scale, as used in the current study, might be more reliable than the adapted scale for use with adolescents.

3.3.3 RRS. The RRS was used to detect the level of rumination. A mean score of 44.2 (*SD* = 12.72) was found and the distribution was shown to be significantly positively skewed (skewness = .54, p < .05). The mean value of the RRS has been shown to be 33.8 (*SD* = 10.6) for a non-clinical adult sample and 59.4 (*SD* = 11.3) for

a depressed adult sample (Watkins & Moulds, 2007). However, in another depressed

clinical adult sample the mean value has been shown to be lower ($M =$38.71, $SD =$

6.63; Brockmeyer et al., 2014). Interestingly, amongst a non-clinical sample of 326

adolescents (aged 14 – 18 years) the RRS total mean was comparable to the findings

from this study ($M =$39.81, $SD =$ 13.25; Kuyken et al., 2006). The mean value of the

RRS in this sample therefore appears to be comparable to other adolescent samples,

but higher than that for the average adult non-clinical sample. Considering the mean

values for the subscales, the brooding subscale ($M =$ 10.73, $SD =$ 3.45) is comparable

to the mean value reported from the adolescent sample discussed above ($M =$ 9.9, SD

$=$ 3.6; Kuyken et al., 2006). Additionally, both the brooding and reflection ($M =$ 9.23,

$SD =$ 3.39) subscales are comparable to the mean values found within a non-clinical

sample of 254 undergraduates (RRS reflection, $M =$ 8.5, $SD =$ 6.5, RRS brooding, M

$=$9.0, $SD =$ 2.9; Alleva, Roelofs, Voncken, Meevissen, Alberts, 2014). These findings

suggest that the sample population of the present study is fairly typical for an

adolescent sample and, as compared to community adult samples, levels of

rumination were shown to be slightly elevated.

The RRS was shown to have good internal consistency in this adolescent

sample with a Cronbach's $\alpha =$ .92, which is similar to the values from adolescent

samples reported by Cox and colleagues (2012) of $\alpha =$ .91, and Dickson and

colleagues (2012) of $\alpha =$ .94. Additionally, the internal consistency remained high for

the reflection and brooding subscales (Cronbach's $\alpha =$ .78 and .75 respectively),

which are similar to the reflection and brooding subscale values reported from other

adolescent samples (Cronbach's $\alpha =$ .71 - .74 and .79 - .8 respectively; Burwell &

Shirk, 2007; Cox et al., 2012). Furthermore, these subscales correlated highly with the

total RRS score, with a stronger positive correlation being evident for the brooding

subscale ($r = .83, p < .01$) as compared to the reflection subscale ($r = .72, p < .01$).

3.3.4 SCS. The SCS was used to detect the level of self-compassion and

subscale scores were measured in order to maximise exploration of the results. A

mean score of 2.96 ($SD = .68$) was found and the distribution was shown to be

normally distributed. This is almost identical to findings from Neff and McGehee

(2010) who found a mean score of 2.97 ($SD = .62$) amongst their community sample

of 235 American adolescents aged 14-17 years. These findings suggest that the

sample population of the present study is fairly typical in terms of the levels of self-

compassion in an adolescent sample.

The SCS was shown to have good internal consistency in this adolescent

sample with a Cronbach's $\alpha = .91$, which is similar to the value reported by Neff and

McGehee (2010) of $\alpha = .90$. Additionally, subscales were shown to have good

internal consistency, with Cronbach's alphas ranging between .75 - .82, comparable

with findings from adult samples ($\alpha = .75 - .81$; Neff, 2003a).

3.4 Hypotheses Testing

3.4.1 Hypothesis one. Due to the data violating a normal distribution, the non-

parametric bivariate Spearman's rank order correlation (Spearman's rho) was

performed to measure the strength of the relationship between depression, cognitive-

behavioural avoidance, rumination and self-compassion variables. Additionally, due

to one-tailed tests being more vulnerable to assumption violation, two-tailed tests

were chosen (Katz, 2006; van Belle, 2008). In this instance, the adjusted alpha level

is .002, as calculated by .05/31 = .002.

Table 6

Spearman's Rank Correlations between Self-Compassion and Depression Scores

		CESD
SCS-T	r	-0.70
	p	0.00*
SCS-SK	r	-0.3
	p	0.00*
SCS-CH	r	-0.23
	p	0.03 [ns]
SCS-M	r	-0.26
	p	0.01 [ns]
SCS-SJ	r	0.68
	p	0.00*
SCS-I	r	0.75
	p	0.00*
SCS-OI	r	0.69
	p	0.00*

Note. [ns] = not significant. N = 89. CESD = Center for Epidemiological Studies Depression Scale, SCS = Self-Compassion Scale, T = Total, SK = Self-Kindness, CH = Common Humanity, M = Mindfulness, SJ = Self-Judgment, I = Isolation, OI = Over-Identification.
* Correlation is significant at the 0.002 (two-tailed).

The findings from the Spearman's rho correlation are nearly all supportive of

hypothesis 1.1, with significant inverse correlations being found between total

depressive symptoms and total self-compassion, in addition to the self-kindness

subscale. However, there were no significant inverse correlations found between

depressive symptoms and the common-humanity and mindfulness subscales of the

SCS, although these were significant at the original unadjusted alpha value of .05. As

predicted, significant positive correlations were found between depression and the

self-judgment, isolation and over-identification subscales of the SCS (Table 6).

The findings from the Spearman's rho correlation support hypothesis 1.2, with

significant negative relationships observed between self-compassion and all the

avoidance scales and both brooding and reflective rumination, with the negative

relationship between self-compassion and brooding being stronger than with

reflection (Table 7).

Table 7

Spearman's Rank Correlations between Self-Compassion, Cognitive-Behavioural
Avoidance, and Brooding and Reflection Scores

		CBAS-T	CBAS-BS	CBAS-BN	CBAS-CS	CBAS-CN	RRS-R	RRS-B
SCS-T	r	-0.63	-0.43	-0.48	-0.56	-0.5	-0.43	-0.66
	p	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*

Note. [ns] = not significant. N = 89. SCS = Self-Compassion Scale, T = Total, CBAS = Cognitive
Behavioural Avoidance Scale, T = Total, BS = Behavioural Social, BN = Behavioural Non-Social, CS
= Cognitive Social, CN = Cognitive Non-Social, RRS = Ruminative Response Scale, R = Reflection, B
= Brooding.
 * Correlation is significant at the 0.002 (two-tailed).

The findings from the Spearman's rho correlation support hypothesis 1.3, with

significant positive relationships found between depressive symptoms on the CES-D

and cognitive-behavioural avoidance, including all cognitive and behavioural

avoidance subscales. Depressive symptoms were also significantly correlated with

brooding and reflective rumination, with the relationship between depressive

symptoms and brooding being slightly stronger than with reflection (Table 8).

Finally, the findings from the Spearman's rho correlation partially support

hypothesis 1.4. When looking at the relationship between cognitive-behavioural

avoidance and brooding and reflective rumination, significant positive correlations

were found, with a stronger relationship noted between cognitive-behavioural

avoidance and brooding rumination. Brooding rumination was significantly positively

related to all subscales of cognitive-behavioural avoidance, however reflective

rumination was only significantly positively related to the social subscales and not the

non-social subscales of cognitive-behavioural avoidance (Table 9).

Table 8

Spearman's Rank Correlations between Depression, Cognitive-Behavioural

Avoidance, and Brooding and Reflection Scores

		CBAS-T	CBAS-BS	CBAS-BN	CBAS-CS	CBAS-CN	RRS-R	RRS-B
CESD	*r*	0.61	0.47	0.48	0.47	0.49	0.49	0.56
	p	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*

Note. N = 89. CESD = Center for Epidemiological Studies Depression Scale, CBAS = Cognitive
Behavioural Avoidance Scale, T = Total, BS = Behavioural Social, BN = Behavioural Non-Social, CS
= Cognitive Social, CN = Cognitive Non-Social, RRS = Ruminative Response Scale, R = Reflection, B
= Brooding.
* Correlation is significant at the 0.002 (two-tailed).

Table 9

Spearman's Rank Correlations between Cognitive-Behavioural Avoidance and
Brooding and Reflection Scores

		CBAS-T	CBAS-BS	CBAS-BN	CBAS-CS	CBAS-CN
RRS-R	*r*	0.38	0.42	0.29	0.43	0.1
	p	0.00*	0.00*	0.01 [ns]	0.00*	0.35 [ns]
RRS-B	*r*	0.59	0.44	0.49	0.51	0.43
	p	0.00*	0.00*	0.00*	0.00*	0.00*

Note. [ns] = not significant. N = 89. CBAS = Cognitive Behavioural Avoidance Scale, T = Total, BS =
Behavioural Social, BN = Behavioural Non-Social, CS = Cognitive Social, CN = Cognitive Non-Social,
RRS = Ruminative Response Scale, R = Reflection, B = Brooding.
 * Correlation is significant at the 0.002 (two-tailed).

The findings from the correlation analysis provide partial support for

hypothesis one, with self-compassion being significantly negatively associated with

depressive symptoms, cognitive-behavioural avoidance (and all subscales) and

rumination (brooding and reflection). Additionally, cognitive-behavioural avoidance

(and all subscales) and rumination (brooding and reflection) were significantly

positively associated with depressive symptoms. Regarding the self-compassion

subscales, significant relationships in their predicted directions were found between

all subscales and depressive symptoms, except common humanity and mindfulness.

Furthermore, rumination (brooding and reflection) was shown to be significantly

positively related to cognitive-behavioural avoidance and all the subscales, except

between reflection and the non-social behavioural and cognitive avoidance subscales.

3.4.2 Hypothesis two. Mediational analyses were performed to determine

whether rumination (reflection and brooding) and cognitive-behavioural avoidance

mediate the relationship between self-compassion and depression. This was assessed

by examining indirect effects as employed by Hayes' (2013) bias-corrected

bootstrapping procedure (with $N = 10,000$ bootstrap resamples). This analysis

involves creating a new dataset based on repeated random sampling from the original

data set, and is suitable for small sample sizes and data that violate a normal

distribution (Fritz & MacKinnon, 2007; Hayes, 2013). The SPSS macro for this

mediation analysis (PROCESS version 2.13; released September 2014) was

downloaded from http://www.processmacro.org/download.html. Confidence intervals

(95%) for the parameter estimates of the indirect effects were calculated, with the

parameter estimate being significant when the confidence intervals do not contain

zero (Hayes, 2013). This method of inference is suggested to be more accurate and

powerful than other methods, such as the normal theory approach, as it understands

the irregularity of the shape of the sampling distribution of the indirect effect and does

not make assumptions about this (Hayes, 2013). Bootstrapping analyses were

conducted to investigate the mediating effect of rumination (brooding and reflection)

and cognitive-behavioural avoidance. For all analyses the independent variable was

self-compassion and the dependent variable was depressive-symptomatology. Simple

mediation analyses were conducted, with the brooding and reflection rumination

subscales and the cognitive and behavioural avoidance subscales being run separately

as mediators. The unstandardised effects are reported in Table 10, as recommended

by Hayes (2013).

Table 10

Summary of the Unstandardised Effects from Meditational Analyses (1000 Bootstrap samples)

Independent Variable (IV)	Mediating Variable (M)	Dependent Variable (DV)	Effect of IV on M (a)	Effect of M on DV (b)	Direct effect (c')	Indirect effect (ab)	Total effect (c)
1. SCS	RRS-B	CES-D	-3.7**	0.72*	-8.75**	-2.67[a]	-11.42**
2. SCS	RRS-R	CES-D	-1.92**	0.69*	-10.1**	-1.32[a]	-11.42**
3. SCS	CBAS-T	CES-D	-16.5**	0.12*	-9.48**	-1.94[a]	-11.42**
4. SCS	CBAS-BS	CES-D	-3.39**	0.27^{ns}	-10.5**	-0.92	-11.42**
5. SCS	CBAS-BN	CES-D	-4.04**	0.35*	-9.99**	-1.43[a]	-11.42**
6. SCS	CBAS-CS	CES-D	-4.45**	0.24^{ns}	-10.34**	-1.08	-11.42**
7. SCS	CBAS-CN	CES-D	-4.61**	0.18^{ns}	-10.6**	-0.82	-11.42**

Notes. $N = 89 - 90$. CESD = Center for Epidemiological Studies Depression Scale, CBAS = Cognitive Behavioural Avoidance Scale, T = Total, BS = Behavioural Social, BN = Behavioural Non-Social, CS = Cognitive Social, CN = Cognitive Non-Social, RRS = Ruminative Response Scale, B = Brooding, R = Reflection, SCS = Self-Compassion Scale.
[a] = significant point estimate ($p < .05$).
** = $p < .01$. * = $p < .05$. ^{ns} = not significant.

As can be seen in Table 10, the negative relationship between self-compassion

and depressive symptomatology was shown to be significantly mediated by brooding-

rumination (ab = -2.67, SE = 1.14, $CI_{95\%}$ = -5.06 to -.54). Reflective rumination was

also shown to mediate this relationship, (ab = -1.32, SE = 0.62, $CI_{95\%}$ = -2.87 to -.38).

Regarding cognitive-behavioural avoidance, total avoidance was also shown

to mediate the relationship between self-compassion and depressive symptomatology

(ab = -1.94, SE = 1.03, $CI_{95\%}$ = -4.28 to -.19). However, subsequent analyses for the

behavioural and cognitive avoidance subscales showed only behavioural non-social

avoidance to mediate this relationship (ab = -1.43, SE = 0.83, $CI_{95\%}$ = -3.33 to -.02),

and not behavioural social avoidance (ab = -0.92, SE = 0.59, $CI_{95\%}$ = -2.2 to .15),

cognitive social (ab = -1.08, SE = 0.78, $CI_{95\%}$ = -2.77 to .36), or cognitive non-social

avoidance (ab = -0.82, SE = 0.66, $CI_{95\%}$ = -2.3 to .34).
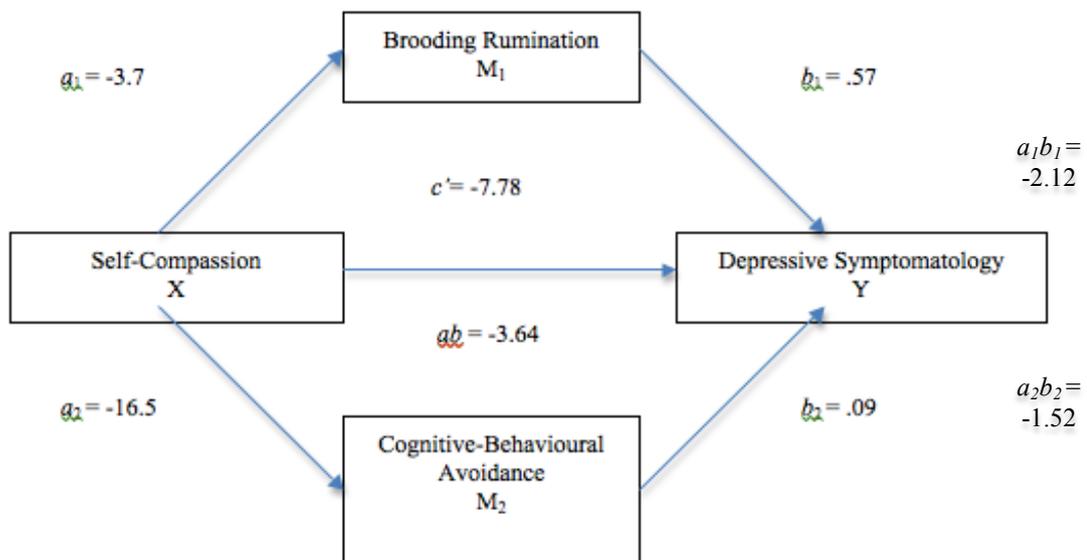
Figure 6. Findings of the parallel multiple mediation model (based on Hayes, 2013). Adapted from "Self-Compassion in Depression: Associations With Depressive Symptoms, Rumination, and Avoidance in Depressed Outpatients" by T. Kreiger, D. Altenstein, I. Baettig, N. Doerig and M. G. Holtforth, 2013, *Behavior Therapy, 44,* p. 508.

Note. Self-compassion = predictor variable, brooding rumination = mediating variable 1, cognitive-behavioural avoidance = mediating variable 2, depressive symptomatology = outcome variable, a = indirect effect; b = indirect effect; c' = direct effect; X = predictor variable; M = mediating variable; Y = outcome variable.

3.4.3 Hypothesis three. In line with Kreiger and colleagues (2013), the

proposed mediation model suggesting brooding rumination and cognitive-behavioural

avoidance to mediate the relationship between self-compassion and depression was

tested. A parallel multiple mediation analysis was performed, with both brooding

rumination and total cognitive-behavioural avoidance being run together as mediators

(Figure 6). Running Hayes' (2013) mediational bias-corrected bootstrapping analysis

(with $N = 10,000$ bootstrap resamples), the relationship between self-compassion and

depression was shown to be significantly mediated by brooding rumination and

cognitive-behavioural avoidance (ab = -3.64, SE = 1.34, $CI_{95\%}$ = -6.47 to -1.19), with

the coping strategies collectively mediating the effect of self-compassion on

depression.

In parallel multiple mediator models it can be useful to determine whether the

indirect effects between the two mediators are statistically different from one another,

in order to establish whether one variable accounts for more of the effect of self-

compassion on depressive symptomatology. Exploring the difference between

brooding rumination and cognitive-behavioural avoidance, findings showed with a

95% confidence level that these indirect effects are not statistically different from

one another (ab = .60, SE = 1.74, $CI_{95\%}$ = -3.06 to 3.87). The indirect effect of self-

compassion on depressive symptomatology through brooding rumination is no

different than the indirect effect through cognitive-behavioural avoidance. Therefore,

there is insufficient evidence that brooding rumination and cognitive-behavioural

avoidance were independently significant mediators of the relationship between self-

compassion and depression (RRS-B ab = -2.12, SE = 1.17, $CI_{95\%}$ = -4.54 to 0.06;

CBAS-T ab = -1.52, SE = 1.03, $CI_{95\%}$ = -3.87 to .24). This was explored further by

controlling for cognitive-behavioural avoidance when running brooding rumination as

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a mediator and vice versa. Interestingly, when brooding rumination was controlled for, cognitive-behavioural avoidance was not a significant mediator for the relationship between self-compassion and depression (ab = -.98, SE = .69, $CI_{95\%}$ = -2.75 to .08), and when cognitive-behavioural avoidance was controlled for, brooding rumination was also no longer a significant mediator (ab = -1.70, SE = .99, $CI_{95\%}$ = -3.96 to 0.00). These findings show that although brooding rumination (mediating variable) and cognitive-behavioural avoidance (mediating variable) appear to both mediate the relationship between self-compassion (independent variable) and depression (dependent variable), the effect of one mediating variable is no longer significant when the other is controlled for, suggesting there is an overlap between the two variables.

3.5 Subsidiary Analyses

  3.5.1 Gender differences within variables. From the research literature explored in the introduction there is evidence of gender differences in self-compassion, rumination, avoidance and depressive symptoms. To add further to the evidence base, subsidiary analyses exploring gender differences were performed. Means and standard deviations were generated for both genders (Table 11). To compare gender differences, Mann-Whitney U tests were conducted on the total-scores and subscale-scores for the measures of depression (CES-D), avoidance (CBAS), rumination (RRS) and self-compassion (SCS; Table 12 reports the U test findings). In order to reduce the likelihood of type I errors the Bonferroni correction was applied (Field, 2005). This method calculates an adjusted alpha level by dividing the traditional alpha level (.05) by the number of tests performed. In this instance, the adjusted alpha level is .003, as calculated by .05/16 = .003.

Table 11

Gender Means and Standard Deviations for Variables

	Female		Male	
	M	*SD*	*M*	*SD*
Depression				
CESD	18.11	10.85	11.38	8.67
Cognitive-Behavioural Avoidance				
CBAS-T	66.31	17.52	63.18	19.58
CBAS-BS	15.47	5.63	13.32	4.44
CBAS-BN	16.55	5.20	15.57	5.34
CBAS-CS	15.95	5.38	15.08	6.02
CBAS-CN	18.33	5.85	19.21	7.28
Rumination				
RRS-T	46.08	13.28	40.11	10.50
RRS-R	9.75	3.28	8.11	3.44
RRS-B	11.10	3.54	9.93	3.15
Self-Compassion				
SCS-T	2.88	0.71	3.13	0.59
SCS-SK	2.51	0.90	2.40	0.66
SCS-CH	2.88	0.93	2.77	0.99
SCS-M	2.96	0.89	2.85	0.78
SCS-SJ	3.12	0.93	2.51	0.93
SCS-I	2.93	0.98	2.36	0.98
SCS-OI	3.02	1.05	2.38	0.95

Note. n = 62 for females (except for CBAS and RRS total and subscales scores, where *n* = 61), *n* = 28 for males. CESD = Center for Epidemiological Studies Depression Scale, CBAS = Cognitive Behavioural Avoidance Scale, T = Total, BS = Behavioural Social, BN = Behavioural Non-Social, CS = Cognitive Social, CN = Cognitive Non-Social, RRS = Ruminative Response Scale, T = Total, R = Reflection, B = Brooding, SCS = Self-Compassion Scale, T = Total, SK = Self-Kindness, CH = Common Humanity, M = Mindfulness, SJ = Self-Judgment, I = Isolation, OI = Over-Identification.

Table 12

Mann-Whitney U Test Findings Exploring Gender Differences Within Variables.

Variable	Gender	N	Mean Rank	Mann-Whitney U	Z	P	r
Depression							
CESD	Female	62	50.92	532	-2.93	0.003*	0.3
	Male	28	33.50				
Cognitive-Behavioural Avoidance							
CBAS-T	Female	61	46.70	750	-1.03	0.30 *ns*	0.11
	Male	28	41.29				
CBAS-BS	Female	61	48.08	666	-1.77	0.08 *ns*	0.19
	Male	28	38.29				
CBAS-BN	Female	61	46.80	744.5	-1.08	0.28 *ns*	0.11
	Male	28	41.09				
CBAS-CS	Female	61	46.61	755.5	-0.98	0.33 *ns*	0.1
	Male	28	41.48				
CBAS-CN	Female	61	44.32	840.5	-0.24	0.81 *ns*	0.03
	Male	28	46.48				
Rumination							
RRS-T	Female	61	48.75	625.5	-2.02	0.04 *ns*	0.21
	Male	28	36.84				
RRS-R	Female	61	49.77	563	-2.59	0.01 *ns*	0.27
	Male	28	34.61				
RRS-B	Female	61	47.54	699	-1.38	0.17 *ns*	0.15
	Male	28	39.46				
Self-Compassion							
SCS-T	Female	62	42.43	677.5	-1.66	0.10 *ns*	0.17
	Male	28	52.30				
SCS-SK	Female	62	46.32	817	-0.45	0.66 *ns*	0.05
	Male	28	43.68				
SCS-CH	Female	62	46.31	817.5	-0.44	0.66 *ns*	0.05
	Male	28	43.70				
SCS-M	Female	62	46.35	815.5	-0.46	0.65 *ns*	0.05
	Male	28	43.63				
SCS-SJ	Female	62	50.30	570.5	-2.60	0.01 *ns*	0.27
	Male	28	34.88				
SCS-I	Female	62	50.26	573	-2.58	0.01 *ns*	0.27
	Male	28	34.96				
SCS-OI	Female	62	50.90	533	-2.93	0.003*	0.31
	Male	28	33.54				

Note. ns = non-significant, *r* = effect size (calculated by r=Z/√N). CESD = Center for Epidemiological Studies Depression Scale, CBAS = Cognitive Behavioural Avoidance Scale, T = Total, BS = Behavioural Social, BN = Behavioural Non-Social, CS = Cognitive Social, CN = Cognitive Non-Social, RRS = Ruminative Response Scale, T = Total, R = Reflection, B = Brooding, SCS = Self-Compassion Scale, T = Total, SK = Self-Kindness, CH = Common Humanity, M = Mindfulness, SJ = Self-Judgment, I = Isolation, OI = Over-Identification.
* is significant at the .003 level (two-tailed).

Table 13

Spearman Rank Correlations (r) Between Age and Variables

Variable	N	r	p
Depression			
CESD	90	0.20	0.06 *ns*
Cognitive-Behavioural Avoidance			
CBAS-T	89	0.00	0.97 *ns*
CBAS-BS	89	0.07	0.54 *ns*
CBAS-BN	89	-0.03	0.78 *ns*
CBAS-CS	89	-0.08	0.46 *ns*
CBAS-CN	89	0.04	0.73 *ns*
Rumination			
RRS-T	89	0.12	0.26 *ns*
RRS-R	89	0.14	0.19 *ns*
RRS-B	89	0.01	0.94 *ns*
Self-Compassion			
SCS-T	90	-0.01	0.92 *ns*
SCS-SK	90	0.10	0.35 *ns*
SCS-CH	90	0.07	0.52 *ns*
SCS-M	90	0.07	0.52 *ns*
SCS-SJ	90	0.07	0.52 *ns*
SCS-I	90	0.06	0.58 *ns*
SCS-OI	90	0.14	0.18 *ns*

Note. ns = non-significant. CESD = Center for Epidemiological Studies Depression Scale, CBAS = Cognitive Behavioural Avoidance Scale, T = Total, BS = Behavioural Social, BN = Behavioural Non-Social, CS = Cognitive Social, CN = Cognitive Non-Social, RRS = Ruminative Response Scale, T = Total, R = Reflection, B = Brooding, SCS = Self-Compassion Scale, T = Total, SK = Self-Kindness, CH = Common Humanity, M = Mindfulness, SJ = Self-Judgment, I = Isolation, OI = Over-Identification.

Findings from the Mann-Whitney U tests show females to report higher levels of depressive symptoms $U = 532, p = .003, r = .3$ compared to males. However, no significant gender differences were found for levels of cognitive-behavioural

avoidance, $U = 750$, $p = .3$, $r = .11$, rumination, $U = 625.5$, $p = .04$, $r = .21$, and self-compassion, $U = 677.5$, $p = .1$, $r = .17$. Although, the gender difference for rumination was significant at the original unadjusted alpha value of .05.

When looking at subscale scores, significant gender differences were found for the SCS over-identification subscale, $U = 533$, $p = .003$, $r = .31$, with females reporting higher levels compared to males. No significant gender differences were found for the remaining subscales, although the gender difference was significant at the unadjusted alpha value for reflective rumination, $U = 563$, $p = .01$, $r = .27$, self-judgment, $U = 570.5$, $p = .01$, $r = .27$ and isolation, $U = 573$, $p = .01$, $r = .27$ (Table 12), with females reporting higher levels than males.

3.5 Age differences within variables. Due to the paucity of the research pertaining to how self-compassion, depression, rumination and avoidance evolve over the adolescent age span, age differences were explored within the different variables being explored. Spearman rank order correlations were performed, comparing age correlations across the total scores and subscale scores of the variables (Table 13).

In this instance, the adjusted alpha level is .003. The findings from the correlation analyses showed no significant relationships between age and depression, avoidance, rumination and self-compassion or any of the subscales (Table 13).

3.6 Chapter Summary

The data collected from this adolescent sample were found to be non-normally distributed and therefore required non-parametric analyses. The measures used had good reliability in terms of internal consistency for the sample. Additionally, the mean scores and Cronbach's alphas obtained from the measures used in this study generally reflected consensus with other adolescent non-clinical populations. It can

subsequently be inferred that this sample responded to the questionnaires in a way that is fairly typical for the adolescent population.

The first hypothesis (H1) predicting relationships between self-compassion, depression, cognitive-behavioural avoidance and brooding and reflective rumination was accepted and the null hypotheses were rejected for all relationships between total scores. However, regarding measure subscales, the null hypothesis was accepted for the relationship between depressive symptoms and the self-compassion subscales of common humanity and mindfulness, in addition to the relationship between reflective rumination and the non-social cognitive-behavioural avoidant scales.

The second hypothesis (H2) was accepted, with rumination (brooding and reflection) and total cognitive-behavioural avoidance being shown to mediate the relationship between self-compassion and depression. Considering the cognitive-avoidance subscales, behavioural non-social avoidance was shown to mediate this relationship, whereas behavioural-social, cognitive-social and cognitive non-social avoidance were not. Therefore, the null hypotheses for these variables were accepted.

Finally, the third hypothesis (H3) was accepted, with brooding rumination and cognitive-behavioural avoidance being shown to both separately and together mediate the relationship between self-compassion and depression. However, findings show when one mediator variable is controlled for, the other no longer mediates the relationship.

Regarding subsidiary analyses, gender differences were found for levels of depressive symptoms and SCS over-identification, with females scoring higher than males. No significant gender differences were found for the remaining measures or subscales. Finally, regarding age differences in depression, avoidance, rumination and

self-compassion, no significant differences were found amongst any of the measures

or any of the subscales.

The findings from this study will be discussed in more detail and the clinical

implications will be considered in the discussion chapter.

4. Discussion

4.1 Overview of the Discussion

The chapter begins by describing the study's findings in relation to the original research hypotheses. These findings are then discussed in relation to existing research and the theoretical implications are considered. Qualitative descriptors for the strength of associations observed are in accordance with Cohen's guidelines (1988) and Rosenthal's supplementary guidelines (1996). Methodological strengths and limitations of the research are described and recommendations for future research are made. The chapter concludes with an outline of the research and a discussion of the clinical implications.

4.2 Aims of the Research

The intention of this study was to look at the relationship between self-compassion and depression, and to explore the underlying mechanisms involved within an adolescent population. Over the past five years it has become increasingly reported within the literature that self-compassion is negatively related to depressive symptomatology in adolescent samples (e.g. Bluth & Blanton, 2013; Jativa & Cerezo, 2014; Neff & McGehee, 2010; Tanaka et al., 2011; Vettese et al., 2011) and that rumination and cognitive-behavioural avoidance may be significant factors in this relationship amongst adults (Johnson & O'Brien, 2013; Kreiger et al., 2013; Raes, 2010). Therefore, it was of interest to explore all these factors together in relation to depressive symptomatology in an adolescent sample and, on the basis of previous findings, to explore an explicit mediational model where brooding rumination and cognitive-behavioural avoidance might mediate between self-compassion and

depression. This research is of particular significance given the prevalence of

depression amongst adolescents, and the debilitating affect it can have (e.g. Birmaher

et al., 1996; 2002; Goodyer et al., 2000; Lewinsohn, Rohde et al., 2003; Merry et al.,

2012). The findings may also be of clinical importance as they may help target and

focus interventions to make them more effective (e.g. Klein, Lewinsohn & Seeley,

1997).

4.3 Summary of Research Findings and Comparisons with the Existing Literature

4.3.1 Overall summary. This study provides support for the first hypothesis

(H1), predicting the relationships between the different variables. Firstly, self-

compassion was shown to negatively relate with depressive symptomatology. All of

the maladaptive components of self-compassion (self-judgment, over-identification

and isolation) positively related with depressive symptomatology, however only self-

kindness (and not the other helpful constructs of mindfulness or common-humanity)

negatively related with depressive symptomatology. Secondly, rumination (reflection

and brooding) and cognitive and behavioural avoidance negatively related with self-

compassion and positively related with depressive symptomatology. Thirdly,

brooding and reflective rumination were positively related with cognitive and

behavioural avoidance, although reflective rumination did not positively relate with

the social (cognitive and behavioural) avoidance subscales.

Regarding the second hypothesis (H2), rumination (both brooding and

reflection), total cognitive-behavioural avoidance and behavioural non-social

avoidance were all found to mediate the relationship between self-compassion and

depressive symptomatology. However, the remaining avoidance subscales did not.

Finally, the third hypothesis (H3) was supported, with total cognitive-behavioural avoidance and brooding rumination shown to collectively mediate the relationship between self-compassion and depressive symptomatology. However, they did not independently mediate this relationship when the other variable was controlled for.

These findings will be discussed in more detail, in addition to the subsidiary analyses, and the clinical implications of these will be considered below.

4.3.2 Research question one. *What relationships exist between self-compassion, rumination, avoidance and depressive symptoms in an adolescent population?* The aim of this research question was to investigate the relationship between self-compassion and depression, and the maladaptive coping strategies of rumination and avoidance. Spearman Rho correlational analyses were used to explore these relationships.

4.3.2.1 The relationship between self-compassion and depressive symptomatology. As hypothesised, this study found a significant large negative correlation between self-compassion and depressive symptomatology. When exploring the self-compassion subscales, all of the maladaptive components (self-judgment, isolation and over-identification) were significantly positively related to depressive symptomatology, with very large relationships observed. Considering the protective components of self-compassion (self-kindness, common humanity and mindfulness), these were all shown to be significant negatively correlated with depressive symptomatology with small to medium effect sizes. However, common humanity and mindfulness did not remain significant after the application of the Bonferroni alpha level adjustment, therefore, the relationship between the protective factors of self-compassion and depressive symptomatology may warrant further

research. In summary of the current findings, it seems clear that self-compassion is negatively correlated with depressive symptomatology and, regarding the subscales of compassion, the negative features of compassion appear to make more of a contribution to this relationship.

The direction and size of the effect is similar to that found in studies by Neff and McGee (2010) and Bluth and Blanton (2012; 2014). However, in one study with a larger sample and a slightly younger age group (Sutton, 2014) the effect size was considerably smaller. Also in Tanaka and colleagues' (2011) study the effect size was smaller, although this might be explained by methodological differences, notably the use of different measures.

4.3.2.2 The relationship between self-compassion and rumination and cognitive-behavioural avoidance. It was hypothesised that self-compassion is negatively correlated with rumination (specifically brooding rumination) and cognitive-behavioural avoidance. As predicted, this study found significant negative relationships between self-compassion and cognitive-behavioural avoidance and rumination. Considering rumination, the hypothesis was accepted, with brooding rumination having a large negative relationship with self-compassion; a weaker relationship was observed with reflective rumination, although this was still medium to large in size. Considering cognitive-behavioural avoidance, the strongest relationship was observed between self-compassion and total cognitive-behavioural avoidance. Additionally, all of the subscales had a large negative relationship with self-compassion, although the relationship with cognitive avoidance was slightly stronger than with behavioural avoidance.

To the researcher's knowledge this is the first study to explore the relationship between self-compassion and rumination amongst adolescents, therefore the present

findings are compared with previous findings amongst non-clinical adult samples.

Amongst a sample of undergraduates Raes (2010) found both the reflection ($r = -.19$)

and brooding ($r = -.55$) subscales of the RRS to be significantly correlated with the

SCS, yet the relationship between with brooding rumination was large, whereas with

reflection this was small. Conversely, Johnson and Nozick (2011) and Kreiger and

colleagues (2013) found self-rumination or symptom-focused rumination (both

similar to brooding) to be significantly negatively associated with self-compassion

and not the more adaptive and reflective forms of rumination. Considering this study

in relation to the findings in the wider literature, the relationship between brooding

rumination and self-compassion is comparable to previous findings. However, the

relationship between reflective rumination and self-compassion appears to be more

negative than in comparison with previous findings, suggesting that reflective

rumination may be a maladaptive strategy amongst adolescents. It is difficult to

determine how typical these findings are as there is no other study which has an

adolescent sample for comparison. Consequently it should be considered that the

findings from this study may lack reliability or represent a biased sample. This is

discussed in more detail in section 4.5.

This was the first study to explore the relationship between cognitive-

behavioural avoidance and self-compassion amongst an adolescent sample. As a

result, only comparisons to other research using adult samples are possible. To the

researcher's knowledge, only Kreiger and colleagues (2013) have previously

investigated the relationship between self-compassion and cognitive-behavioural

avoidance as measured by the CBAS. They found self-compassion to be significantly

negatively related to total cognitive-behavioural avoidance ($r = -.30$) in depressed

adults. As in the present study, significant correlations were shown between self-

compassion and behavioural social and non-social avoidance and cognitive non-social avoidance, but not with cognitive social avoidance. Compared to the current sample, the negative relationship between self-compassion and cognitive-behavioural avoidance appears to be much weaker in Kreiger and colleagues' (2013) research. The discrepancy in the findings presented may reflect sample differences, for example age differences or the differences between a clinical and a non-clinical sample. However, Kreiger and colleagues (2013) study had a larger sample size (N=142), which may mean that, other methodological differences notwithstanding, the results represent a more accurate estimate of the true effect size.

4.3.2.3 The relationship between depressive symptomatology and rumination and cognitive-behavioural avoidance. As predicted significant positive relationships were observed between depressive symptomatology and rumination and cognitive-behavioural avoidance. Considering rumination, as predicted, depressive symptomatology was more strongly correlated with brooding rumination than with reflective rumination, although there was only a small discrepancy between the two. Considering cognitive-behavioural avoidance, the strongest relationship was observed between depressive symptomatology and total cognitive-behavioural avoidance. Large relationships were also observed between depressive symptomatology and the behavioural and cognitive social avoidance subscales.

There are some points of comparison in the existing literature for the relationship between depression and brooding and reflective rumination. Amongst a non-clinical adolescent sample Burwell and Shirk (2007) found a large significant positive correlation between brooding and depressive symptoms whereas, although significant, the correlation between reflection and depressive symptoms was small. However, in Cox and colleagues' (2012) research amongst non-clinical adolescents,

the discrepancy between the two subtypes' relationship with depressive symptoms

was not as large and therefore more in keeping with the current findings. Similar

findings were also shown amongst Verstraeten and colleagues' (2011) community

sample of younger adolescents, with brooding and reflection having a similar

relationship to depression. These findings suggest that the relationship between

depressive symptoms and brooding remains relatively stable across different research

samples; however, the relationship with reflective rumination is subject to fluctuation.

Reasoning for these discrepancies is explored in further detail within section 4.4 and

4.5.

To the researcher's knowledge, this is the first study to explore the

relationship between depressive symptomatology and cognitive-behavioural

avoidance as measured using the CBAS in adolescents. However, the findings from

this study are comparable with the findings in non-clinical adult samples with

Ottenbreit and Dobson (2004) finding cognitive-behavioural avoidance to be

moderately correlated with depression. Furthermore, the CBAS subscales showed

significant relationships with depression scores, the strongest relationship being

observed for cognitive non-social avoidance. Additionally, amongst undergraduate

students, Moulds and colleagues (2007) found cognitive-behavioural avoidance as

measured by the CBAS to be significantly correlated with depression as well as with

all the subscales.

4.3.2.4 The relationship between rumination and cognitive-behavioural

avoidance. It was hypothesised that rumination, specifically brooding, is positively

correlated with cognitive-behavioural avoidance. Both brooding rumination and

reflective rumination were significantly positively related to total cognitive-

behavioural avoidance. However, as predicted, the relationship was stronger with

brooding rumination, with a large effect size being observed as compared to a medium-large effect size for reflective rumination. Large significant positive correlations were also found between brooding rumination and all subscales of avoidance. Conversely, reflective rumination was only significantly positively related to the social avoidance subscales, with medium-large effect sizes observed, and not to the non-social avoidance subscales.

Direct comparisons could not be made to another adolescent sample within the existing research, as it seems that the relationship between cognitive-behavioural avoidance and rumination has not been previously explored within this age group. However, amongst a community sample of undergraduates Mould and colleagues (2007) found cognitive-behavioural avoidance, as measured on the CBAS, to significantly correlate with brooding rumination but not reflection rumination. In comparison to the current research these findings show weaker relationships between cognitive-behavioural avoidance and rumination, specifically reflective rumination.

An interesting finding from Mould and colleagues' (2007) research was that brooding rumination was correlated with all avoidance measures, whereas the reflection component was only significantly correlated with behavioural social avoidance. This is a similar pattern of findings to those of the current study, although they did not find that reflection correlated with cognitive social avoidance. This suggests that reflective rumination is more strongly linked with the avoidance of activities involving others, rather than solitary activities.

4.3.2.5 Summary of the relationships between the main study variables.
Findings from the correlational analyses show a strong significant negative relationship between self-compassion and depressive symptomatology amongst adolescents. In addition the coping strategies of cognitive-behavioural avoidance and

rumination (brooding and reflection) significantly correlated with self-compassion

and depression in the predicted directions. However, it should be noted that,

compared to other research, there appears to be a greater overlap between reflective

rumination and brooding rumination, with these variables sharing similar

relationships with other variables, and with the size of the effects differing only by a

small amount.

4.3.3 Research question two. *Do rumination (brooding and reflection) and*

avoidance (cognitive and behavioural) play mediating roles within the relationship

between self-compassion and depression in an adolescent population? The aim of this

research question was to investigate the processes that may explain the relationship

between self-compassion and depression.

4.3.3.1 Rumination and cognitive-behavioural avoidance as mediators in the

relationship between self-compassion and depression. As hypothesised, brooding-

rumination and total cognitive-behavioural avoidance were shown to mediate the

relationship between these two variables using Hayes' (2013) bias-corrected

bootstrapping procedure. However, reflective rumination was also shown to mediate

this relationship, which was an unpredicted finding, and is likely to reflect the overlap

between brooding and reflection within this study's sample. Considering the sub-

scales of cognitive-behavioural avoidance, only behavioural non-social avoidance was

shown to mediate the relationship between the two variables, whereas behavioural

social, cognitive social and cognitive non-social avoidance did not.

To date there has been no research investigating mediating processes in the

relationship between self-compassion and depression amongst an adolescent sample;

however, such research has been carried out amongst adult clinical and community

samples. The findings from existing research are comparable to those from the current

research for brooding rumination, but not reflection rumination. For example, Raes (2010) and Kreiger and colleagues (2013) found symptom-focused or brooding rumination to significantly mediate the relationship between self-compassion and depression, whereas the more adaptive reflective component did not.

Considering cognitive-behavioural avoidance, this study's findings were consistent with the existing literature. For example, Kreiger and colleagues (2013) found cognitive-behavioural avoidance to significantly mediate the relationship between self-compassion and depression. However, slight differences are observed between the current study and Kreiger and colleagues' (2013) study when exploring the mediating roles of the cognitive-behavioural avoidance subscales. Within the current study only behavioural non-social avoidance was shown to mediate the relationship between self-compassion and depressive symptomatology, whereas Kreiger and colleagues (2013) found all subscales, apart from cognitive social avoidance, to significantly mediate this relationship.

4.3.4 Research question three. *Does total cognitive-behavioural avoidance and brooding rumination collectively mediate the relationship between self-compassion and depression in an adolescent population?* The aim of this research question was to investigate whether the processes of cognitive-behavioural avoidance and brooding rumination together explain the relationship between self-compassion and depression.

4.3.4.1 Brooding rumination and cognitive-behavioural avoidance are parallel mediators in the relationship between self-compassion and depression. By employing Hayes' (2013) bias-corrected bootstrapping procedure in a parallel multiple mediation model, brooding rumination and cognitive-behavioural avoidance were shown to collectively mediate the relationship between self-compassion and

depression. When comparing the indirect effect of self-compassion on depression

through brooding rumination and cognitive-behavioural avoidance they did not

significantly differ, suggesting both mediating processes are of similar importance.

Exploring this relationship further, and to account for confounding variance,

cognitive-behavioural avoidance was controlled for when running brooding

rumination as a mediator and vice versa. Interestingly, neither mediating variable

remained significant when the other was controlled for. This suggests that without the

influence of cognitive-behavioural avoidance on rumination, and vice versa, the two

variables independently do not explain the relationship between self-compassion and

depression. This potentially indicates overlap between the two variables or that there

is an epiphenomenal association between the two variables, with these variables

influencing one another, and this is discussed in further detail in section 4.4.

Kreiger and colleagues (2013) explored a similar mediation model amongst an

adult sample. Their findings support those in the current study, with symptom-focused

rumination (a maladaptive form of rumination similar to brooding) and cognitive-

behavioural avoidance collectively mediating the relationship between self-

compassion and depression.

4.3.5 Supplementary hypotheses. Two supplementary hypotheses were

proposed regarding gender and age differences within the research variables explored.

These were investigated due to gender differences and age differences being observed

for self-compassion, rumination, avoidance and depressive symptomatology

throughout section 1.

4.3.5.1 Gender differences within variables. Within the literature, it has been

evidenced that females are less likely to be self-compassionate (e.g. Bluth & Blanton,

2014; Tanaka et al., 2011) and more likely to experience depressive symptomatology

(e.g. Bluth & Blanton, 2014; Hankin et al., 1998), to engage in rumination (e.g. Rood et al., 2009) and to be more avoidant (e.g. Blalock & Joiner, 2000) than males. It was therefore hypothesised that females would show higher levels of depressive symptomatology, rumination and avoidance, and lower levels of self-compassion. In this study's sample, after Bonferroni correction, female adolescents reported significantly higher levels of depressive symptoms as compared to males, with a medium effect size. However, no significant differences were found amongst levels of cognitive-behavioural avoidance, rumination and self-compassion. Considering the subscale scores of the measures explored, significant gender differences were found for the SCS over-identification subscale, with females reporting higher levels compared to males, with a medium effect size. No significant gender differences were found for the remaining subscales. However, the gender difference was significant prior to the adjusted alpha value for rumination and the self-compassion subscales of self-judgment, and isolation, with females reporting higher levels than males. Bearing in mind that the Bonferroni correction is fairly conservative, this may indicate trends that warrant further investigation.

These findings suggest that, compared to males, females are more likely to experience low mood. Although there were no significant differences in rumination, prior to the Bonferroni correction females were shown to engage in total rumination and reflective rumination more so than males. Additionally, although females and males do not differ in their use of compassionate strategies (e.g. being kind to themselves, experiencing emotional suffering as part of a shared experience, and being mindful), females are more likely to engage in the polarised unhelpful strategies of over-identification, and perhaps self-judgment and isolation.

Findings from this study support the gender difference observed in depressive symptomatology within the existing literature. A substantial amount of research has identified a gender difference in the rates of depression from the age of 13- 14 years (e.g. Angold et al., 1998; Bluth & Blanton, 2014; Cole et al., 1999; Ge et al., 1994; Hankin et al., 1998; Lewinsohn et al., 1985; 1993; Peterson et al., 1991; Silberg et al., 1999; Weissman et al., 1997; Wichstrom, 1999).

Amongst adolescent samples there is contradictory evidence regarding the gender difference in self-compassion. As found within this research, Neff and McGehee (2010) found no gender difference for self-compassion in an adolescent sample (M = 15.2, range 14 – 17 years); however there was a gender difference within a young adult sample (M = 21.1, range 19 – 24 years), with males being more compassionate than females. Additionally, in other studies males were observed to be significantly more self-compassionate than females (Bluth & Blanton, 2014; Tanaka et al., 2011), with the gender difference being observed between older adolescents (range = 14 – 18 years) and not younger adolescents (range = 11 – 14 years). These findings suggest that the self-compassion gender gap increases with age. As shown within this study, Bluth and Blanton (2014) found the negative components of self-compassion (self-judgment, isolation and over-identification) to drive the gender difference in self-compassion; with females being more judgmental of themselves, viewing their problems in isolation from others, and finding it difficult to disengage from these.

Existing literature indicates that there is a gender difference in rumination amongst adolescents. For example, Johnson and Whisman (2013) conducted a meta-analysis looking at gender differences in rumination, finding females to ruminate more than males, though the effect size was small *(d = .24)*. Interestingly, the gender

gap in rumination has been shown to increase between childhood and adolescence

(Rood et al., 2009), providing support for the theory that rumination accounts for the

increase of depressive symptoms and the emergence of gender differences in

depression during adolescence (Nolen-Hoeksema & Girgus, 2004). Due to the small

sample size in the current study, it was not possible to determine if gender differences

became more pronounced across the age range. Considering the gender differences in

brooding rumination and reflection rumination, Burwell and Shirk (2007) found a

significant gender difference for reflection (with females reflecting more than males)

but not for brooding rumination. Although no significant gender differences were

found within this study, prior to the application of the Bonferroni adjustment a gender

difference was observed for reflective rumination and not brooding rumination. This

is in keeping with Burwell and Shirk's findings.

Finally, there is mixed evidence for a gender difference in avoidant coping

from adult samples, with some research indicating females to be more avoidant than

males (e.g. Blalock & Joiner, 2000), and other research supporting the current

findings and finding no gender difference (e.g. Ottenbreit & Dobson, 2004).

Regarding gender differences on the CBAS, there is no existing research in adolescent

samples for comparison. However, amongst a community adult sample, males were

found to score significantly higher than females for total cognitive-behavioural

avoidance, this difference also being true for all subscales except the behavioural non-

social subscale (Ottenbreit & Dobson, 2004). Contradicting this, and supporting the

findings of the current study, Moulds and colleagues (2007) found no gender

difference either for the total CBAS score, or for the subscales.

In conclusion, it seems clear that there is a gender difference in depressive

symptomatology, with females scoring higher than males, and this pre-existing

finding is supported by the current research. Although it is well established that females ruminate more than males, this was not supported by this research. However, it may be that the Bonferroni adjustment was too conservative as prior to its application gender differences in the relevant direction were found. Furthermore, no gender differences are evident for total self-compassion, or amongst the helpful components of the construct. However, females were shown to engage more in the unhelpful components of self-compassion as compared to males. Lastly, no gender differences were found for cognitive-behavioural avoidance, providing support for the lack of gender difference in avoidance evident within the literature, although some findings contradict this. Due to there being some discrepancy within the literature regarding the gender difference amongst the variables explored, particularly self-compassion and avoidance, these would benefit from further investigation.

4.3.5.2 Age differences within variables. Within the literature levels of self-compassion, depression (e.g. Neff & McGehee, 2010), rumination and avoidance (e.g Hample & Petermann, 2005) have been shown to increase with age. It was therefore hypothesised that as age increases, so do levels of depressive symptoms, self-compassion, rumination and avoidance. As it would have been difficult to create a categorical variable from the continuous variable, Spearman's rank correlations were performed to explore age differences, comparing age correlations across the total scores and subscale scores of the variables. The findings from the correlation analyses showed no significant relationships between age and depression, avoidance, rumination and self-compassion, or any of the subscales.

The findings from this study are in line with previous adolescent research. For example, Neff and McGehee (2010) found no significant differences between a community sample of adolescents and young adults for self-compassion scores.

However, there was a significant difference shown for depression, with young adults showing elevated levels of depressive symptoms in comparison to adolescents. Although there was not a significant correlation between age and depressive symptoms within this study, it was approaching significance and it may be that this would become significant if a larger age range including young adults had been sampled.

Considering rumination, findings from within the literature conflict with the current study. For example, amongst a large sample of children and adolescents (range 8-14 years) Hampel and Petermann (2005) found rumination to increase with age. Additionally, Jose and Brown (2008), amongst a large sample of adolescents (range 11–17 years), found a significant effect of age on rumination, again with levels of rumination shown to increase with age.

Finally, there are mixed findings within the literature regarding avoidance. It is difficult to make direct comparisons as no other study has looked at adolescent age differences in cognitive-behavioural avoidance using the CBAS. However, emotion focused coping, involving avoidant strategies such as distraction, has been shown to increase with age (Hampel & Petermann, 2005). Despite this, there are inconclusive findings from previous research for age differences in avoidant coping. This has been explained due to there being different conceptualisations of avoidance, including cognitive and behavioural avoidance (Fields & Prinz, 1997).

4.4 General Summary of the Findings

This study provides initial support for the idea that adolescents with high levels of self-compassion may be more resilient and less prone to emotional problems such as depression (Leary et al., 2007; Neff, Rude & Kirkpatrick, 2007). It is also the

first study to provide evidence for the hypothesis that brooding rumination and

cognitive-behavioural avoidance mediates the relationship between a lack of self-

compassion and depression in adolescents. This supports findings from within adult

samples (Johnson & O'Brien, 2013; Kreiger et al., 2013; Raes, 2010).

One important finding within this research is that, in line with previous

research (e.g. Barry et al., 2014; Gilbert, McEwan, Matos & Rivis, 2011; MacBeth &

Gumley, 2012), the negative features of self-compassion (self-judgment, isolation,

over-identification) seem to be the more "active" components of self-compassion,

having a stronger relationship with depressive symptomatology compared to the

adaptive subscales (self-kindness, common-humanity and mindfulness). This has

clinical implications, suggesting that more change in self-compassion is likely to arise

when the negative features are minimised. In addition, a gender difference was

observed for the negative components and not the positive components. This suggests

that, although there was not a significant gender difference in total self-compassion

scores, it may be that the negative facets of self-compassion play a role in explaining

the gender difference in depression. For example, females may engage more in self-

judgment, isolation and most notably over-identification, which then leads to an

increase in rumination (where a gender difference prior to Bonferroni adjustment was

also observed), which subsequently results in an increase in depressive

symptomatology. Avoidance was not included in this hypothesis, due to there being

no gender difference shown. However, further research is warranted to explore this

further.

Another important observation within this study is that reflective rumination

appeared to be a form of maladaptive coping, as opposed to adaptive coping, within

this sample as it had positively correlated with depressive symptomatology and

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negatively correlated with self-compassion, at just a slightly lesser rate than brooding

rumination. There is on-going debate in the research as to whether rumination is

adaptive as well as being maladaptive (e.g. Wyer, 1996; Trapnell & Campbell, 1999).

The findings from this study add to the evidence base of research that shows

reflection and emotionally neutral pondering might be associated with greater

depressive symptomatology (Fresco, Frankel, Mennin, Turk & Heimberg, 2002;

Joormann, Dkane & Gotlib, 2006; Lam, Smith, Checkley, Rijsdijk & Sham, 2003;

Roberts et al., 1998; Siegle, Moore & Thase, 2004). Interestingly, Treynor and

colleagues (2003) found reflection to be associated with greater depressive symptoms

early on in the depressive episode, however over time this association decreased.

Nolen-Hoeksema and colleagues (2008) conceptualise this as self-reflection being

emotionally distressing in the short-term, but over a longer period being more helpful,

promoting adaptive strategies such as problem solving. Future research employing a

longitudinal design would be beneficial to explore this theory further.

Finally, an intriguing finding was that cognitive and behavioural avoidance

and brooding rumination did not remain significant mediators of the relationship

between self-compassion and depression when the other was controlled for. This

supports the overlap between the variables that has been suggested in the literature

and discussed in section 1.5.3. For example, rumination has been shown to serve as a

cognitive avoidance strategy, with cognitive avoidance re-emerging as rumination due

to the individual being unable to block out unwanted thoughts (Dickson et al., 2012;

Moulds et al., 2007; Wenzlaff & Luxton, 2003). Behavioural avoidance on the other

hand has been positively correlated with rumination in non-clinical samples (Cribb et

al., 2006; Giorgio et al., 2010; Moulds et al., 2007), although it has not been shown to

be predictive of rumination, and instead it is hypothesised that behavioural avoidance

arises as a result of rumination (Dickson et al., 2012). Supporting this, Brockmeyer

and colleagues (2014) found behavioural avoidance to mediate the relationship

between rumination and depression. Considering these findings, it may be that

cognitive avoidance leads to rumination, which in turn leads to behavioural avoidance,

therefore explaining the overlap between the variables: a model for this is proposed in

section 4.6. Alternatively this overlap may reflect how both rumination and avoidance

can be understood as facets of experiential avoidance (Cribb et al., 2006; Giorgio et

al., 2010; Ottenbreit & Dobson, 2008). Considering these theories it is likely that

people who lack self-compassion are more likely to function in a more avoidant way,

leading to the increase and maintenance of depressive symptoms. It would be

beneficial for further research to explore the relationship between rumination and

cognitive and behavioural avoidance longitudinally. Additionally, specific measures

of experiential avoidance could be utilised and the relationship between experiential

avoidance and self-compassion and depression could be explored.

4.5 Evaluation of the Current Research Design

4.5.1 Methodological strengths.

It is important to note the strengths of this study. Firstly, according to the

method of analyses employed, a large enough sample to achieve statistical power was

recruited. Also, there was a limited amount of missing data within the study. This may

be due to the sample being self-selecting and therefore may have been motivated and

highly conscientious when completing the measures. It may also have helped that the

researcher was present to ask questions.

Secondly, a multiple mediation model was investigated, expanding upon

simple mediation models that have been criticised due to oversimplifying the process

being studied (Hayes, 2014). Multiple processes were explored, which is advantageous given that most effects operate through multiple mechanisms at once (Hayes, 2014).

Thirdly, although the study was primarily concerned with the total scores of the variables being researched, subscales were also explored, for example self-compassion and cognitive-behavioural avoidance subscales. Preliminary findings from this study have identified different areas for future research; for example, the gender difference in self-compassion being identified amongst the maladaptive subscales and not the adaptive subscales.

Despite the strengths outlined above, it is important to consider the limitations of the study. A number of limitations can be identified, which reflect those of other research exploring self-compassion, as outlined in section 1. Many of the limitations in this study reflect the limited resources available to the researcher, such as time and money, and these are acknowledged below.

4.5.2 Methodological limitations.

4.5.2.1 Sample. One of the main study limitations was the small sample size in tandem with the large number of variables used. This meant that some significant correlations did not remain after application of the Bonferroni correction. It is possible that this correction was too conservative (Perneger, 1998) and that in a larger sample the correlations may have remained significant.

Within the current study, the method of opportunity sampling was employed. Although a quick and convenient form of recruiting participants, this method is sensitive to bias and can produce an unrepresentative sample (e.g. Coolican, 1990). Additionally, no estimates of prevalence can be made from samples of convenience.

The sample recruited was not the most representative. For example, the sample was recruited from a small geographical region and, although urban and rural schools were recruited, the urban towns in the area targeted were not major towns or cities. Furthermore, although the sample included both state and independent schools, participants attending independent school were overrepresented. It is likely that the sample is representative of adolescents from more affluent socio-economic backgrounds, and therefore is not as generalisable to those from poorer backgrounds.

A number of findings in the study seem to reflect a self-selection bias; for example, within the sample there were high levels of depressive symptomatology. This may be due to self-selection by adolescents with their own experiences of low mood or rumination. Alternatively, participants experiencing low mood may have considered the fact that their parents would be informed if they scored highly on the depression measure to be an incentive to take part.

A gender bias was also evident, with two thirds of the sample being female. The gender discrepancy may reflect social norms, in that females are more likely to report psychological symptoms and seek help than males (e.g. Spinhoven & Kooiman, 1997). This gender imbalance is likely to have reduced the reliability of the gender differences explored within this study. Additionally, due to the gender imbalance it is difficult to generalise these findings to males, and further research should explore the relationships between the variables amongst a more equal gender ratio.

Although the majority of the sample's ethnicity was White British, a fair proportion of the sample differed from this (17%; e.g. Chinese, African, Australian, German, Romanian, Spanish). This is not a typical sample for schools in the study's region, although perhaps this makes the findings more generalisable to urban settings, which are more ethnically diverse.

A further limitation of the sample was that it was non-clinical and therefore the relationships between the variables explored cannot be generalised to clinical cohorts. However, in a review of the literature, Vredenburg, Flett and Krames (1993) found that findings from clinical and non-clinical samples did not differ substantially. Furthermore, although the sample was non-clinical, it needs to be considered that almost half the sample scored above the cut-off for depression on the depression measure. Indeed, even when the cut-off score was raised to a more clinically meaningful level, 13% exceeded this, suggesting that a proportion of respondents were experiencing clinically significant levels of impaired mood. It may be, therefore, that the findings of this study remain true for clinical samples; however further research is recommended amongst clinically depressed adolescent samples.

4.5.2.2 Design. The study employed a cross-sectional design, which limits interpretations of the findings of the correlational and mediation analyses and the ability to infer causation. Although mediation is a causal process, due to the cross-sectional study design, direction of causal order cannot be established (Hayes, 2013). Therefore, it cannot be concluded that a lack of self-compassion precedes rumination, avoidance or depressive symptoms in time. Indeed, it may be that a lack of self-compassion causes depressive symptomatology, which then leads to the consequence of avoidant or ruminative behaviours. Considering the strong theoretical grounding supporting the direction of the relationships between the variables included in this model, this is unlikely to be the case. However, it may still be plausible for another direction of causal flow and this cannot be ruled out, therefore it is recommended that additional research be undertaken that can rule out alternative explanations and establish causal direction. It is advised that longitudinal designs are conducted, in

order to provide a more accurate picture regarding causation between the variables

(see Maxwell & Cole, 2007).

Within this study, a parallel multiple mediator model was explored; a

disadvantage of this is that it assumes no causal association between the two

mediators (Hayes, 2013). As discussed previously in this chapter, given the fact that

rumination has been suggested to be an avoidant strategy (e.g. Brockmeyer et al.,

2014; Cribb et al., 2006; Giorgio et al., 2010; Martin & Tesser, 1996; Moulds et al.,

2007), it is likely to be more plausible that brooding rumination and cognitive-

behavioural avoidance influence one another within the relationship between self-

compassion and depression. Therefore, in order to determine whether one mediator

affects the other, it would be useful to test a serial multiple mediator model. In such a

model the relationship between self-compassion and depression could be investigated

by modelling a lack of self-compassion to cause cognitive-behavioural avoidance,

which in turn causes brooding rumination, leading to behavioural avoidance and the

increase in depressive symptoms. This model is proposed and discussed in section 4.6.

Although this research suggests cognitive-behavioural avoidance and brooding

rumination to explain the relationship between self-compassion and depression, this

cannot be concluded definitively. The reason for this is that other potential sources of

confounding or epiphenomenal association cannot be eliminated, and such an

association is a serious threat to the validity of causal inferences made from the

findings of a mediational analysis (Hayes, 2013). Indeed, there may be many other

confounding variables that are involved in the association between self-compassion

and depression. For example, other factors that have been identified as associated

with self-compassion are maladaptive perfectionism (Neff, 2003a; Williams, Stark &

Foster, 2008) and emotional regulation (e.g. Allen & Leary, 2010; Leary et al., 2007;

Neff, 2011). It is therefore recommended that future research expands upon the mediation model explored within this study, and investigates the explanatory power of other coping strategies, forms of emotion regulation, or personality traits for the relationship between a lack of self-compassion and depression.

4.5.2.3 Measurements. There may also be methodological shortcomings arising from the selection of measures. Self-report measures were employed as they allowed for a large amount of data to be collected at one time, and produced data that can be easily quantified, allowing for more objective analysis compared with other methods of research (Ackroyd & Hughes, 1981; Popper, 1959). All the measures used a Likert scale (Likert, 1932), which is recommended for use with children and adolescents, over and above other measures such as visual analogue scales, due to being the easiest to complete (van Laerhoven, van der Zaag-Loonen & Derkx, 2007). Additionally, and promisingly, it has been shown that children are able to accurately report on their depressed mood and symptoms from the age of 9, and able to recognise and identify different emotions (Harter, 1999; Kazdin, 1994). Providing support for this, within this study all questionnaire measures were shown to have high internal reliability and findings were shown to be fairly typical of an adolescent sample, as discussed within section 3.3.

However it is important to consider the shortfalls of self-report measures, such as being sensitive to bias and problems with validity. Indeed the Likert scale has received criticism due to people having different patterns of responding (Clark-Carter, 2010). For example, if two people score the same on an item this does not necessarily reflect true similarity, as one person may be exaggerating their symptoms and the other person may be minimising theirs. Additionally, there is a tendency for respondents to gravitate towards a response in the middle of the scale; this may be due

to social desirability bias, simply not knowing how to respond to an answer, or the question not being applicable to the respondent. However, although this has been found to be the case (Garland, 1991), research has shown that this does not significantly affect the validity or reliability of a measure (Kulas, Stachowski & Haynes, 2008). Additionally, self-report measures have been shown to be the most effective form of measuring internal experiences, such as thoughts and emotions, as often these cannot be measured using observable behaviour (Chan, 2009; Korb, 2011).

It is important to consider the impact of such biases, for example the social desirability bias, which arises from people responding in a way that is 'expected' of them, as determined by social norms. From a review of research employing a social desirability measure, close to half of the studies reviewed found social desirability influenced their results (van de Mortel, 2008). With regard to the current research, the measures involved are not considered to be particularly socially sensitive, for example the SCS has been shown to have no correlation with social desirability (Neff, 2003b). However, research has found that children scoring highly on a social desirability scale are less likely to report symptoms of psychological distress such as depression (Logan, Claar & Scharff, 2008). Therefore, given the current study measured for depressive symptoms, it may have been beneficial to include a social desirability measure to detect and control for such bias. Within this study it was felt important not to add to the pre-existing demands of completing the battery of questionnaires, but this may be something to consider for future research.

Further criticisms of self-report measures include the lack of a mechanism to adequately measure and understand emotions, feelings and behaviour, and the difficulty in knowing both how truthful a respondent is and how much thought they have invested into their responses (Ackroyd & Hughes, 1981; Popper, 1959). It may

therefore be useful for future studies to include a multimethod or multirater approach,

for example participant or parent interviews, in order to more accurately assess self-

compassion, depressive symptoms, rumination and avoidance.

The measures used within this study are discussed in further detail below.

Details regarding appropriate use with adolescents are mentioned, however this has

been previously discussed in greater detail in section 2.4.

There were some problems identified with the measures selected for this study.

For example, although **t**he CES-D has been deemed appropriate for use with

adolescents and has been shown to have good internal consistency both in this study

and within the wider literature (Dierker et al., 2001), one of its main limitations is its

sensitivity. The CES-D has been shown to lead to a high number of false-positives

(Myers & Winters, 2002; Roberts et al., 1991) and the proportion of true cases among

those exceeding the cut-off has been shown to be between 10-30% (Garrison et al.,

1991; Roberts et al., 1991), suggesting that it is over-sensitive. Indeed this appeared to

have been the case within the current study, with almost half the sample (40%)

exceeding the cut-off score for clinical depression on this measure. Similar

percentages of adolescents exceeding the cut-off have been shown within a non-

clinical community sample (49% amongst 11-15 year olds, 53% amongst 15-18 year

olds; Radloff, 1991). Radloff also used a convenience sample and, as with the current

study, this may not be representative of the adolescent population. In response to the

high percentages Radloff (1991) raised the cut-off to 28, a value designed to be more

clinically meaningful, and found significant lowering in the percentage of adolescents

exceeding the cut-off (13% amongst aged 11-15 year olds; 18% amongst adolescents

aged 15-18 years). Similarly, Garrison and colleagues (1991) found a cut-off point of

12 for males and 22 for females, whilst Roberts and colleagues (1991) found a cut-off

point of 22 for males and 24 for females, to be the most effective to screen for

depression. Within the current study 12 (13%) of adolescents exceeded Radloff's

(1991) raised cut-off, which is comparable to the percentage within his study. It may

have been useful to have employed a higher cut-off score within this study; especially

as parents were informed at the lower cut off and may have become unduly concerned

about their children. However, from a risk management point of view it is preferable

to have more false positives than more false negatives. Considering the implications

of the cut-off score level for the data analyses this was not problematic, as the data

collected were continuous and not categorical.

It is also possible that the scores on the CES-D were inflated by transient

symptoms arising from influences such as mood swings, school stress, or

interpersonal factors. Indeed, when persistence of symptoms has been measured and

controlled for, those who exceed the cut-off have been shown to significantly reduce

(e.g. Radloff, 1991; Wells, Klerman & Deykin, 1987). Measuring the persistence of

symptoms and other extraneous factors, such as current or recent stressors that the

participants may have been exposed to, would be relevant within future research. This

would allow a more accurate understanding of depressive symptomatology.

The problems identified with the CES-D probably stem from the fact that it

was designed as a measure for epidemiologic research and was not intended for

clinical diagnosis. Therefore caution needs to be taken when interpreting the scores,

and it may be beneficial for future research to utilise a more comprehensive

diagnostic measure or procedure.

Within the current study the measure of compassion used was the SCS. As

shown in Neff and McGehee's (2010) study, the measure was demonstrated to have

high internal consistency, suggesting the scale is appropriate for use with adolescents.

However it needs to be considered that self-compassion is a construct proposed by

Neff (2003a), which is based on a Buddhist perspective and not strictly a

psychological perspective. Therefore it may be more clinically relevant to use a scale

that is more rooted in psychological theory, such as Gilbert's model of compassion

(Gilbert, 2005) based on attachment and evolutionary perspectives. At present no such

scale has been developed for use; the development of such a measure might be

clinically relevant, and warrants further consideration. Additionally, it may be useful

to measure self-compassion using a range of different methods. Most studies

researching self-compassion, including the present one, use a cross-sectional survey

design and it may be that using experimental and qualitative research designs would

broaden and add further dimensions to our understanding of self-compassion.

The RRS was shown to have high internal consistency amongst the current

adolescent sample, both for the total and subscale scores, reflecting previous reports

within the literature for the reliability of the measure within adolescent samples (e.g.

Cox et al., 2012). Additionally, previous studies have reported acceptable convergent

and predictive validity for the measure (Butler & Nolen-Hoeksema, 1994; Nolen-

Hoeksema & Morrow, 1991). When exploring the main research questions of this

study, the brooding and reflection subscales were used (Treynor et al., 2003).

Confirmatory factor analytical support has been provided for this two-subscale

measure, with appropriate reliability and convergent and discriminant validity for the

subscales (Schoofs, Hermans & Raes, 2010). It is likely, therefore, that the findings in

the current study more reliably reflect the relationship between repetitive thinking and

depression, rather than being an extended measure of depressive symptomatology.

With regard to brooding and reflection, one main concern within this study

was the lack of differentiation between the two scales. Indeed, rather than being

adaptive, the reflection scale positively related to depressive symptomatology and negatively related to self-compassion. This finding may be due to the difficulty distinguishing between different types of rumination, particularly when experiencing a depressive mood state (Joorman et al., 2006). For example, those who are depressed and are brooding may also be more likely to score higher on the reflection items. Indeed they may score highly on the reflection item of "analyse recent events to try to understand why you are depressed", but rather than considering this in an emotionally neutral way they may instead be brooding about the event. It would therefore be beneficial to consider brooding and reflective rumination longitudinally. For example Treynor and colleagues (2003) propose that reflection may initially lead to negative affect, but over time may reduce negative affect, perhaps due to its role in facilitating effective problem solving.

The CBAS has only been used with an adolescent sample once before, and the scale was adapted for this use (Dickson et al., 2012). Within this study it was decided to not adapt the scale, and the internal consistency was shown to be very high, exceeding the internal consistency for Dickson and colleagues' (2012) adapted scale. The CBAS is beneficial as it assesses the degree of avoidance across cognitive and behavioural domains. However, the CBAS only assesses successful behavioural avoidance (withdrawing from activity) and unsuccessful cognitive avoidance (trying to not think about problems). Therefore, it would be useful to examine unsuccessful behavioural avoidance or successful cognitive avoidance as additional processes involved in the relationship between self-compassion and depression.

4.6 Future Directions for Research

From discussion of the findings and the limitations of the current study, areas for future research have been identified. The main suggestions that have been outlined above are summarised below.

Research on self-compassion is in its infancy and there is need for further research to strengthen and develop the current findings. This study has identified the importance of the role of maladaptive coping processes in the relationship between a lack of self-compassion and depressive symptoms. However, there may be many other confounding variables involved in the association between self-compassion and depression. It is therefore recommended that future research expands upon the mediation model explored within this study and investigates the explanatory power of other coping strategies, such as experiential avoidance, in the relationship between a lack of self-compassion and depression. Additionally, given the early stages of self-compassion research, it would be interesting for further research to investigate how the maladaptive components of self-compassion (self-judgment, over-identification and isolation) can be reduced in treatment, especially considering how "active" these components have been shown to be in the relationship with depression. Furthering our understanding of the relationship between the different constructs of self-compassion and coping processes would be beneficial in helping to refine treatment interventions. Furthermore, investigating the effectiveness of interventions designed to improve self-compassion, and the mechanisms of change that occur, would be of clinical relevance.

It is highly recommended that research be carried out that minimises the methodological constraints that existed within this study. For example, it would be beneficial for this research to be replicated amongst larger samples with equal gender

ratios and wider age ranges. As society grows increasingly diverse, another extension

to the current research would be to explore these variables and the proposed

mediation model amongst cross-cultural samples, as this has important implications

for therapeutic interventions. It would be relevant to replicate the current research

amongst a clinical sample, as the relationship between the variables explored may

function differently than as observed in the presented findings. Additionally it is

recommended that measures other than self-report questionnaires are employed, for

example qualitative research. Lastly, and perhaps most importantly, longitudinal

research designs should be carried out that can help afford causal claims and establish

causal direction within the mediation model proposed in this study (Maxwell & Cole,

2007). Within such a design, it would also be of interest to account for stressful life

events and to measure how the mediational model functions in response to these. If

future research can establish that, in response to stressful life events, low levels of

self-compassion cause maladaptive cognitive and behavioural processes, which

subsequently trigger and maintain depressive symptomatology, then this provides

strong support for the importance of refining interventions aimed at enhancing

features of self-compassion.

      Although the two factors of rumination, brooding and reflection, were

distinguished between within this study, it was found that these factors interacted

similarly with self-compassion, depression and avoidance. It is therefore of

importance for future research to explore these two factors further, and determine how

they differentiate from each other when explored alongside other forms of

psychopathology. Additionally, a longitudinal design would allow for observation of

how the different factors relate to depressive symptoms over time, therefore giving a

more in-depth insight into how adaptive or maladaptive these are. Furthermore,

although cognitive and behavioural social and non-social avoidance subscales were

distinguished, total cognitive avoidance (social and non-social) and total behavioural

avoidance (social and non-social) were not compared. Therefore it would be

interesting to compare the two, and to see whether either one of cognitive or

behavioural avoidance accounts more greatly for the relationship between self-

compassion and depression than the other.

The relationship between rumination and avoidance has been discussed and, in

order to determine whether one coping strategy affects the other, it would be

beneficial to test a serial multiple mediator model. Based on the literature (e.g.

Dickson et al., 2012; Moulds et al., 2007; Wenzlaff & Luxton, 2003), a model is

proposed, in which a lack of self-compassion causes cognitive avoidance, which

causes brooding rumination, resulting in behavioural avoidance and leading to the

consequence of an increase in depressive symptoms (Figure 7).
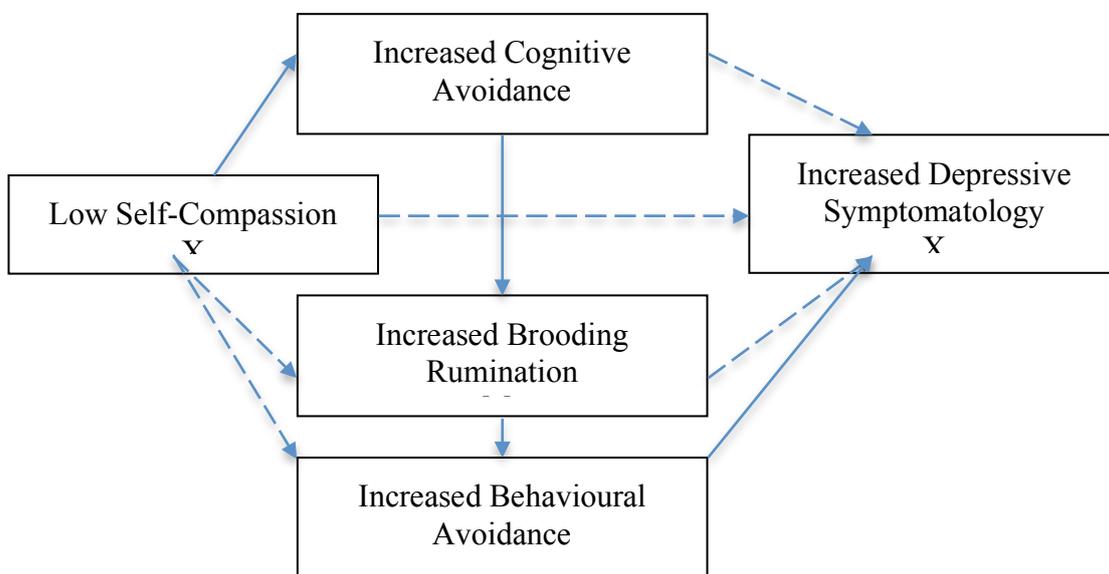
Figure 7. A diagram of the serial multiple mediator model proposing the role of
cognitive avoidance, brooding rumination and behavioural avoidance in the
relationship between self-compassion and depressive symptomatology.

*Note. Unbroken Arrow = proposed direct relationship, Dotted Arrow = proposed indirect relationship.
Self-compassion = predictor variable (Y), cognitive avoidance = mediating variable 1 (M_1), brooding
rumination = mediating variable 2 (M_2), behavioural avoidance = mediating variable 3 (M_3),
depressive symptomatology = outcome variable (X). Solid arrow = proposed mediating process.*

4.7 Clinical Implications

The findings from this study are of clinical importance as they can help inform and target therapeutic interventions, including preventative interventions, which are important given the debilitating effects depression can have on a young person's life, both in the short and long term (e.g. Birmaher et al., 2002). Such research is especially important in the context of the recent government taskforce (Department of Health and NHS England, 2015) identification of the importance of 'promoting resilience, prevention and early intervention'. The period of adolescence involves many stressors, and as discussed in section 1.3.3, how people cope can have a huge influence on the development of emotional problems, such as depression (Compas et al., 1993; Murberg & Bru, 2005). Overall, the current findings indicate that a lack of self-compassion is correlated with depressive symptomatology and thus highlight the importance of interventions targeting an increase in self-compassion. Additionally, the mediational model tested suggests this relationship is due to a lack of self-compassion increasing avoidant and ruminative strategies, which subsequently increase depressive symptomatology. This suggests that developing a self-compassionate attitude could be vital during the adolescent phase (Neff & McGehee, 2010) due to reducing the use of unhelpful coping strategies and vulnerability to future episodes of depression. Furthermore, the relationship between stress, cognitive vulnerability and depressive symptomatology has been shown to strengthen over time, thus highlighting the importance of developing a self-compassionate attitude during this period of self-development (Hankin, 2008; Hankin & Abela, 2005).

Self-compassion has been shown to improve with practice (e.g. Gilbert & Procter, 2006). Therefore it could be beneficial to include an intervention targeting self-compassion in prevention and intervention programmes. School-based

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programmes would also be an important area to develop, given the role they can play

in promoting resilience and improved emotional well-being (Brooks, 2012; Kuyken et

al., 2013). Indeed, within the recent government taskforce report aimed at improving

mental health services for young people (Department of Health and NHS England,

2015), it has been outlined that work is being done to improve and promote school

PSHE lessons, including lesson plans addressing topics such as 'managing stress'. It

may be that lessons aimed at improving self-compassion would be beneficial,

specifically helping to reduce self-judgment, isolation and over-identification as these

components have been shown to be integral in the negative relationship between self-

compassion and depressive symptoms. This warrants further research and, in order to

be effective it is likely to need to be more than a one-off session, instead being

promoted in all areas, with the school ethos encompassing a more self-compassionate

attitude. For example, a high school for girls in Oxford has adopted a similar

approach, encouraging their students to look at themselves kindly and realistically,

particularly in the face of failure, using phrases such as 'it's good enough', 'let it go',

'nobody's perfect' and 'have a go' (Sanghani, 2014). As would be expected, benefits

of such an approach have been hard to identify or measure, however the headteacher

reports that there has been a "greater sense of self-awareness and relaxation" observed

amongst both pupils and staff within the school (Sanghani, 2014). Although the

evidence is only anecdotal, this provides support for such an approach. Such a

strategy is interesting as, considering Gilbert's (2005; 2009) theory of compassion, it

is likely to be promoting the self-soothing system rather than the drive system which

is commonly followed by schools and academia as they focus on student achievement

(American Academy of Pediatrics, 2014).

Furthering our understanding of the relationship between the different constructs of self-compassion and cognitive processes would also be beneficial in helping to refine treatment interventions. This is of clinical importance as this "may reduce the impact of depression on the family, social, and academic functioning in youths and may reduce the risk of suicide, substance abuse, and persistence of depressive disorders into adulthood" (Birmaher & Brent, 2007, p. 1503). Therapeutic interventions that have been shown to improve self-compassion include *Acceptance and Commitment Therapy* (ACT; Hayes et al., 1999; Yadavaia, Hayes & Vilardaga, 2014); *Compassion Focused Therapy* (CFT; Gilbert, 2005, 2009); *Mindful Self-Compassion* (Neff & Germer, 2013) and *Mindfulness Based Cognitive Therapy* (MBCT; Segal et al., 2002). It may be relevant to investigate the effectiveness of these interventions in relation to the negative components of self-compassion, rumination and avoidance, and the mechanisms of change that occur. For example, within this study, before Bonferroni corrections, a gender difference was observed for over-identification, reflective rumination and depression. Considering this finding, one counter-argument for understanding and explaining the gender difference in depression in adolescents is that, rather than mediating the relationship between self-compassion and depression, rumination may more strongly explain the relationship between mindfulness and depression. It could therefore be argued to just target mindfulness rather than self-compassion to improve mood. However, Woodruff and colleagues (2014) found that self-compassion and psychological flexibility are greater indicators of positive psychological health than mindfulness. This suggests that interventions achieving an increase in self-compassion are more effective than those just targeting mindfulness, which is just one component of self-compassion.

Given that rumination and avoidance are considered important in the development of depression, interventions targeting these processes would also be legitimate. For example, Hilt and Pollak (2012) found distraction and mindfulness techniques to be effective at reducing a ruminative state in adolescents, and Watkins and Moulds (2007) found rumination focused CBT to be effective in reducing depression. Additionally, interventions aimed at reducing avoidance and increasing effective cognitive processing have been shown to lead to an improvement in depression (e.g. Hayes et al., 2005). However it may be that increasing self-compassion is more of a preventative measure, whereas targeting a reduction in rumination and avoidance would be more of a reactive measure and a method of treatment rather than prevention. Providing support for this Odou and Brinker (2014b) found self-compassionate writing and distraction to both be effective at reducing negative mood amongst an adult sample of ruminators. Conversely, only self-compassion increased positive affect.

4.8 Conclusion

There is great value in the investigation of the protective and risk factors for adolescent depression, furthering our understanding of these and extending previous research amongst adult samples. This study was one of the first to expand upon the underlying processes explaining the relationship between self-compassion and depression in an adolescent sample. This is particularly relevant given how sparse the current literature base exploring self-compassion amongst adolescent samples is.

Findings have highlighted the negative relationship between self-compassion and depressive symptomatology, with those with low self-compassion being shown to report elevated depressive symptoms. Additionally, it has provided support for the

maladaptive processes of rumination (both reflection and brooding) and cognitive and behavioural avoidance, and suggests these processes offer explanatory power for how a lack of self-compassion leads to an increase in depression. In conclusion, and notwithstanding the previously described limitations, these findings imply that a lack of self-compassion furthers the development of depressive symptoms by promoting the generation of repetitive negative thinking and avoidant coping. This reflects similar findings from within the adult literature.

These findings make an important contribution to the field of research on adolescent depression and the existing evidence base. Furthermore, the research provides key theoretical and clinical implications, for example the promotion of self-compassion as an alternative to interventions that specifically target rumination or avoidance amongst adolescents. Indeed, it may be that promoting self-compassion alongside interventions such as Cognitive-Behavioural Therapy would help to assist and prolong the reduction of rumination and avoidance. Above all else, this research further supports the benefits of holding a self-compassionate attitude; supporting Raes' (2010) conception that self-compassion may act as an "immunisation strategy" against the development and maintenance of depression. Bolstering self-compassion in young people at a school-based level may therefore be very appropriate, and also timely, given the current findings and the recent government action plan to support schools in promoting resilience and prevention of mental health problems (Department of Health and NHS England, 2015).

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6. Appendices

Appendix A – Table Extracted from Fritz and McKinnon (2007)

Appendix B – Contact Letter and Information Sheet to Headteacher of Selected

Schools

Appendix C – Headteacher Consent Form

Appendix D – Qualitative Description of Schools

Appendix E – Covering Letter and Information Sheet for Pupil

Appendix F – Covering Letter and Information Sheet for Parent/ Guardian

Appendix G – Pupil Expression of Interest Form

Appendix H – Parent/ Guardian Consent Form

Appendix I – Parent/ Guardian Demographic Sheet

Appendix J – Pupil Demographic Sheet

Appendix K – Center for Epidemiological Studies Depression (CES-D)

Appendix L – Self-Compassion Scale (SCS)

Appendix M – Ruminative Response Scale (RRS)

Appendix N – Cognitive-Behavioural and Avoidance Scale (CBAS)

Appendix O – Letter Granting Ethical Approval

Appendix P – Email Correspondence with Suffolk County Council Regarding Ethical

Approval

Appendix Q – Pupil Assent Form (14 -15 years old)

Appendix R – Pupil Consent Form (16 – 18 years old)

Appendix S – Letter to Parent/ Guardian if Child Scored Above the Cut-off Score on

the CES-D

Appendix T – Pupil Debriefing Sheet

Appendix U – Boxplot Diagrams Showing Outliers for Total Scores for Main Study

Variables

Appendix V – Histogram Charts Showing Data Distribution for Total and Subscale

Scores for Main Study Variables

Appendix A:

Table Extracted from Fritz and McKinnon (2007)

TABLE 3

Empirical Estimates of Sample Sizes Needed for .8 Power

Test	SS	SH	SM	SL	HS	HH	HM	HL	MS	MH	MM	ML	LS	LH	LM	LL
									Condition							
BK ($\tau' = 0$)	20,886	6,323	3,039	1,561	6,070	1,830	883	445	2,682	820	397	204	1,184	364	175	92
BK ($\tau' = .14$)	562	445	427	414	444	224	179	153	425	178	118	88	411	147	84	53
BK ($\tau' = .39$)	531	403	402	403	405	158	124	119	405	125	75	59	405	122	60	38
BK ($\tau' = .59$)	530	404	402	403	406	158	124	120	405	125	74	58	404	122	59	36
Joint significance	530	402	403	403	407	159	124	120	405	125	74	58	405	122	59	36
Sobel	667	450	422	412	450	196	144	127	421	145	90	66	410	129	67	42
PRODCLIN	539	402	401	402	402	161	125	120	404	124	74	57	404	121	58	35
Percentile bootstrap	558	412	406	398	414	162	126	122	404	124	78	59	401	123	59	36
Bias-corrected bootstrap	462	377	400	385	368	148	115	118	391	116	71	53	396	115	54	34

Note. All sample sizes have been rounded up to the next whole number. In the condition labels, the first letter refers to the size of the α path, and the second letter refers to the size of the β path; S = 0.14, H = 0.26, M = 0.39, and L = 0.59 (e.g., condition SM is the condition with α = 0.14 and β = 0.39). All results, except for those for Baron and Kenny's (1986) test (BK), have been collapsed across τ' conditions.

Appendix B:

Contact Letter and Information Sheet to Headteacher of Selected Schools

(Headteacher Name)

(School Address)

Rebecca Start
Trainee Clinical Psychologist

Norwich Medical School
Doctorate Programme in Clinical
Psychology
Faculty of Health
University of East Anglia
Norwich NR4 7TJ
United Kingdom

(Date)

Email:r.start@uea.ac.uk
Tel: +44 (0)1603 593 581
Fax: +44 (0)1603 591132

Research looking at the Protective and Risk Factors of Adolescent Depression

---

Dear Headteacher,

I am writing to a number of schools to ask if they will consider participating in a project that I am conducting for my Clinical Psychology Doctorate thesis.

The study aims to find out more about the protective and risk factors for adolescent depression, and I am particularly interested in the role of coping styles in the development of depression. Understanding about how adolescents think and behave in certain ways is important in informing our psychological understanding of such disorders, and we hope it will contribute towards helping us identify effective treatments.

I am hoping to recruit adolescents aged between 14 and 18, within the year groups of Year 10 to Year 13, to answer some questionnaires. These questionnaires would be completed within school time, at a time convenient to your school, and take a maximum of 20 minutes to complete. I would be present for data collection, however I would request that a suitably skilled member of staff was also available to provide any support should this be needed.

Attached is an information sheet with further details of the study, together with copies of the questionnaires to be used in the study. The UEA Faculty of Medicine and Health Sciences Research Ethics Committee have reviewed this research and the materials used

in it and granted ethical approval. Participation in the study is entirely voluntary and I am experienced in working with children and have an enhanced CRB check.

If you give permission for your school to take part in this study, I would ask to send pupils and their parents/guardians information about the study via your preferred/usual method of communicating with pupils and their parents/guardians. This information would stress the optional nature of participating in the study, and would also explain that in order to take part, pupils would need to give their assent (if below the age of 16 years) or consent (if aged 16 years or above), and that parent or guardian consent is also required.

I would be extremely happy to visit and further explain the study to you and your school. Additionally, as a thank you for the school's participation in the research, I would be more than willing to offer a teaching session (e.g. the work of a clinical psychologist) to relevant year groups within the school, and would welcome to discuss this further with you.

Thank you for taking the time to read this letter. I will be in contact with you via telephone/email within the next two weeks to find out whether your school would be interested in participating in the study. In the meantime, please do not hesitate to contact me if you have any questions or would like any further information.

Yours sincerely,

Rebecca Start
Trainee Clinical Psychologist
Doctoral Programme in Clinical Psychology

Supervised by:
Dr Imogen Hobbis   Dr Deirdre Williams
Clinical Psychologist   Clinical Psychologist

Appendix C:

Headteacher Consent Form

UEA
University of East Anglia

Headteacher Consent Form

Project title: Research investigating the Protective and Risk Factors in Adolescent Depression

Name of researcher: Rebecca Start (Trainee Clinical Psychologist)

11.08.14/ Version 1

Please initial each box to show you consent to each statement.

1. I confirm that I have discussed the above study with the researcher, have had the opportunity to read the information letter, and have been given the opportunity to ask questions. ☐

2. I understand that the school's participation in this study is voluntary and that myself, parents/guardians, and pupils are free to withdraw from the study at any time without giving any reason. ☐

3. I understand that information collected will be confidential and participant's names, and the school's name, will not be used in any report or publication of the study. ☐

4. I agree for my school to take part in the above study. ☐

Please complete the following:

_____   _____   _____

Name of Headteacher   Date   Signature

_____

Name of school

(The following is to be filled out by the study researcher)

_____   _____   _____

Name of Researcher   **Date**   **Signature**

Appendix D:

Qualitative Description of Schools

School 1

This was an independent school located in a rural village environment. It has

approximately 370 students within the senior school (aged 13 – 18 years), with

298 of these aged between 14 and 18 years old. The vast majority of the pupils

boarded, although some were only day pupils. The researcher spoke in the school

assembly about the research and 212 information packs were distributed to

interested pupils by their form tutors. 49 pupils returned expression of interest

forms and a parental or guardian consent form. 43 pupils took part, one did not

show up, one was absent due to illness and four were unable to attend due to a

school commitment.

School 2

This was an independent school located in an urban town environment. It has

approximately 600 students within the senior school (aged 11 - 18 years), with

380 of these aged between 14 and 18 years old. The vast majority of the pupils

attended the day school, although about 5% boarded full time. The researcher

spoke in the school assembly about the research and 149 information packs were

distributed. 19 pupils returned their expression of interest form and parental or

guardian consent form. 17 pupils participated, with one being ill on the day and

the other being unable to attend due to a school commitment.

School 3

This was a state school sixth-form located in a rural town environment. It has approximately 150 students aged between 16 and 18 years old. The researcher spoke in the school assembly and 96 information packs were distributed. 13 pupils returned their expression of interest form and parental or guardian consent form. 12 participated on the day and one pupil was absent due to illness.

School 4

This was a state school located within an urban town environment. There are approximately 1850 pupils within the school (aged between 11 – 18 years). Due to the preference of the school, 58 of these within the academic year of year 10 (aged 14 - 15 years) were approached. Pupils were approached during a psychology class and all took away an information pack. 21 pupils returned an expression of interest form and parental or guardian consent form. 18 pupils took part on the day, however three were unable to attend due to a school commitment.

Appendix E:

Covering Letter and Information Sheet for Pupils

11.08.14/ Version 1

Rebecca Start
Trainee Clinical Psychologist
Norwich Medical School
Doctorate Programme in Clinical Psychology
University of East Anglia
Norwich NR4 7TJ
United Kingdom
Email:clinpsyd@uea.ac.uk
Tel: 01603 593581
Fax: 01603 591132

(Date)

Dear Pupil,

Re: Invitation to take part in research looking at the protective and risk factors of adolescent depression.

I am a Trainee Clinical Psychologist at the University of East Anglia. As you are a pupil at (Insert name) School, I am inviting you to take part in a research project.

Before you decide if you would like to take part it is important that you understand why I am doing the research and what will be involved for you if you decide to take part in the study. Therefore, attached with this letter is an information sheet (called 'Information Sheet for Pupils'), which gives you some information about my project and tells you what will happen if you agree to take part.

Once you have had a chance to read the 'Information Sheet for Pupils' and have thought about what taking part in the study would involve for you, if you would like to take part, please complete the *'Pupil Expression of Interest Form'* included in this pack. You will also need parent/ guardian consent to take part, so your parent/ guardian will be asked to compete the 'Parental/Guardian Consent Form' to show that they are happy for you to take part in the project. There is also a form for your parent/ guardian to complete, asking a few background questions ('Demographic Sheet for Parent/ Guardian').

Please return these forms in the envelope provided to your teacher or school office by (insert date).

Thank you very much for taking the time to read this letter.

Yours sincerely,

Rebecca Start
Trainee Clinical Psychologist
Supervised by Dr Imogen Hobbis, Clinical Psychologist

Information Sheet for Pupils

Research looking at the Protective and Risk Factors of Adolescent Depression

---

Hello, my name is Rebecca. I am a Trainee Clinical Psychologist and I work with young people and adults who experience things like worry, anger and low mood. I am training at the University of East Anglia where I am carrying out a project. I would like to invite you to take part in this.

What is the study about and why have I been asked to take part?
I am asking young people of 14-18 years old to take part. In this study I am interested in young peoples' thinking and behaviour. Other studies have shown that the way people think and behave can affect how they feel. Studies like this can help us to learn more about how young people think, and this can help us to find out how best to help people.

Do I have to take part?
No, it is completely up to you whether or not you would like to take part in this study or not. Even if your parent/guardian agrees for you to take part and you don't want to, you don't have to take part.

What will happen if I agree to take part?
This study involves completing four questionnaires about your thinking and behaviour styles, and your mood. These will take up to 20 minutes and will take place during school time.
If you agree to take part, the following will happen:
1. You will be asked to sign your own form (called an 'Expression of Interest Form') to show that you are interested in taking part in the study. Also, your parent/guardian will need to sign a consent form to say that they are happy for you to take part. These forms were supplied with this letter and can be returned to your teacher or school office in the envelope provided.
2. I will then come to your school and meet with you and the other pupils at your school who have agreed to take part. I will explain the study again to you and answer any questions you may have. If you still agree to take part,

I will ask you to sign another form called an 'Assent Form' (if you are below the age of 16) or a 'Consent Form' (if you are aged 16 or above).

3.   I will then ask you to complete the questionnaires asking about the way you think and feel.

4.   After you have completed the questions I will give you some more information about the study and will answer any other questions you may have.

What are the advantages of taking part?

You will be helping us to learn more about young people's thinking and behaviour. You will also be entered into a prize draw to win a £25 Amazon gift voucher.

What if I agree to take part but then change my mind?

You can change your mind at any time, without giving a reason. If you start the study, and then change your mind, you will still be entered into the prize draw. You can also withdraw your data after taking part any time before the data are analysed, and your data will be destroyed.

Could anything bad happen if I take part?

It is unlikely you will be upset completing the questionnaires but if you are, and did not want to carry on, we would stop the study straight away and you can talk to your teacher or me about this. Young people in other similar studies have reported that they enjoyed taking part.

Will my results be kept private?

Yes. Your information will not be shared with your school or other people who take part. Your name will not appear on any report. However, if you got a very high score on the questionnaire asking about your mood, then I would get in touch with your parent/guardian by post to let them know about this and will give them some information that might be helpful for you and them.

Will I find out what the results of the study are?

I will write a summary report of what we find, and I will give this to your school. You can read it if you would like to.

I would like to take part. What do I do now?

There is an 'Expression of Interest Form' for you to sign to show that you are interested in taking part. Please complete this and ask your parent or guardian to read their information sheet. If they are happy for you to take part, they need to sign the 'Parent/Guardian Consent Form' and we would ask them to fill in the form called 'Demographic Information Sheet' which asks a few general questions, such as your age. Please return these forms to your teacher or school office in the envelope provided. I will then contact your school to arrange a time to meet with you and other pupils who wish to take part.

Please return these forms by the date stated on the covering letter.

Thank you for reading this.

Who can I talk to if I have any questions?
You can contact me or my supervisors using the following information:

Contact for Further Information:

Researcher:	Research Supervisors:
Rebecca Start	Dr Imogen Hobbis and Dr Deirdre Williams
Trainee Clinical Psychologist	School of Medicine, Health Policy & Practice
Doctorate Course in Clinical Psychology	University of East Anglia
School of Medicine, Health Policy & Practice	Norwich
	Norfolk
University of East Anglia	NR4 7TJ
Norwich	
Norfolk	
NR4 7TJ	
Tel: 01603 593581	Tel: 01603 593581
Email: r.start@uea.ac.uk	Email: i.hobbis@uea.ac.uk
	Deirdre.williams@uea.ac.uk

Contact for Complaints:

Professor Ken Laidlaw
Programme Director

Norwich Medical School
Doctorate Programme in Clinical Psychology
University of East Anglia
Norwich
NR4 7TJ
Tel: 01603 593177

Services that can help with depression:

Name of Organisation	Telephone Number	Email Address or Webpage
Childline	0800 1111 (free phone)	www.childline.org.uk (online chat is available)
Young Minds	020 7089 5050	ymenquiries@youngminds.org.uk www.youngminds.org.uk
Samaritans	08457 90 90 90 (cost of a standard call)	jo@samaritans.org www.samaritans.org

Appendix F:

Covering Letter and Information Sheet for Parent/ Guardian

11.08.14/ Version 1

Rebecca Start
Trainee Clinical Psychologist
Norwich Medical School
Doctorate Programme in Clinical Psychology
University of East Anglia
Norwich NR4 7TJ
United Kingdom
Email:clinpsyd@uea.ac.uk
Tel: 01603 593581
Fax: 01603 591132

(Date)

Dear Parent/ Guardian,

Re: Invitation for your child to take part in research looking at the protective and risk factors in adolescent depression.

I am a Trainee Clinical Psychologist at the University of East Anglia. As your child is a pupil at (Insert name) School, I am inviting them to take part in a research project. This project has been discussed with the school headteacher and they have given their permission for this information about the study to be circulated to you.

I am looking to recruit children and adolescents between the ages of 14-18 years to take part in this research study. Before you decide whether you would like your child to participate, it is important that you understand why I am doing the research and what will be involved for you and your child. Therefore, enclosed with this letter is an information sheet (entitled 'Parent/ Guardian Information Sheet') that provides further information about the study, which involves your child completing a series of brief questionnaires at school. We anticipate that taking part in the study will take about 20 minutes of your child's time.

 I would be extremely grateful if you could take the time to read the 'Parent/Guardian Information Sheet' and think about whether you would like your child to take part.

If, after reading the information sheet for parents supplied with this letter, you are willing for your child to participate in the study please fill in the 'Parental/ Guardian Consent Form'. I would also be very grateful if you could also complete the 'Demographic Information Sheet'.

If you think your child would be interested in taking part in this study there is a separate information sheet supplied for them to read and consider.

If, after reading this pupil information sheet your child is interested in participating in the study, your son/ daughter will need to complete the 'Expression of Interest Form' to indicate their interest in taking part in the study.

Once completed, these forms can be handed in to a teacher or the school office in the envelope provided. I will then arrange with the school an appropriate time to come into the school and complete the study with all pupils willing to take part. On the day the study is taking place in school I will check with your child that they are still interested in taking part and they will be given another copy of the information sheet and asked to sign an assent form if under the age of 16 years, or a consent form if aged 16 years or over.

For every pupil who participates, they will be entered in to a prize draw to win a £25 Amazon gift voucher.

Please return these forms by (insert date).

Thank you very much for taking the time to read this letter,

Yours sincerely,

Rebecca Start
Trainee Clinical Psychologist
Supervised by Dr Imogen Hobbis
Clinical Psychologist

Parent/ Guardian Information Sheet

Project title: Research investigating the protective and risk factors of adolescent depression.

Name of researcher: Rebecca Start (Trainee Clinical Psychologist)

Who am I?
I am a Trainee Clinical Psychologist from the University of East Anglia. I work with children and adults with a range of mental health difficulties (such as anxiety and depression). As part of our training course, we are required to carry out research that will help to develop clinical psychologists' understanding of mental health difficulties, as well as effective treatments.

What is the study about and why has my child been asked to take part?
In this study I will be looking at your child's coping styles. I am looking to recruit adolescents of 14-18 years old and will investigate the ways they think and behave, and whether these are protective factors against developing depression. Depression in adolescents is not uncommon, and can have a big impact on someone's life. Research suggests that the way adolescents think and behave can have an important influence on how they feel about themselves. Studying thinking and behaviour in adolescents is very useful in helping us to investigate psychological theories and may help inform us about   potential treatments.

Do I have to take part?
 No. This research only requires your child's participation. However we require your permission or consent for your child to take part if you would like them to participate in the study.
Please note if you decide that you would not like your child to be involved in this research, or they would not like to take part, it will not affect their education or care in any way.

What will happen if I agree to my child taking part in the study?
This study would involve your child completing four questionnaires about their thinking and behaviour styles, and their mood. This will take place within school time, and will take up to 20 minutes of their time.

   Before the research:
   1. If you agree for your child to take part in this study you will be asked to complete and return the 'Parent/ Guardian Consent Form'.
   2. Your child's 'Pupil Expression of Interest Form' will also need to be completed and returned. There is also an optional 'Parent/ Guardian Demographic Sheet' for you to complete. *Please ask your child to return all these forms to a teacher or their school office in the envelope provided.*

On the day of the research:

3. Once I receive these forms, and the forms from other pupils within the school, I will organise a convenient time to come into the school and carry out the research.
4. Before pupils take part, I will explain the study again and they will have the opportunity to ask any questions. If they are still interested and happy to participate, they will be asked to sign an assent form (if they are aged below 16 years) or a consent form (if they are aged 16 years or over), indicating their willingness to participate in the study.
5. Your child does not have to take part if they do not wish, and they are free to stop at any point during the research.
6. After they have completed the questionnaires they will be given some further information about the study and will have the opportunity to ask any further questions. I will also provide them with a debriefing sheet, giving further information about the study.

Are there any risks associated with taking part?

It is very unlikely that your child will become upset during the study. However, if your child becomes upset in any way I will stop the study, and I will offer them the chance to talk about the reason for why they are upset. There will also be a suitably skilled member of staff present who they can talk to. Similar studies have been carried out previously and participants have enjoyed their experience.

What are the advantages of taking part?

This research will help to inform our understanding of adolescent's thinking and behaviour. This will help to add to our knowledge of psychological theories and inform our clinical practice. Your child will also be entered into a prize draw to win a £25 Amazon gift voucher.

What if my child changes their mind about taking part in the study?

Your child is free to withdraw themselves from the study at any time without giving a reason, and their data will be destroyed. They have until the point of data analysis to withdraw their data.

What if I agree for my child to take part but then I change my mind?

If you agree for your child to take part, and then change your mind, or they change their mind, that is fine, just let the school or myself know. Your child will still be entered into the prize draw to win £25 even if they do not complete all of the study.

Has this study been approved?

Yes. This study has been approved by the University of East Anglia's Faculty of Medicine and Health Sciences Research Ethics Committee.

What if there is a problem?

If you encounter any problems, have any concerns, or if you are unhappy with any part of the study please contact myself or my research supervisors in the first instance.

If you are not satisfied after this or you wish to make a complaint you can contact my course director. Please see the information below for his contact details.

Will my child's taking part be kept confidential?
Yes. Your child's information will not be shared with the school, any other participants, or anyone else. Both your details and your child's details will not appear on any report or write up of the study. Your child's data will be stored securely for ten years after completion of the research project, before being destroyed.

Please note: If your child scores very highly on the questionnaire which asks about their mood, then I will inform you of this and signpost you to services you may wish to contact to discuss this. I will send you a letter using the contact details you provide me with on the consent form. *If I do not have these contact details, your child will not be able to participate in the study.*

Will I have access to the results of this study?
Yes. I will provide a written summary report of the findings to each school that participates in the study, which will be available for you to read.

I would like my child to take part. What do I do now?
Please complete the attached 'Consent Form' and the 'Demographic Information Sheet'. If after reading the pupil information sheet your child is interested in taking part in the study, they will need to complete the 'Pupil Expression of Interest Form'. If you give consent for your child to take part, and your child is happy to participate, please may they return these forms to a teacher or the school office in the envelope provided.

Please return these forms by the date stated on the covering letter.

Thank you for taking the time to read this information sheet. Please feel free to contact me if you have any further questions.

Contact details:

Researcher:	Research Supervisors:
Rebecca Start	Dr Imogen Hobbis and Dr Deirdre Williams
Trainee Clinical Psychologist	School of Medicine, Health Policy & Practice
Doctorate Course in Clinical Psychology	University of East Anglia
School of Medicine, Health Policy & Practice	Norwich
University of East Anglia	Norfolk
Norwich	NR4 7TJ
Norfolk	
NR4 7TJ	
Tel: 01603 593581	Tel: 01603 593581
Email: r.start@uea.ac.uk	Email: i.hobbis@uea.ac.uk
	Deirdre.williams@uea.ac.uk

Contact for Complaints:

Professor Ken Laidlaw
          Programme Director

Norwich Medical School
Doctorate Programme in Clinical Psychology
University of East Anglia
Norwich
NR4 7TJ
Tel: 01603 593177
Email: k.laidlaw@uea.ac.uk

Appendix G :
Pupil Expression of Interest Form

11.08.14/ Version 1

Norwich Medical School
Doctorate Programme in Clinical Psychology
University of East Anglia
Norwich
Norfolk
NR4 7TJ

PUPIL EXPRESSION OF INTEREST FORM

Title of Project: Research Looking at the Protective and Risk Factors for Adolescent

Depression

Name of Researcher: Rebecca Start

Names of Research Supervisors: Dr Imogen Hobbis, Dr Deirdre Williams

If, after reading the information sheet, you are interested in taking part in the above

study, please *initial* the following statements and hand in the signed form to your

school. ***You will also need your parent or guardian to complete and sign the***

'Parent/ Guardian Consent Form', otherwise you will be unable to take part.

Please INITIAL all boxes

1. 'I am happy for the researcher to come into my school and to explain the study

   to me further, and about how I can take part'.

2. 'I understand that this does not mean I have to take part and I am free to

   change my mind at any point'

_____   _____
Name   Signature

_____
          Date

Appendix H :

Parent/ Guardian Consent Form

11.08.14/ Version 1

Norwich Medical School
Doctorate Programme in Clinical Psychology
University of East Anglia
Norwich
Norfolk
NR4 7TJ

PARENT OR GUARDIAN CONSENT FORM

Research looking at the protective and risk factors of adolescent depression.

Name of Researcher: Rebecca Start

Name of Research Supervisors: Dr Imogen Hobbis, Dr Deirdre Williams

Please put your initials in the boxes to indicate your agreement with the statements. Please complete and sign and give to your child to return to the school. *Please note, your child will only be able to take part if they have also completed the 'Pupil Expression of Interest Form' and if you provide a contact address below.*

Please INITIAL all boxes

1. I confirm that I have read and understand the information sheet dated 11.08.14 (version 1) for the above study. I have had the opportunity to consider the information, ask questions and, if asked, have had these answered satisfactorily.

2. I understand that my child's participation is voluntary and that they are free to withdraw at any time without giving any reason, without their education being affected.

3. I agree to my child taking part in the above study.

_____ _____ _____
Name of Child   Date of Birth   Name of School

_____   _____   _____
Name of Parent/Guardian   Date   Signature

_____   _____   _____
Name of Researcher   Date   Signature

Your Contact Details:

NB: It is necessary that you include your address, so that I can send you a letter if your child scores highly on the measure assessing their mood. **If you do not include your contact details, unfortunately your child will not be able to participate in the study.** *We will only use these contact details should we need to get in touch with you for the reason outlined above.*

Address…………………………………………………………………………………

….……………………………………………………………………………………………

….……………………………………………………………………………………………

….……………………………………………………………………………………………

….……………………………………………………………………………………………

….……………………………………………………………………………………………

….……………………………………………………………………………………………

Appendix I:

Parent/ Guardian Demographic Sheet

11.08.14/ Version 1

Norwich Medical School
Doctorate Programme in Clinical Psychology
University of East Anglia
Norwich
Norfolk
NR4 7TJ

PRIVATE AND CONFIDENTIAL

PARENT/ GUARDIAN DEMOGRAPHIC SHEET

Project title: Research looking at the protective and risk factors of adolescent depression.

Name of researcher: Rebecca Start (Trainee Clinical Psychologist)

The following information is being asked as it helps us to understand the backgrounds of our participants. Please only answer the questions if you feel comfortable doing so. Thank you very much.

Child's name:

…………………………………………….

How old is your child?

....

What is your child's ethnicity? Please choose from the following options:
A White
☐ British   ☐ Irish
☐ Any other White background, please specify _____

B Mixed Race
☐ White and Black Caribbean   ☐ White and Black African
☐ White and Asian
☐ Any other Mixed Race background, please specify _____

C Asian or Asian British
□ Indian   □ Pakistani   □ Bangladeshi
□ Any other Asian background, please specify _____

D Black or Black British
□ Caribbean   □ African
□ Any other Black background, please specify _____

E Chinese
□ Chinese

F Other ethnic group
□ Any other background, please specify _____

Is English your child's first language?

....

Has your child been diagnosed with dyslexia or any other learning difficulty?

....

Has you child ever been diagnosed with any mental health difficulty (e.g. depression, anxiety, ADHD etc) If yes, please give details.

....

Are you currently employed? If so, what is your occupation?

....

What is your education level? Please choose your educational attainment from the following options:
Please tick the relevant box:
□ No formal qualifications
□ Key Skills
□ GCSE
□ NVQ
□ BTEC
□ A levels
□ Bachelor's degree
□ Diploma
□ Master's degree
□ Professional degree
□ Doctoral degree
□ Other: Please specify _____

Appendix J:

Pupil Demographic Sheet

11.08.14/ Version 1

Norwich Medical School
Doctorate Programme in Clinical Psychology
University of East Anglia
Norwich
Norfolk
NR4 7TJ

PUPIL DEMOGRAPHIC INFORMATION

Title of Project: Research Looking at the Protective and Risk Factors of Adolescent

Depression

Name of Researcher: Rebecca Start

Names of Research Supervisors: Dr Imogen Hobbis, Dr Deirdre Williams

Unique code: XXX

Name ………..…………………………………………………………….

Date of Birth ………..…………………………………………………………….

Gender (delete as appropriate)   MALE / FEMALE

Name of School………..…………………………………………………………

Appendix K:

Center for Epidemiological Studies Depression (CES-D)

Subject ID:……………………………   Today's Date:……………………….

(Version 1/ 11.08.14)

You can stop completing this at any time. If you decide you would prefer not to complete this form but do not want to alert fellow class mates to this fact, please pass it back to the researcher when you've finished, even if it is blank. If at any point you wish to stop and would like to withdraw your answers, please put a line through what you have filled in and hand it back to the researcher.

CES-D

Below is a list of some ways you may have felt or behaved. Please indicate how often you have felt this way during the last week by ticking the appropriate space. **Please only provide one answer to each question**.

During the past week:	*Rarely* or none of the time (less than 1 day)	*Some* or a *little* of the time (1-2 days)	*Occasionally* or a moderate amount of time (3-4 days)	*Most* or all of the time (5-7 days)
1. I was bothered by things that usually don't bother me.				
2. I did not feel like eating; my appetite was poor.				
3. I felt that I could not shake off the blues even with help from my family or friends.				
4. I felt I was just as good as other people.				
5. I had trouble keeping my mind on what I was doing.				
6. I felt depressed.				
7. I felt that everything I did was an effort.				

8.	I felt hopeful about the future.				
9.	I thought my life had been a failure.				
10.	I felt fearful.				
11.	My sleep was restless.				
12.	I was happy.				
13.	I talked less than usual.				
14.	I felt lonely.				
15.	People were unfriendly.				
16.	I enjoyed life.				
17.	I had crying spells.				
18.	I felt sad.				
19.	I felt that people disliked me.				
20.	I could not get going.				

Appendix L:

Self-Compassion Scale (SCS)

Subject ID:……………………………   Today's Date:………………………

(Version 1/ 11.08.14)

You can stop completing this at any time. If you decide you would prefer not to complete this form but do not want to alert fellow class mates to this fact, please pass it back to the researcher when you've finished, even if it is blank. If at any point you wish to stop and would like to withdraw your answers, please put a line through what you have filled in and hand it back to the researcher.

SCS

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

Almost never				**Almost always**
1	**2**	**3**	**4**	**5**

_____ 1. I'm disapproving and judgmental about my own flaws and inadequacies.

_____ 2. When I'm feeling down I tend to obsess and fixate on everything that's wrong.

_____ 3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.

_____ 4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.

_____ 5. I try to be loving towards myself when I'm feeling emotional pain.

_____ 6. When I fail at something important to me I become consumed by feelings of inadequacy.

_____ 7. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am.

_____ 8. When times are really difficult, I tend to be tough on myself.

_____ 9. When something upsets me I try to keep my emotions in balance.

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

Almost never				**Almost always**
1	**2**	**3**	**4**	**5**

_____ 10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.

_____ 11. I'm intolerant and impatient towards those aspects of my personality I don't like.

_____ 12. When I'm going through a very hard time, I give myself the caring and tenderness I need.

_____ 13. When I'm feeling down, I tend to feel like most other people are probably happier than I am.

_____ 14. When something painful happens I try to take a balanced view of the situation.

_____ 15. I try to see my failings as part of the human condition.

_____ 16. When I see aspects of myself that I don't like, I get down on myself.

_____ 17. When I fail at something important to me I try to keep things in perspective.

_____ 18. When I'm really struggling, I tend to feel like other people must be having an easier time of it.

_____ 19. I'm kind to myself when I'm experiencing suffering.

_____ 20. When something upsets me I get carried away with my feelings.

_____ 21. I can be a bit cold-hearted towards myself when I'm experiencing suffering.

_____ 22. When I'm feeling down I try to approach my feelings with curiosity and openness.

_____ 23. I'm tolerant of my own flaws and inadequacies.

_____ 24. When something painful happens I tend to blow the incident out of proportion.

_____ 25. When I fail at something that's important to me, I tend to feel alone in my failure.

_____ 26. I try to be understanding and patient towards those aspects of my personality I don't like.

Appendix M :

Ruminative Response Scale (RRS)

Subject ID:…………………………   Today's Date:………………………

(Version 1/ 11.08.14)

You can stop completing this at any time. If you decide you would prefer not to complete this form but do not want to alert fellow class mates to this fact, please pass it back to the researcher when you've finished, even if it is blank. If at any point you wish to stop and would like to withdraw your answers, please put a line through what you have filled in and hand it back to the researcher.

_____

RRS

People think and do many different things when they feel depressed. Please read each of the items below and indicate whether you almost never, sometimes, often, or almost always think or do each one when you feel down, sad, or depressed. Please indicate what you *generally* do, not what you think you should do.

1 = almost never   2 = sometimes   3 = often   4 = almost always

1. think about how alone you feel	1	2	3	4
2. think "I won't be able to do my job if I don't snap out of this"	1	2	3	4
3. think about your feelings of fatigue and achiness	1	2	3	4
4. think about how hard it is to concentrate	1	2	3	4
5. think "What am I doing to deserve this?"	1	2	3	4
6. think about how passive and unmotivated you feel.	1	2	3	4
7. analyze recent events to try to understand why you are depressed	1	2	3	4
8. think about how you don't seem to feel				

anything anymore	1	2	3	4
9. think "Why can't I get going?"	1	2	3	4
10. think "Why do I always react this way?"	1	2	3	4
11. go away by yourself and think about why you feel this way	1	2	3	4
12. write down what you are thinking about and analyze it	1	2	3	4
13. think about a recent situation, wishing it had gone better	1	2	3	4
14. think "I won't be able to concentrate if I keep feeling this way."	1	2	3	4
15. think "Why do I have problems other people don't have?"	1	2	3	4
16. think "Why can't I handle things better?"	1	2	3	4
17. think about how sad you feel.	1	2	3	4
18. think about all your shortcomings, failings, faults, mistakes	1	2	3	4
19. think about how you don't feel up to doing anything	1	2	3	4
20. analyze your personality to try to understand why you are depressed	1	2	3	4
21.go someplace alone to think about your feelings	1	2	3	4
22. think about how angry you are with yourself	1	2	3	4

Appendix N:

Cognitive-behavioural and Avoidance Scale (CBAS)

Subject ID:……………………………   Today's Date:………………………

(Version 1/ 11.08.14)

You can stop completing this at any time. If you decide you would prefer not to complete this form but do not want to alert fellow class mates to this fact, please pass it back to the researcher when you've finished, even if it is blank. If at any point you wish to stop and would like to withdraw your answers, please put a line through what you have filled in and hand it back to the researcher.

CBAS

Instructions: Different people use different strategies to deal with situations and problems in their lives. Below are a number of strategies that people may use to deal with situations and problems. A number of the items below refer to dealing with situations at work or school. If you are not currently working or attending school, answer these items instead using your daily duties and activities.   Please read each statement carefully and indicate how true, *in general,* each statement is for you using the following key:

1= **Not at all** true for me
2= **Somewhat** true for me
3= **Moderately** true for me
4= **Very much** true for me
5= **Extremely** true for me

1. I avoid attending social activities.	1	2	3	4	5				
2. When uncertain about my future, I fail to sit down and think about what I really want.	1	2	3	4	5				
3. I would like to achieve things at work/school, but I have to accept my limits.	1	2	3	4	5				
4. I fail to do what is needed to follow through with achievement goals I have set for myself.	1	2	3	4	5				
5. In order to avoid feelings of disappointment, I just try not to get too serious about work/school.	1	2	3	4	5				
6. Rather than try new activities, I tend to stick with the things I know.	1	2	3	4	5				
7. I choose to turn down opportunities to further my education/career.	1	2	3	4	5				
8. I do not answer the phone in case people are calling with social invitations.	1	2	3	4	5				

9. I quit activities that challenge me too much.	1	2	3	4	5				
10. I try not to think about problems in my personal relationships.	1	2	3	4	5			▓	
11. I think to myself that I will not be able to complete really challenging tasks.	1	2	3	4	5				
12. While I know I should make decisions about my personal relationships, I just let things go on as they are.	1	2	3	4	5				
13. I avoid trying new activities that hold the potential for failure.	1	2	3	4	5				
14. I do not go out to events when I know there will be a lot of people I do not know.	1	2	3	4	5	▓			
15. Instead of thinking about problems in my social life, I tell myself that I prefer to be alone.	1	2	3	4	5				
16. I fail to discuss/address tension that builds in a friendship.	1	2	3	4	5			▓	
17. I find that I often want to leave social gatherings.	1	2	3	4	5				
18. I do not try to think about ways to improve my work/school performance.	1	2	3	4	5				▓

19. I try not to think about my future and what I will do with my life.	1	2	3	4	5				▓
20. I just wait out tension in my relationships hoping that it will go away.	1	2	3	4	5			▓	
21. I tend to make up excuses to get out of social activities.	1	2	3	4	5				
22. There is nothing I can do to improve problems in my relationships.	1	2	3	4	5			▓	
23. I turn down opportunities to socialize with the opposite sex.	1	2	3	4	5	▓			
24. I tend to remain to myself during social gatherings or activities.	1	2	3	4	5	▓			
25. I avoid making decisions about my future.	1	2	3	4	5				▓
26. When I experience confusion in my relationships, I do not try to figure things out.	1	2	3	4	5			▓	
27. While I know that I have to make some important decisions about school/work, I just do not get down to it.	1	2	3	4	5				
28. Rather than getting out and doing things, I just sit at home and watch TV.	1	2	3	4	5		▓		
29. I distract myself when I start to think about my work/school performance.	1	2	3	4	5				
30. I do not bother thinking about how to solve problems in my family – it is useless.	1	2	3	4	5			▓	
31. I find myself avoiding tasks and assignments that are really important.	1	2	3	4	5				

Appendix O:

Letter Granting Ethical Approval

Faculty of Medicine and Health Sciences Research Ethics Committee

UEA
University of East Anglia

Rebecca Start
Norwich Medical School,
University of East Anglia,
Norwich Research Park,
Norwich,
Norfolk
NR4 7TJ

Research & Enterprise Services
West Office (Science Building)
University of East Anglia
Norwich Research Park
Norwich, NR4 7TJ

Telephone: +44 (0) 1603 591720
Email: fmh.ethics@uea.ac.uk

Web: www.uea.ac.uk/researchandenterprise

21 August 2014

Dear Rebecca,

Project Title: Rumination and avoidance as mediators of the relationship between self-compassion and depression in adolescents. Reference: 2013/2014 – 35

The amendments to your above proposal have been considered by the Chair of the Faculty Research Ethics Committee and we can confirm that your proposal has been approved.

Please could you ensure that any further amendments to either the protocol or documents submitted are notified to us in advance and also that any adverse events which occur during your project are reported to the Committee. Please could you also arrange to send us a report once your project is completed.

The Committee would like to wish you good luck with your project.

Yours sincerely,

Yvonne Kirkham
Project Officer

cc Dr Imogen Hobbis

Appendix P:

Email Correspondence with Suffolk County Council Regarding Ethical

Approval

08.09.2014

Hi Rebecca

Thanks for your email. I'm please you have gained university ethical approval and are making progress with your research.

Regarding research governance for research in schools, the situation hasn't changed since we last corresponded and as before you need to gain ethical approval from the University and the agreement of the Headteacher but Suffolk Research Governance approval is not yet required.

As you know this issue has been under consideration for sometime but as yet it hasn't risen to the top of the list for any changes to be made.

I realise you are ready to begin and will want to get going. However if you would like the Research Governance panel to consider your research (re ethics and methodology) on a voluntary basis we can do this although this may not fit with your timescales and as above, is not a condition of starting. If you would like us to consider it I am happy to discuss further by phone (07771960763) or you can find further information and the application form on the Research Governance webpage http://www.suffolk.gov.uk/care-and-support/research-governance/. I see that the dates of the panel meetings to the end of the year are not yet on the webpage but they are:
September 25th
October 23rd
November 20th
Dec 11th
All are Thursdays 2-4 at Endeavour House Ipswich

I hope this answers your query but contact me if you would like more information

Good luck with the research.

Best wishes

Sue

Sue Glazer
Sessional chair of Suffolk research governance panel
Practice Educator

Independent auditor
07771960763
sue.glazer2@suffolk.gov.uk

02.09.2014

Dear Sue,

In response to our emails below, I have received ethical approval for my research study. I was just wondering whether it was still the case that approval from Suffolk research governance was not necessary?

I am planning to contact school headteachers in the next couple of weeks to inform them about my research and to ask for their consent.

Many thanks for your help,

Rebecca

Rebecca Start
Trainee Clinical Psychologist
Doctorate of Clinical Psychology Course
Faculty of Medicine and Health Sciences
University of East Anglia
Norwich Research Park
Norwich
NR4 7TJ
Email: r.start@uea.ac.uk

Appendix Q:

Pupil Assent Form (14 -15 years old)

11.08.14/ Version 1

Norwich Medical School
Doctorate Programme in Clinical Psychology
University of East Anglia
Norwich
NR4 7TJ

PUPIL ASSENT FORM (14 – 15 YEARS)

Research looking at the protective and risk factors of adolescent depression.

Name of Researcher: Rebecca Start

Names of Research Supervisors: Dr Imogen Hobbis, Dr Deirdre Williams

Please circle the below statements which you agree with:

Have you read the information sheet for the above study?

YES/NO

Do you understand what the above study is about?

YES/NO

Have you asked and had answered all the questions about the study that you want?

YES/NO

Do you understand it is OK to stop taking part at any time?

YES/NO

Do you understand that all your information is kept private, unless you score highly on the

questionnaire about your mood, in which case the researcher would need to contact your parent/guardian?

YES/NO

Do you agree to taking part in the above study?

YES/NO

_____   _____   _____

Name   Date   Signature

(To be filled out by the study researcher)

_____   _____   _____

Name of Researcher   Date   Signature

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Appendix R:
Pupil Consent Form (16 – 18 years old)

11.08.14/ Version 1

Norwich Medical School
Doctorate Programme in Clinical Psychology
University of East Anglia
Norwich
Norfolk
NR4 7TJ

PUPIL CONSENT FORM (16 – 18 YEARS)

Research looking at the protective and risk factors of adolescent depression.

Name of Researcher: Rebecca Start

Names of Research Supervisors: Dr Imogen Hobbis, Dr Deirdre Williams

Please INITIAL all boxes

1. I confirm that I have read and understand the information sheet dated 11.08.14
    (version 1) for the above study. I have had the opportunity to consider the
    information, ask questions and, if asked, have had these answered satisfactorily.

2. I understand that my participation is voluntary and that I am free to withdraw at any

    time without giving any reason, without my education being affected.

3. I understand that my responses to the questionnaires will be kept private, however

    if I have high scores on the questionnaires assessing my mood, this information will

    be shared with my parent/ guardian.

4. I agree to taking part in the above study.

_____   _____   _____
Name   Date   Signature

(To be filled out by the study researcher)

_____   _____   _____
Name of Person Taking Consent   Date   Signature

Appendix S:

Letter to Parent/ Guardian if Child Scored Above the Cut-off on the CES-D

Date/ Version 1

Parent/ Guardian Address

Rebecca Start
Trainee Clinical
Psychologist
Norwich
Medical School
Doctorate Programme in Clinical Psychology
University of East Anglia
Norwich
Norfolk
NR4 7TJ
Email: r.start@uea.ac.uk
Tel: 01603 593581
Fax: 01603 591132

Date

Dear Parent/ Guardian of (insert pupil's name)

Re: Research looking at the protective and risk factors of adolescent depression.

Thank you once again for agreeing for your child to take part in my study. As you know when I met with (name of child) he/she completed some questionnaires. One of those asked about his/her mood. (Name of the child) answers on these questionnaires showed that he/she experienced low mood more than most children of his/her age. Sometimes the questions are not very accurate for a particular child or the low mood they report might be short lived. However, if you are concerned about (name of child) you may find it useful to talk to your family doctor or his/her teacher. I have also supplied the contact details of some support agencies, which may be helpful for you or your child.

Thank you for your help and please get in touch with me if you have any questions about this letter or the study.

Yours sincerely,

Rebecca Start
Trainee Clinical Psychologist

Supervised by:
Dr Imogen Hobbis   Dr Deirdre Williams
Clinical Psychologist   Clinical Psychologist

Services that can help with low mood

Name of Organisation	Telephone Number	Email Address or Webpage
Childline	0800 1111 (free phone)	www.childline.org.uk (online chat is available)
Young Minds	020 7089 5050	ymenquiries@youngminds.org.uk www.youngminds.org.uk
Samaritans	08457 90 90 90 (cost of a standard call)	jo@samaritans.org www.samaritans.org

Contact for Complaints:

Professor Ken Laidlaw

Programme Director

Norwich Medical School
Doctorate Programme in Clinical Psychology
University of East Anglia
Norwich
NR4 7TJ
Email: k.laidlaw@uea.ac.uk
Tel: 01603 593177

Appendix T:

Pupil Debriefing Sheet

11.08.14/ Version 1

UEA

University of East Anglia

Norwich Medical School
Doctorate Programme in Clinical Psychology
University of East Anglia
Norwich
Norfolk
NR4 7TJ

PUPIL DEBRIEFING SHEET

Research Looking at the Protective and Risk Factors of Adolescent Depression

Name of Researcher: Rebecca Start

Names of Research Supervisors: Dr Imogen Hobbis, Dr Deirdre Williams

Thank you for taking part in the above study. The aim of this research was to find out whether being self-compassionate (kind and understanding towards yourself) makes it less likely that someone will develop low mood or feel depressed. The research is also looking at young people's coping styles when dealing with problems and situations in their lives, and how this may increase or decrease the likelihood of developing low mood. This is helpful to research in order to help improve what we know about depression in adolescents and to help us develop better ways to help people become less depressed.

It is expected that people who are more self-compassionate (kind and understanding towards themselves) are less likely to develop depression. It is predicted that the

reason for this may be due to people coping with their difficulties in helpful ways,

rather than over-focusing on or avoiding their feelings.

What happens next?

The information that you have provided, along with the information provided by a

number of other young people, will be looked at. The findings of the study will be

written up, and shown to the University of East Anglia as part of my course. The

findings may also be published in a psychology journal. Your name and your school

name will not be mentioned in these write-ups.

What if I feel upset?

If you are concerned about the way you are feeling, it is suggested that you to talk to

your parent/guardian or a member of staff at school. If you wish to talk to someone

else about this, I have included the contact details of services that can help and give

you support. You may also want to ask your parent/guardian to take you to see your

family doctor and discuss these worries with them.

As mentioned before, I will also look at the questions you answered to see if you are

experiencing low mood. If this is the case then I will contact your parent/guardian by

letter to let them know. The purpose of this is to not cause them concern, but to make

them aware of the way you are feeling, so they can provide you with some support.

Contact for Further Information

Please contact me if you have any questions about the research. You may also contact

me if you wish to remove your information from the research.

Researcher:	Research Supervisors:
Rebecca Start	Dr Imogen Hobbis and Dr Deirdre Williams
Doctorate Course in Clinical Psychology	School of Medicine, Health Policy & Practice
School of Medicine, Health Policy & Practice	University of East Anglia
University of East Anglia	Norwich
Norwich	Norfolk
Norfolk	NR4 7TJ

NR4 7TJ Email: r.start@uea.ac.uk Tel: 01603 593581	Email: i.hobbis@uea.ac.uk Deirdre.williams@uea.ac.uk Tel: 01603 593581

Contact for Complaints:

Professor Ken Laidlaw
Programme Director

Norwich Medical School
Doctorate Programme in Clinical Psychology
University of East Anglia
Norwich
NR4 7TJ
Email: k.laidlaw@uea.ac.uk
Tel: 01603 593177

Services that can help with depression

Name of Organisation	Telephone Number	Email Address or Webpage
Childline	0800 1111 (free phone)	www.childline.org.uk (online chat is available)
Young Minds	020 7089 5050	ymenquiries@youngminds.org.uk www.youngminds.org.uk
Samaritans	08457 90 90 90 (cost of a standard call)	jo@samaritans.org www.samaritans.org

Appendix U:

Box-plot Diagrams Showing Outliers for Total Scores for Main Study Variables

Appendix V:

Histogram Charts Showing Data Distribution for Total and Subscale Scores for

Main Study Variables

Histogram

Mean = 14.14
Std. Dev. = 4.459
N = 89

CBAS–BNS

Histogram

Mean = 20.71
Std. Dev. = 7.118
N = 89

CBAS–CNS

RRS Total

Mean = 44.20
Std. Dev. = 12.72
N = 89

Histogram

Mean = 9.23
Std. Dev. = 3.395
N = 89