Investigation of a Developmental Account of Self-Compassion: The Recall of Parental Behaviour during Childhood and the Potential Roles of Attachment and Mindfulness.

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I would like to dedicate this thesis to my beautiful daughter Esmé who is teaching me to look at the world in new and different ways everyday.

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Abstract

Objectives

The aim of the current study was to investigate a developmental account of self-compassion. This was based on theoretical models that suggest that the capacity for self-compassion in adulthood may be linked to the behaviour of parents during childhood (Gilbert 1989, 1995, 2005, 2009; Neff, 2009ab, Neff & McGehee, 2010). This was investigated for early experiences of emotional warmth and rejection from parents. The stability of this across age groups was investigated. Attachment and mindfulness were also explored as potential mediators of this relationship.

Design

The current study had a correlational design.

Methods

All variables were assessed using self report measures. These included measures of self-compassion, recall of parental behaviour during childhood, attachment and mindfulness. The current study recruited a non-clinical sample of 531 students attending the University of East Anglia.

Analyses

The hypotheses regarding the potential relationships between self-compassion and the recall of parental behaviour were explored using correlational analyses. These were followed-up with mediational analyses to investigate attachment style and mindfulness within these associations.

Findings and conclusions

The findings indicated that self-compassion was associated with recall of parental behaviour during childhood. Inverse associations were found between self-compassion and experiences of rejection from parents. Positive associations were found between self-compassion and emotional warmth. This pattern of results was found for both maternal and paternal behaviour. The findings indicted that both attachment and mindfulness were mediators of this relationship (although mindfulness was only found to be associated with rejection). It is argued that these findings are supportive of theoretical accounts underlying current clinical interventions aimed at increasing self-compassion and that they offer an initial indication as to what aspects of early relationships with care-givers may be implicated in the development of self-compassion.

Chapter One
Introduction

1.1 Aims

The primary aim of the current research project was to investigate whether self-compassion was related to recall of early experience of parental behaviour and attachment style. The potential role of mindfulness in these relationships was also explored. The current chapter aimed to evaluate the literature on self-compassion. There was a particular focus on developmental accounts. The intention was to identify gaps in the current understanding or evaluation of these accounts and develop research questions to further explore this.

1.2 Background

The current chapter explores both the theoretical and empirical literature on the impact of early interpersonal experience (especially with care-givers) on the development of self-compassion. Self-compassion has proved to be a worthy area for research in the field of clinical psychology as it has been found to be linked to a number of areas of psychopathology (Neff, 2003; Neff, Hseih & Dejitthirat, 2005; Neff, Kirkpatrick & Rude, 2007; Neff, Pisitsungkagarn & Hseih, in press) and strategies have been developed that have been shown to increase self-compassion and improve psychological wellbeing (see Gilbert, 2009; Gilbert & Irons, 2005; Gilbert & Procter, 2006). There are two main authors that have contributed to the field of self-compassion; Kristin Neff and Paul Gilbert. Most of the research conducted directly into self-compassion has adopted a measure developed by Kristin Neff (2003) (the Self Compassion Scale: SCS). This is the measure that will be used for the current study and therefore it is Neff's (2003) conceptual approach to self-compassion that will be explored. Despite this, Paul Gilbert has written extensively on evolutionary

and developmental accounts of self-compassion; and the research questions for the current study are based on this literature. The aim is to start to investigate whether Neff's concept of self-compassion may have a similar developmental pathway to that proposed by Gilbert (1989; 2005).

1.3 Chapter Overview

Firstly, there is an explanation of the search strategies that were used to identify the relevant literature. As it is Neff's (2003) concept of self-compassion that is being explored in the current thesis, this will then be defined. This is followed by a review of the empirical literature into this construct of self-compassion. This will include a discussion on the difference between self-compassion and self-esteem and an evaluation of studies into self-compassion, mental health and psychological wellbeing.

Evolutionary and developmental accounts of self-compassion will then be described. This section will include a description of Gilbert's account of self-compassion. The literature on the relationship between models of attachment and self-compassion will also be reviewed.

To date there have only been two studies designed to investigate the potential developmental pathways related to self-compassion. These are described and evaluated. This is followed by a section on mindfulness; which includes a discussion on the similarities between developmental accounts of self-compassion and mindfulness. There follows a section on Internet Mediated Research (IMR). This includes a description of IMR methods and a discussion of the advantages and disadvantages of conducting research in this way.

Lastly, the findings are summarised. This includes an explicit account of the gaps in the current understanding and evaluation of developmental accounts of self-compassion. This leads to the research questions for the current study.

1.4 Literatures Search Strategies

A computer-assisted literature search was conducted to identify articles for the current chapter. The databases used for this were PsycInfo, Embase and Medline. These databases were selected as they comprehensively cover the relevant literature. The search spanned the period between 1990 – 2011, and used the keywords displayed in Table 1.1. This search period was selected as contemporary Western psychological literature on self-compassion and mindfulness does not pre-date this. The attachment literature does predate this search period; however, only studies investigating links between attachment, self-compassion and mindfulness were deemed relevant. Further searches were conducted using the names of the seminal authors in the subject areas covered (see Table 1.2). Two websites were also searched (www.compassionatemind.co.uk and www.self-compassion.org) (see Table 1.3). These searches were further supplemented by manual searches of the reference lists of the articles obtained. The inclusion criteria for the articles selected was that they were written in English, were published in peer review journals and were felt to be relevant to the current thesis. The exclusion criteria were articles that were not related to self-compassion as a unified concept.

Table 1.1

The Key Words for the Primary Searches, Number of Articles Identified by the Searches and Number of Articles Selected

Keywords for Primary Searches	No. Articles Identified	No. Articles Selected
Self AND compassion	785	24
Self AND compassion AND parental	25	2
Self AND compassion AND attachment	36	4
Self AND compassion AND mindful*	47	5
Mindful*AND attachment	44	6

*Truncation symbol

Table 1.2

A List of the Author Names Included in the Literature Search

Author Names	No. Articles Identified	No. Articles Selected
• Neff AND compassion	31	8
• Gilbert AND compassion	50	5

Table 1.3

A List of the Websites that were searched

Website and address	No. Articles Identified	No. Articles Selected
www.compassionatemind.co.uk	29	18
www.self-compassion.org	125	12

1.5 An Overview of Self-Compassion

There has been a growing interest in self-compassion, influenced by Buddhist writings, in the field of Western psychology over recent years (see Gilbert, 2009; Neff, 2003). The Westernised view of compassion is mainly conceptualised in terms of feelings, thoughts or behaviours directed towards other people. In Buddhist psychology the definition of compassion encompasses compassion for the self as well as for others (Neff, 2003). Most of the psychological research that has evaluated the construct of self-compassion has adopted a measure called the SCS (Neff, 2003). This is the only existing measure of self-compassion. Neff's (2003) concept will be defined below. This is followed by an evaluation of this measure, accounts of the differences between self-compassion and self-esteem and findings from studies that have investigated the relationships between self-compassion, mental health and psychological wellbeing.

1.6 Neff's Account of Self-Compassion

Neff (2003; 2004) has conceptualised three specific psychological factors underlying self-compassion. These are described below. Neff (2003) has argued that these factors interact and combine to create a self-compassionate frame of mind.

1.6.1 Self-kindness. This is an attitude of warmth and understanding, rather than criticism, in the face of failure, suffering or feelings of inadequacy. This includes the recognition that imperfection, failure and the experience of adversity are inevitable. Neff (2003) argues that when this is denied or fought against, stress, frustration and self-criticism increase. In contrast, sympathetic acceptance of suffering and personal shortcomings is thought to result in greater emotional equanimity.

1.6.2 Common humanity. This is the recognition that suffering and distress are part of human experience and that one should not feel singled out or isolated in the face of suffering and failure. Common humanity involves acknowledging that personal thoughts feelings and behaviour are affected by external factors (such as, parenting history, cultural expectations, genetic and biological influences, environmental conditions and relationships with other people). Neff (2003) argues that awareness of this complex web of 'interbeing', and the impact this has on personal control over feelings and behaviour, should result in a less judgmental stance on personal failure.

1.6.3 Mindfulness. This is a receptive, non-judgemental mind-state that allows individuals to observe emotions and cognitions without over-identifying or attempting to suppress the experience. Mindful awareness of distressing experiences involves the ability to hold negative cognitions and sensations in conscious awareness without attempts at denial or preoccupation with the experience.

Neff (2003) argues that the above three sub-components of self-compassion are conceptually distinct and experienced differently, but can impact on each other. For example, self-kindness in the face of difficulty is likely to be associated with lower levels of negative affect, than self-criticism; and may therefore provide more scope for a balanced, mindful mind-state.

1.6.4 Evaluation of the Self Compassion Scale. Neff (2003) developed the Self Compassion Scale (SCS) to measure her concept of self-compassion. The SCS was originally designed to measure the three subcomponents of self-compassion as orthogonal concepts: self-kindness versus self-judgement, common humanity versus

isolation and mindfulness versus over-identification. Despite this, confirmatory factor analysis revealed that the questionnaire items reflected six factors (self-kindness, self-judgement, common humanity, isolation, mindfulness and over-identification). Consequently, the SCS has six subscales. These subscales have been found to be highly inter-correlated. Neff (2003) conducted further confirmatory factor analysis which indicated that these inter-correlations could be explained by a single overarching factor she termed 'self-compassion'. On this basis, much of the research conducted in the area has used the measure to elicit an overall compassion score, rather than exploring the individual areas of self-compassion. The SCS has been found to have good psychometric properties (the psychometric properties of this measure are discussed in more detail the Method Chapter of the current thesis).

1.6.5 The difference between self-compassion and self-esteem. It has been argued that Neff's concept of self-compassion differs from the construct of self-esteem (Neff, 2003; Neff, 2011; Neff & Vonk, 2009). It is acknowledged that these constructs are related as both reflect positive beliefs about the self and feelings towards the self (Neff, 2003). Specifically, individuals who are self-compassionate have been shown to be kind to themselves, recognise that flaws and failures are part of common humanity and have an increased sense of self-worth (Neff, 2003). Despite this, unlike self-esteem, self-compassion is not thought to encompass relativistic comparisons with others. Specifically, Neff (2003) has argued that self-esteem is reliant on downwards evaluations of others in comparison with the self. Deci and Ryan (1995) have differentiated between true self-esteem which is argued to originate from self-determined, autonomous actions that reflect one's authentic self and contingent self-esteem which relies on external standards and the comparison between

one's self and others. Neff (2003) suggested that self-compassion would be more closely aligned with true self-esteem. On this basis, Neff (2003) predicted that self-compassion would not require feelings of superiority in relation to others, whereas, self-esteem would be associated with a tendency towards narcissism.

Neff (2003) conducted a study to examine the similarities and differences between the two constructs with 232 undergraduate students. This study found a moderate positive correlation between self-compassion (measured on the SCS) and self-esteem (as measured by the Rosenberg Self Esteem Scale: Rosenberg, 1965). Despite this, Neff (2003) noted that the correlations between self-compassion and self-esteem were low enough to indicate that the two constructs were measuring different psychological phenomena. As predicted, the difference between the two scales was accounted for by self-aggrandisement; specifically, the self-esteem scale was significantly related to narcissism (as measured by the Narcissistic Personality Inventory: Raskin & Hall, 1979), whereas, self-compassion was not. Further findings indicated that, again as predicted, self-compassion was more closely aligned with the concept of 'true self esteem' (Deci & Ryan, 1995). Neff (2003) argues that these findings suggest that the self-worth of self-compassionate individuals is not reliant on meeting a set of external standards, but is instead contingent only on a sense of the 'authentic' self. Neff (2003) further argued that these findings indicated that her measure of self-compassion could be discriminated from measures of self-esteem.

Recently, Neff and Vonk (2009) conducted two studies to investigate this further. The first study (conducted with 2,187 participants recruited from articles in newspapers and magazines) found that, compared to self-esteem, self-compassion predicted more stable feelings of self-worth. Again, self-compassion was found to be less associated with downwards social comparison, and as before, self-esteem was

found to be associated with narcissism whereas self-compassion was not. Study two (conducted with 156 undergraduate students) compared the two constructs with reference to positive mood states. This study found self-compassion and self-esteem were equivalent predictors of happiness, optimism and positive affect. It was argued that the findings indicted that self-compassion might be considered to be a healthy alternative way of relating to the self compared to self-esteem (which appears to be more contingent on factors such as downward social comparison).

Gilbert and Irons (2005) have also differentiated between the constructs of self-compassion and self-esteem. These authors suggests that self-esteem may imply an ability to achieve goals; whereas self-compassion is accepting of failure and encompasses the capacity for self-soothing at times of distress. It is further suggested that self-esteem is not necessarily associated with positive affect. Gilbert and Irons (2005) note that there have been no attempts to decipher which positive affect system (if any) is linked to self-esteem; in contrast, self-compassion is hypothesised to be specifically linked to the positive affect system that increases feelings of safeness, calmness and soothing (this is discussed in greater detail below).

1.6.6 Self-compassion and reaction to difficulty, adversity and failure.

Investigation of the factors thought to be underlying Neff's (2003) construct of self-compassion suggests that self-compassion should have predictive value in terms of emotional and cognitive responses to adversity and failure. There have been a number of studies that have investigated this using SCS (Neff, 2003). Neff, Hsieh and Dejitterat (2005) conducted two studies to investigate the impact of self-compassion on achievement goals and coping with academic failure. The first study (conducted with 222 undergraduate students) found that self-compassion was positively

associated with mastery goals (measured on a self report scale that included items such as "I like school work that I learn from, even if I make a lot of mistakes") and negatively associated with performance goals (scale included items such as "I would feel really good if I were the only one who could answer a teacher's question in class"). These relationships were found to be mediated by a lower fear of failure and greater level of perceived competence in individuals who had higher levels of self-compassion. Study two was conducted with undergraduate students who reported that they were dissatisfied with their recent mid-term grade on their academic course (n = 110). This study found that self-compassion was positively associated with emotion focussed coping strategies (for example, seeking emotional support, trying to make the best of the situation and acceptance of the situation) and negatively associated with avoidance orientated strategies (including, denial, mental disengagement and behavioural avoidance from the experience). These two studies indicate that self-compassion may be a protective factor against suffering following a failure. It is of note that although both samples were large (suggesting that these studies had sufficient power) both samples consisted of undergraduate students. This group generally has had a high level of exposure to assessment of performance and may have more developed coping styles than members from other populations. This may impact on the generalisability of these findings.

A series of five studies was conducted recently to further investigate the impact of self-compassion on reactions to unpleasant experiences (Leary, Tate, Adams, Batts Allen & Hancock, 2007). All studies found evidence that self-compassion attenuates individuals' reactions to negative events. Study one found that there was a relationship between self-compassion and cognitive and emotional reactions to negative experiences. The results from study two suggested that self-

compassion buffers against negative self-referent feelings when imagining a socially stressful experience. Study three found that self-compassion moderated negative emotions elicited in response to negative feedback. The findings from study four were that, compared to observers, individuals with lower self-compassion rated video feedback of their performance in a more negative way. Lastly, study five experimentally induced a self-compassionate perspective. This study found that self-compassion enabled participants to acknowledge their role in a negative event without a strong negative emotional response. The authors concluded that self-compassion has a positive impact on reactions to stressful or negative experiences across a range of settings.

1.6.7 Self-compassion and mental health. Self-compassion has been found to be an area of research that is particularly relevant to the field of clinical psychology as evidence suggests that it may be a protective factor against many psychiatric disorders and is associated with psychological wellbeing.

A number of studies have investigated the relationship between Neff's (2003) construct of self-compassion (using the SCS) and psychological wellbeing. In the original validation paper for the SCS, Neff (2003) explored the relationships between self-compassion and psychopathology with undergraduate students (n =232). The findings indicted that self-compassion was negatively correlated with self-criticism, depression, anxiety and neurotic perfectionism. Self-compassion was also found to be associated with life satisfaction. It is of note that this was a correlational study conducted with self-report measures. It is possible that these measures are not as comprehensive at detecting psychopathology as other standardised methodologies

(such as structured interviews). Despite this, associations were found with self-compassion.

In terms of positive psychological health, a correlational study conducted with undergraduate students (n = 117) using the SCS, found that self-compassion was significantly positively correlated with self-report measures of happiness, optimism, positive affect, wisdom, personal initiative, conscientiousness, curiosity, agreeableness and extroversion (Neff, Rude & Kirkpatrick, 2007). These authors concluded that these findings indicted that self-compassion does not simply protect against psychopathology; it is also associated with positive psychological health. As this study adopted a correlational design, again it is not possible to determine the direction of the relationships between self-compassion and the other measures.

Neff, Kirkpatrick & Rude (2007) conducted two studies investigating the relationships between self-compassion and psychological health using the SCS. The first study investigated whether self-compassion would protect against anxiety in the face of an ego threat in a laboratory setting with undergraduate students (n = 91). The ego threat consisted of mock job interview questions that were designed to trigger a sense of threat to participant's sense of self (for example, "what do you consider your greatest weakness?"). Anxiety measures were completed before and after exposure to the ego threat. This study found that self-compassion was associated with lower levels of anxiety following the ego threat task. In contrast, self-esteem was not associated with the level of anxiety reported. Self-compassion was also associated with the content of the responses that participants gave; self-compassion was found to be negatively correlated with the use of first person singular pronouns (such as, 'I') and positively correlated with the use of first person plural pronouns (such as, 'we'). Neff

et al., (2007b) argued that this reflects the sense of connectedness and lack of isolation felt by more self-compassionate individuals.

The second study conducted by Neff et al., (2007b) investigated whether changes in self-compassion were linked to changes in wellbeing. This study adopted a technique called the 'Gestalt two-chair' exercise (Greenberg, 1992). This approach consists of two chairs facing each other. Within each chair an opposing aspect of the self is given a voice. These aspects are the self-critical voice and an 'experiencing' voice (that is, the aspect of the self that feels criticised). The ultimate aim of this exercise is to increase compassion towards this vulnerable aspect of the self. This study found that increases in self-compassion in response to the task were associated with an increase in social connectedness and a decrease in self-criticism, depression, rumination, thought suppression and anxiety. The findings of this study suggest that self-compassion may be malleable and that tasks that increase self-compassion may facilitate psychological wellbeing.

There are also strategies that have been designed to increase compassion towards the self based on Paul Gilbert's conceptual account. These have been found to decrease self-criticism, depression and anxiety (Gilbert, 2009; Gilbert & Irons, 2005; Gilbert & Procter, 2006). These strategies are discussed in more detail below.

1.7 Evolutionary and Developmental Theories of Compassion and Self-Compassion

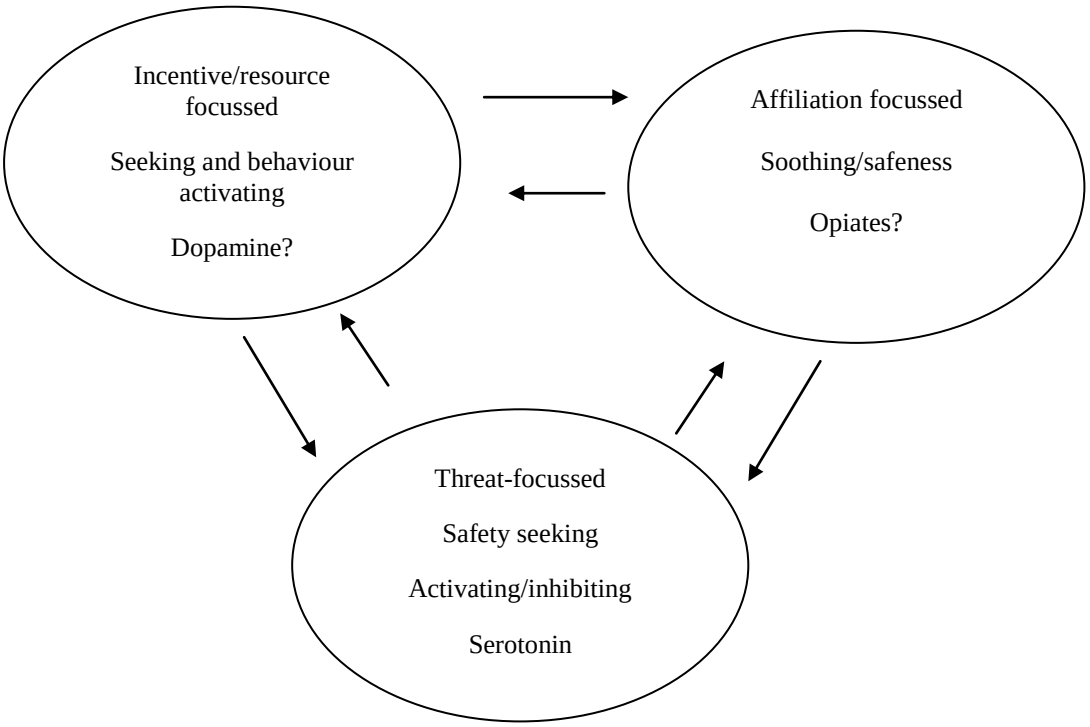
Gilbert (1989, 1995, 2005) has drawn on evolutionary, biological, genetic and social theory to account for the evolution of compassion in humans. It has been argued that compassion evolved from the care-giving mentality; that is, the investment in the nurturing of the development of others (mainly infants) (Gilbert, 2005). Gilbert (2005) proposes that for mammalian species the capacity for

recognition and protection of the young evolved due to advantages to the caregiver (mainly due to the protection of the infant as a carrier of their genes). Over time, humans have evolved internal mechanisms that facilitate care-giving behaviours. Due to the evolution of the care-giving mentality, human infants seek closeness to the parent (in contrast to, for example, reptilian species whereby the infants have evolved to quickly disperse after birth to avoid threat from their parents).

Mammalian parental care-giving behaviours have been argued to be linked to, and driven by, positive affect (MacDonald, 1992; Gilbert, 2005). Gilbert (2005) has argued that there are two primary positive affect systems, which are thought to interact with a threat-focussed defence system (see Figure 1.1). It is thought that care-giving may be specifically linked to the positive affect system associated with soothing, calming and safeness (in contrast to a second positive affect system that is hypothesised to be more associated with reward seeking) (Gilbert, 2005).

Figure 1.1

Types of affect regulation system (taken from Gilbert, 2005).



For the infant, the early life experience of receiving care and protection from threat has been conceptualized as being experienced as a feeling of 'safeness'. It has been argued that early experience may shape the development of the affiliation-focussed positive affect system that is associated with care-giving (and thus compassion) (Gilbert, 2005). Neurological theorists have suggested that the development of neurological systems is 'activity-dependant' (that is, the infant's brain develops in response to stimuli from the environment), which is thought to be associated with maximal learning (Weber & Reynolds, 2004). In terms of receiving care, it has been argued that infants who have consistent experiences of love and soothing will have the neurological pathways of their 'soothing system' stimulated; thus allowing this to develop and consolidate (Gilbert, 2005). This system is thought

to underpin the feelings of calmness and deactivate defensive emotions (such as, anxiety, sadness and anger) and therefore behaviours (including aggression and flight) (Gilbert, 2005). It has been argued that children who experience a consistently safe and nurturing relationship will be more emotionally regulated and, when required, will have a greater capacity to sooth themselves. This is thought to be facilitated by access to memories of being soothed in infancy (Schore, 1994). This suggests that consistent early experiences of being soothed increases the capacity for self-soothing and ultimately self-compassion.

Compassion for others is expressed in interpersonal relationships; therefore, Gilbert (2005) has suggested that the way that it has evolved should be conceptualised in terms of social reciprocal relationships patterned into roles (for example, carer - cared for). Central to this is the importance of the ability to send out, and appropriately respond to, social signals. For example, in order to live effectively in social groups it is highly advantageous to be able to differentiate between signals of hostility and intimacy from others. Gilbert (1989; 2005) has termed an internal mapping of this, in the form of patterns of neuropsychological activity, 'social mentalities'. Social mentalities theory proposes that effective social relationships are formed and maintained around interactions between external signals (for example, the behaviour of others), internal motives and internal information processing mechanisms that facilitate the interpretation of the signals from others. These processes may allow an individual to detect that another person is signalling something by their posture and facial expression, interpret this as a signal of intent and make decisions about how best to respond. Two of the roles that are likely to be linked to compassion are 'care eliciting' (forming relationships with others who are willing to, and have the capacity to, provide protection and emotional regulation) and

'care giving' (the provision of the investment of time, energy and potentially other resources that increase the likelihood of survival and procreation) (Gilbert, 2005). As stated above, it has been argued that compassion in human relationships has evolved from the care-giving mentality (Gilbert, 2005).

As stated, Gilbert's approach to self-compassion is conceptualised in terms of evolutionary models of social mentality theory (Gilbert, 1989, 2000, 2005). This approach suggests that humans (and other social animals) hold different social roles (for example, dominant and subordinate or attachment roles). These are dynamic and are created via the interaction between social signals (for example, a sexual or threat display) and the activation of neurological or physiological systems in response to this. In terms of social mentality theory, what is important to the concept of self-compassion, is the suggestion that social roles and relationships can also be internally constructed as internal cues that can be responded to in similar ways to cues that come from the environment (therefore, internal relationships are responded to in similar ways to social experiences in the external world). On this basis, it has been suggested that significant early interpersonal experiences and relationships can become internalised and form the basis of 'self-to-self' relating (see Gilbert, 2005). This may be analogous to the attachment theory concept of 'internal working models' (Bowlby, 1973) (discussed in detail below). This theory suggests that early significant relationships (for example, those with caregivers) can impact on self-to-self relating (for example, experience of a highly critical or punitive parents may result in the internalisation of a self-critical 'voice'). In evolutionary terms, the capacity to internalise social roles and relationships facilitates effective and 'safe' social interaction as it aids the recognition of social signals such as threat or sexual interest. It has been argued that internal stimuli (such as, a tendency towards self-criticism in

times of distress or failure) can have a similar impact on neurological and physiological systems as social stimuli (Gilbert 2005, Gilbert & Proctor, 2006).

In contrast to self-critical forms of self-to-self relating, is a more self-compassionate approach. As discussed above, compassion has been argued to have its evolutionary roots in systems relating to giving and receiving care. A number of key abilities have been identified as related to compassionate interactions (Gilbert 2005, Gilbert & Proctor, 2006). These include the desire to care for others, sensitivity to their distress and the ability to tolerate distress. It is also important to be able to effectively modulate the response to this. Gilbert and Proctor (2006) highlight the importance of attributes such as the capacity to be warm and non-judgemental. Self-compassion then, utilises these abilities and attributes in self-to-self relating. As with other forms of self-to-self relating, it is argued that this would also be developmentally related to significant interpersonal experiences; especially those experienced early in life.

1.7.1 Parental behaviour. To summarise, social mentality theory (Gilbert, 1989; 2005) proposes that early experiences of interpersonal relating, particularly with primary caregivers, can be internalised in the form of self-referent information that guides self-to-self relating. Self-to-self relating is thought to be analogous to other forms of social relating. Therefore, experience of rejecting, critical or highly punitive parents may result in vulnerability towards self-critical modes of internal relating at times of difficulty or distress. In this instance there may be a part of the self that is critical and a part of the self that feels attacked and criticised. According to Gilbert (1989, 2005) if childhood were characterised by a dominant critical voice (from a primary caregiver) this is likely to become the dominant aspect of self-to-self

relating and the part that responds to this is likely to act in a submissive or subordinate manner. On this basis, early experience of being consistently contained and soothed at times of difficultly or distress is thought to strengthen the self-soothing and self-containing modes of self-to-self relating.

Despite this, childhood experience of caregivers may not be consistently warm and soothing or critical and rejecting. Social mentality theory (Gilbert, 1989; 2005) highlights the complexity in human relationships. In many instances care-givers do not adopt either consistently nurturing and soothing roles or dismissive and uncaring roles. For example, it is possible for parents to be extremely protective of their children; without being soothing or comforting (Gilbert, 2005). Parents may also be highly inconsistent or irregular in their soothing and affection. This may be due to psychopathology within the parents (for example, episodes of depression may compromise the parent's ability to nurture and soothe the child and anxiety disorders may impact on the parent's capacity to contain or soothe their child in specific situations). It is also likely that the parent's own experience of receiving care will impact on the ways that they care for their own children (this is discussed in more detail below). Care-giving can be communicated across many types of parental behaviour. For example, in situations where parents are concerned about their child's welfare, they may respond in a variety of 'caring' ways; such as, expressing their concern verbally in a kind or angry voice, being tactile, keeping the child close or letting the child be free to explore whilst maintaining a watchful eye. Different actions may have subtle and complex implications in terms of the way that they are received and interacted with by the child. For example, consistent boundaries are thought to be important in terms of enabling children to feel safe and secure. However, the parent's ability to clearly communicate these to the child, and enforce them in a way that does

not feel threatening, is likely to influence the child's ability to learn positively from this.

1.7.2 Early exposure to interpersonal threat. As stated above, parental behaviour is thought to be critical to the development of the neural systems that govern and regulate the individual's capacity for self-soothing and self-compassion. Exposure to interpersonal trauma or threat (that is, traumatic or threatening experiences between people such as abuse) early in life is likely to be extremely disruptive to the development of these systems (particularly if the abuse is perpetrated by parents or guardians). The immaturity and associated plasticity of children's brains makes them particularly susceptible to the neurobiological effects of stress and trauma (Perry, Pollard, Blakely, Baker & Vigilante, 1995). Evidence suggests that childhood abuse can have a life-long impact on neurological structures (Teicher, Ito, Glod, Schiffer& Gerald, 1996; Teicher, Glod, Surry & Swett 1993). Exposure to abuse is likely to consolidate pathways in the brain that are associated with responding to threat (Gilbert, 1995; Perry et al., 1995) and be related to underdevelopment of the areas of the brain that facilitate feelings of safeness and self-soothing. A childhood characterised by abuse, particularly from parents, is also likely to be associated with fewer of the memories of being contained and soothed that are thought to facilitate self-soothing beyond infancy (Gilbert, 2005). Early experience of interpersonal attack and criticism may also strengthen the neurophysical pathways that increase the likelihood of reverting to a self-attacking mode at times of difficulty or failure (Gilbert, 2005).

Trauma is generally conceptualised of with reference to the diagnostic criteria for PTSD. DSM-IV (APA, 2000) describes this as an extreme stressor that involves

the direct experience of actual or threatened death or serious injury. The aim of the current study was to investigate early experience with care-givers that may have had an impact on the development of self-compassion. It is possible that experiences of rejection, punishment or criticism that may have felt subjectively threatening, but would not meet these trauma criteria, would have been formative in terms of the development of self-compassion. On this basis, the current study adopted a measure of the recall of parental behaviour that it was felt would capture these experiences rather that an objective measure of trauma exposure. This is conceptualised as subjective experiences of interpersonal threat as opposed to objective trauma.

1.7.3 Models of attachment. The developmental accounts of self-compassion described above have drawn on models of attachment (Gilbert, 2005). Attachment theory relates to the impact that early relationships with care-givers have on the development of modes of relating to the self and others. This is discussed below.

Attachment theory concerns the way that individuals learn to relate to themselves and others. Theoretical models suggest that this is defined in infancy, but affects patterns of relating throughout the lifespan; and is largely dependent on early experiences with primary care-givers (Bowlby, 1969, 1972, 1982, 1988). Bowlby (1969; 1982) described a system in care-givers called the 'care-giver behavioural system' (this is likely to be analogous to the care-giver mentality described by Gilbert, 2005). The care-giver behavioural system is an innate system that responds to the needs of dependant others (mainly children). It is thought that this system evolved to complement the 'attachment behavioural system', which controls emotional attachments to care-givers (Gillath, Shaver & Mikulincer, 2005). The attachment behavioural system is thought to be activated when threat is perceived (Bowlby, 1969;

1982). This sense of threat triggers a search for proximity to others that may be able to offer protection. If this is attained, feelings of threat are replaced by feelings of relief and security. It has been argued that caregivers' responses during such experiences are critical in the development of self-image and the beliefs and attitudes formed around relationships throughout the lifespan (Bowlby, 1969; 1973; 1982, Gillath et al., 2005).

Bowlby (1969; 1982) argued that the behaviour of primary caregivers during infancy is internalised to form 'internal working models' of attachment. These internal working models are likely to be analogous to the models of self-to-self relating discussed above (see Gilbert, 2005). These form the basis of individual differences in attachment system functioning throughout the lifespan. This is known as attachment style. These have been described as systematic patterns of expectations, emotions and behaviours in association with relationships; that are believed to be residuals of the individual's attachment history (see Fraley & Shaver, 2000). Attachment styles are conceptualised as either secure or insecure. Current understanding of insecure attachment suggests a two-dimensional system reflecting anxiety and avoidance (Brennan, Clark, & Shaver, 1998). Individuals that exhibit low-levels of anxiety and avoidance are conceptualised as securely attached. Bowlby (1973; 1979) observed that experiences of care-givers who responded to threat and the associated seeking of proximity in a safe, warm, supportive and containing manner were associated with the development of a more secure attachment style. In contrast, experiences of unreliability, unresponsiveness, rejection or very high levels of affect in response to proximity seeking were associated with the development of anxious or avoidant attachment styles (that is, insecure attachment). A laboratory procedure was used to examine the interaction between attachment and exploration (the Strange

Situation) (Ainsworth, Blehar, Waters & Wall, 1978). This found that infants with avoidant attachment did not seek comfort from mothers when distressed; whilst infants with anxious-ambivalent attachment tended to maintain a high degree of proximity to their mothers. Behaviourally, the mothers of avoidant infants were observed to show little or no response to distress, discourage crying and encourage independence and the mothers of anxious-ambivalent infants were observed to be unresponsive or inconsistently available. Recent additions to models of attachment suggest that there may also be more subtle interpersonal factors that facilitate secure attachment; for example, the process of noticing and articulating the thoughts, motives, desires, experiences and needs of the self and care seeker (Allen & Fonagy, 2006).

Evidence suggests that early attachment styles are manifest in adult relationships (for example, Bartholomew & Horowitz, 1991; Brennan et al., 1998). According to Gillath et al., (2005) attachment avoidance in adult relationships is characterised by a general distrust in the romantic partner's goodwill and an associated striving to maintain behavioural and emotional distance. Attachment anxiety reflects ongoing concerns that the partner will either not be emotionally present or physically available in times of need. Individuals who do not consistently create distance, or disproportionately worry about the availability of their partner, are thought to be securely attached. Bowlby (1988) argued that although attachment styles are defined in childhood, they can also be updated by significant relationships experienced throughout the lifetime.

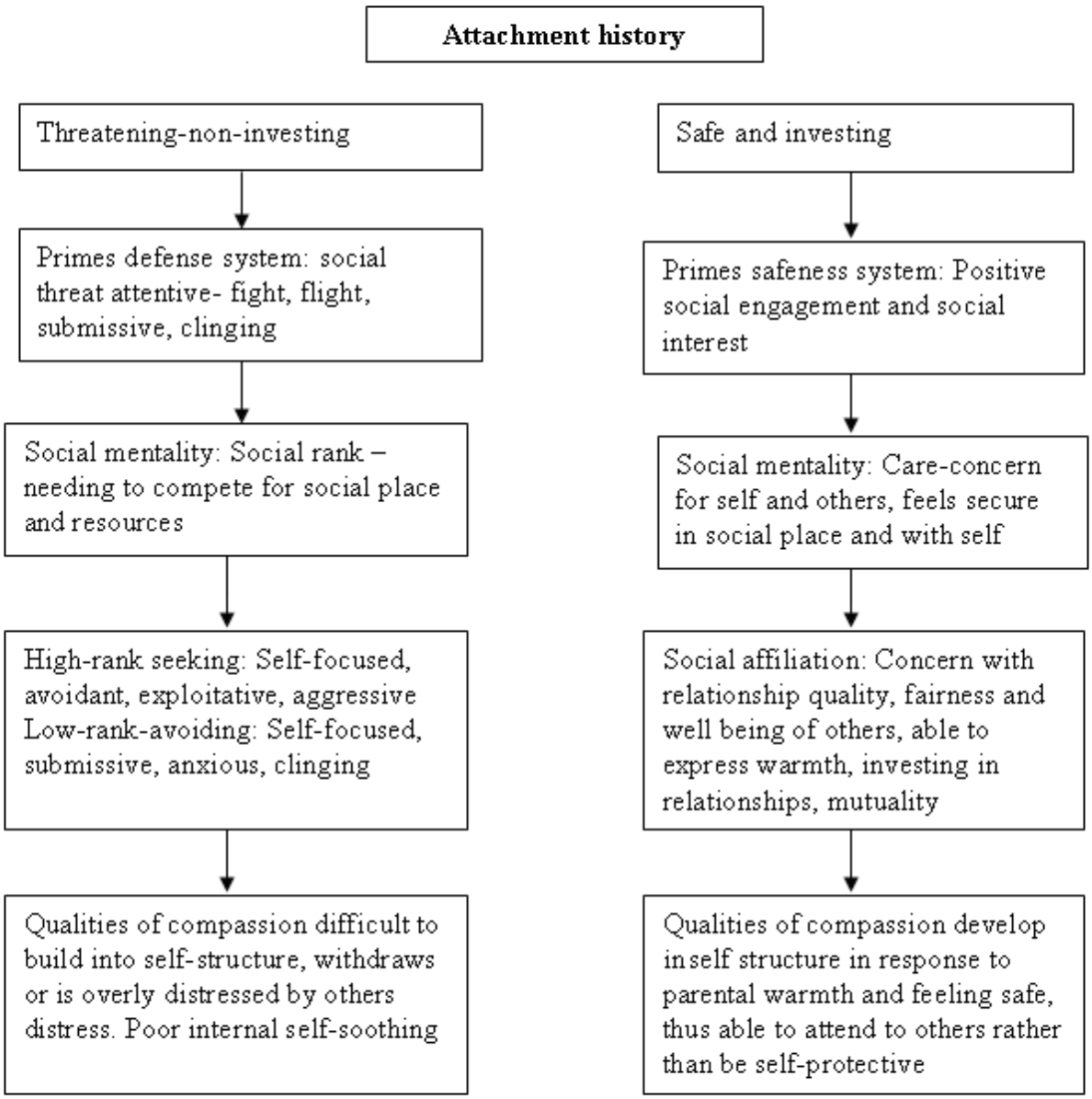
Traditionally, studies of infant attachment have been conducted with reference to mothers. This appears to have evolved from Bowlby's (1982) concept of monotropy. This suggests that although infants can develop attachments to a range of

people, it is the primary care-giver that is central to the infant's quality attachment; and this is almost always the mother. Despite this, evidence suggests that infants develop paternal attachment relations and furthermore, that this impacts on development (Cohen & Campos, 1974; Ducharme, Doyle & Markiewicz, 2002; Easterbrooks & Goldberg, 1984; Grossmann et al., 2002; Lamb, 1977; Main & Weston, 1981).

1.7.4 Attachment and self-compassion. It has been argued that compassion felt towards others has its roots in the care-giver behavioural system (Gillath et al., 2005). As discussed above, it has been theorised that compassion may have served the evolutionary function of assisting survival (and increasing inclusive fitness) by improving safety during the vulnerable period of infancy, and therefore; aiding the advancement of the care-giver's genes (Gilbert, 2005). Self-compassion is thought to develop from experiences of care-givers being containing, supportive and nurturing when infants feel distressed or threatened. Attachment theory posits that such experiences facilitate the development of internal working models (or models of self-to-self relating) that enable the individual to self-soothe following an experience of threat or distress. Figure 1.2 outlines the potential for attachment history to impact on compassionate and self-compassionate abilities. There is further discussion on the links between self-compassion and attachment in the mindfulness section below.

Figure 1.2

Attachment history and maturation of compassion abilities (taken from Gilbert, 2005)



1.7.5 Developmental accounts of Neff's (2003) construct of self-compassion.

Neff (2009) has recently acknowledged that Gilbert's developmental theories of self-compassion may also relate to her own concept of self-compassion. She highlights one study (Neff & McGehee, 2010: discussed below) that lends tentative support to this. Despite this, Neff (2009) did not attempt to conceptualise the potential mechanisms underlying this. Resultantly, it is not currently clear how Neff's (2003)

concept of self-compassion may tie in with developmental accounts. One way of exploring this may be to consider the potential relationships between early experience of receiving care and each of the three sub-components of Neff's (2003) construct of self-compassion (that is, self-kindness, common humanity and mindfulness). Neff (2003) has proposed that self-kindness is a way of relating to oneself that is in opposition to self-criticism. There are clear theoretical links between this and Gilbert's conceptualisation of the internalisation of relationships with primary caregivers (for example, experiences of warmth and soothing at times of distress or failure would be expected to be associated with the development of the capacity for self-kindness; whereas, in contrast experiences of punishment, criticism or rejection would be expected to be associated with the development of more self-critical forms of self-to-self relating). Evidence of a relationship between the recall of parental behaviour in childhood and a propensity towards self-criticism in adulthood further supports this suggestion (Irons, Gilbert, Baldwin, Baccus, & Palmer, 2006). The parallels between developmental theories of self-compassion and the capacity for common-humanity (that is, that one should not feel singled out or isolated in the face of suffering and failure: Neff, 2003) are less clear. Speculatively, early experience of being part of a functional social group (or family) may facilitate a sense of connectedness to others and an awareness of communal suffering. However, this is highly tentative and is not based on current empirical literature. The capacity for mindfulness has not been directly linked with Gilbert's developmental theories of compassion. Despite this, (as discussed below) mindfulness has been theorised to be developmentally linked with experiences of nurturing and attachment (Mikulincer & Shaver, 2004; Ryan, Brown & Creswell, 2007; Shaver, Lavy, Saron & Mikulincer, 2007) and emerging evidence supports this (Brennan et al.,1998; Walsh, Balint,

Smolira, Fredericksen & Madsen, 2009). It has been suggested that, in parallel to self-compassion, mindfulness in adulthood may be associated with early experience of being contained and soothed (Shaver et al., 2007). Despite these speculations, to date, there has been no investigation into whether sub-components included in Neff's (2003) concept of self-compassion are differentially associated with early experiences with care-givers.

1.8 Research into Developmental Accounts of Self-Compassion

There has been very limited research to investigate developmental accounts of self-compassion. This may be partly due to the difference between the two main areas of literature on self-compassion. As stated, to date, the only measure that has been developed to investigate self-compassion is the SCS (Neff, 2003). Neff's concept of self-compassion does not appear to have evolved directly from developmental models. To date, no measure has been developed that is designed to directly measure the construct of self-compassion that is associated with the developmental approaches proposed by Gilbert. Despite this, a study has been conducted that investigates whether self-criticism and self-reassurance are related to recall of parental behaviour, attachment and self-compassion (Irons et al., 2006). Self-criticism is a psychological factor that is targeted by approaches designed to increase self-compassion (Gilbert & Procter, 2006). This suggests that within this theoretical framework, these two factors are intimately linked. To date, there has also been one study that has investigated these relationships with reference to the SCS (Neff & McGehee, 2010). These studies are discussed below.

1.8.1 Parental behaviour, self-attacking and self-reassurance. A recent study conducted with undergraduate students (n = 197) found that perceptions of parental behaviour during rearing (parental recall), was related to self-attacking and self-reassurance in adulthood (Irons et al., 2006). Parental recall was assessed using the EMBU short form (EMBU is an acronym from the Swedish 'my memories of upbringing'). This is a measure of the recall of parental rearing that consists of three subscales: rejection, emotional warmth and over-protection. This scale was originally designed to measure these separately for mothers and fathers; however, for this study participants were asked to rate the items with reference to their parents. Irons et al., (2006) found that perceptions that parents had been rejecting and over-protective were linked to inadequacy, self-hating and self-criticism; whilst parental warmth was related to the capacity for self-reassurance. This study also investigated attachment styles, finding that fearful attachment was positively associated with self attacking, whilst secure attachment was inversely associated with self-attacking. These findings indicate that constructs that may be related to Gilbert's conceptual account of self-compassion are associated with parental recall and adult attachment style. This does lend some support to the developmental approach proposed by Gilbert (2005). However, with reference to the current thesis, this study did not directly investigate whether compassion towards the self was associated with parental recall.

1.8.2 Parental behaviour, attachment and self-compassion. To date one study has been conducted to instigate the relationships between interpersonal relationships within the family, attachment and self-compassion (Neff & McGehee, 2010). This study was a correlational study, primarily designed to investigate whether the previous findings relating to the association between self-compassion (measured with

the SCS: Neff, 2003) and wellbeing in adults could be extended to adolescents. This study also explored whether family functioning, maternal support and attachment were associated with self-compassion. The sample consisted of adolescents (*n* = 235: mean age 15.2 years) and a comparison group of young adults (*n* = 287: mean age 21.1 years). All measures included were self-report. Maternal support was measured by the maternal subscale of the Family Messages Measure (Stark, Schmidt & Joiner, 1996). This measure assesses the individual's perceptions of whether their mother's messages towards themselves were supportive or critical. This measure includes items such as "My mother tells me that I am a likable person" and "Nothing I do seems to satisfy my mother". The measure of family functioning (the Index of Family Relations: Hudson, 1992) included items such as "Members of my family argue too much" and "Members of my family are good to one another". The attachment measure included four short paragraphs, each reflecting one of four different attachment styles (secure, preoccupied, fearful and dismissive), for participants to rate how each corresponds to their general relationship style (The Relationship Questionnaire: Bartholomew & Horowitz, 1991).

Neff and McGehee (2010) found that the relationships previously established between self-compassion and measures of well being, were consistent across both the adolescent and young adult groups. Self-compassion was found to be negatively associated with depression and positively associated with social connectedness. No differences in these relationships were found between the adolescent and young adult groups. In terms of the developmental models discussed in the current chapter, maternal relationship and family functioning were found to be significant predictors of self-compassion. Maternal support was positively associated with self-compassion and maternal criticism was found to be negatively associated with self-compassion.

Individuals from close and harmonious families were found to have higher levels of self-compassion. In contrast, individuals from stressful, conflict-filled homes showed lower levels of self-compassion. Self-compassion was also found to be associated with attachment style. Preoccupied and fearful attachment styles were negatively associated with self compassion and secure attachment was positively associated with self-compassion (no relationship was found with dismissive attachment style). For the relationships between self-compassion, maternal support, family functioning and attachment, moderate or modest effect sizes were found (all *r*s were between .18 to .39). Further regression analyses found that self-compassion partially mediated associations found between maternal support, family functioning, attachment style and well-being.

In a recent book chapter Neff (2009) gave a brief discussion of developmental approaches to self-compassion. Here she outlined the models proposed by Gilbert (2005). Neff reported that the findings from the study above lend initial tentative support to the possibility that there may be a similar developmental pathway associated with her construct of self-compassion. The findings of Neff et al., (2010) do indeed lend initial support to the developmental accounts, discussed in the current chapter, that self-compassion is linked to relationships with caregivers and the attachment styles that are likely to have developed from this. It is of note, however, that the effect sizes found for these relationships were all moderate to modest. This may suggest that, although these factors have an impact on self-compassion, they do not fully account for it. It is also possible that these findings would have been stronger if other care-givers (such as, fathers) were included (this is discussed more below).

As this was a cross-sectional, rather than longitudinal study, it is not possible to infer the directions of the relationships found (that is, it did not directly investigate

developmental factors). Moreover, the measure of maternal support evaluated current interactions rather than assessing childhood relating. Despite this, it seems likely that the measure of maternal support reflects experiences that have been fairly consistent from early life (that is, it is unlikely, but possible, that the messages received from one's mother would change radically over time). This cannot be assumed however as it is possible that this relationship may be impacted on by different factors throughout the lifetime (for example, the relationship may be affected by rebelliousness during adolescence).

This study also appears to be making assumptions that it is the maternal relationship, rather than the paternal relationship (which was not investigated), that is of particular importance to the development of self-compassion (and presumably also attachment style). This is in line with Bowlby's (1982) concept of monotropy. It is likely that mothers are pivotal in the development of attachment style and the development of internal modes of self-to-self relating as they are generally the primary care-giver. This study, however, negates the potential impact of a different type of relationship with the father (either more positive or negative). It has been suggested that significant relationships with other caregivers can impact on the development of self-to-self relating (Gilbert, 2005). Evidence also suggests that fathers can ameliorate some of the negative effects, on the infant, of having a mother who has an insecure or anxious attachment style (Cohn, Cowan, Cowan, & Pearson, 1992). Furthermore, recent statistics suggest that fathers are increasingly involved in childrearing (for example, Sanderson & Thompson, 2002) and would therefore be expected to have a greater impact. In light of this, it would be interesting to independently assess the developmental impact of both maternal and paternal relationships. Moreover, in order to investigate whether it is the experience of these

relationships early on in life that impacts on self-to-self relating (that is, to investigate this as a developmental account) a measure that specifically assesses early experiences of parental behaviour might be more valid.

The study conducted by Neff and McGehee (2010) did not investigate the differential impact of parental behaviour and attachment style on the specific subcomponents of Neff's concept of self-compassion (that is, self-kindness, common humanity and mindfulness). As a result, it is not possible to infer the extent to which each of these three subcomponents is accounting for the relationships that were found. As discussed in greater depth below, there is evidence that attachment style is associated with mindfulness (Shaver et al., 2007). There are also theoretical reasons to hypothesise that self-kindness may also be related to these developmental factors. Further investigation to separate out the differential impact on the subcomponents may contribute further to the current understanding of the nature of the relationship between early experience and self-compassion.

1.9 Attempts at Increasing Capacity for Self-Compassion

Evidence suggests that, even though self-compassion has mainly been linked to early experiences of significant care-givers, an individual's capacity for self-compassion can be updated throughout the lifetime. As discussed, in terms of attachment models, it has been argued that experience of securely attached, and therefore caring and soothing, romantic partners can update internal working models of relating and thus reshape attachment style. It has also been argued that experience of an empathic and soothing therapist when dealing with distressing material can impact on attachment security by similar processes (Liotti, 2007).

Specific strategies have been developed in the field of clinical psychology that are designed to increase an individual's capacity for self-compassion. These techniques were initially developed for people who are highly, and chronically, self-critical (Gilbert & Procter, 2006).These individuals were found often to lack self-warmth and self-acceptance; and therefore strategies were developed to try to increase capacity for this. These techniques were named 'compassionate mind training' (CMT: see Gilbert, 2009; Gilbert & Irons, 2005; Gilbert & Procter, 2006). CMT is based on Gilbert's conceptualisation of self-compassion, which has its roots in social mentality theory (Gilbert, 2005; Gilbert & Procter, 2006). Many of the techniques use mental imagery to evoke an image of 'compassion' that attempts to encompass all the senses. The rationale behind this is based on findings that imagining stimuli can have an impact on physiological and neurological systems in similar ways to actually experiencing the stimulus (discussed above in the section on social mentalities). On this basis, it is argued that repeatedly exposing oneself to the feelings of compassion and soothing that accompany the image that has been constructed to encompass these feelings, should serve a similar function to accessing memories of being soothed when one feels threatened. In line with theory relating to the processes by which individuals learn to self-soothe, it would be hoped that over time these processes can become automatic and implicit (see Shaver et al., 2007). It has been argued that strategies for increasing self-compassion should also be accompanied by training in mindfulness (see Gilbert, 2009). Evidence suggests that these techniques are effective in reducing self-criticism, depression and anxiety and increasing ability for self-soothing (Gilbert & Procter, 2006).

1.10 Mindfulness and Self-Compassion

Mindfulness has been argued to have a specific relevance to self-compassion (Neff, 2003). It has also been theoretically and empirically associated with early experience with care-givers and attachment (see, Shaver et al., 2007). Therefore, it is possible that mindfulness may have a central role in the possible relationships between self-compassion and early interpersonal experience. Definitions of mindfulness are discussed below. This is followed by a review of the literature into the links between mindfulness and attachment.

1.10.1 Definition of mindfulness. The concept of mindfulness evolved mainly from Buddhist traditions. Within this tradition, mindfulness is cultivated through meditation and is perceived to be central to the path of cessation of personal suffering (Silananda, 1990). In recent years, the concept of mindfulness has been applied to Western clinical psychology for the treatment of a number of emotional disorders including depression and anxiety (see Kabat-Zinn, 1990). Mindfulness has been described as 'paying attention in a particular way: on purpose, in the present moment, and non-judgementally' (Kabat-Zinn, 1994).

In terms of current Western psychology, Bishop et al., (2004) have attempted to formulate an operational definition of mindfulness. These authors proposed a two-component model. The first component is associated with the phenomena of bringing awareness to the current moment; observing, and attending to, current thoughts, feelings and sensations moment by moment. This component is thought to involve the self-regulation of attention focussed on immediate experience. This allows for an increased capacity for the recognition of mental events arising in current consciousness. The second component is argued to involve adopting a particular

attitude towards mental experiences that occur in present awareness that is characterised by acceptance, curiosity and openness. This implies being open to all moment by moment experiences with acceptance and without judgment (Bishop et al., 2004). Acceptance here has been linked to the conscious decision not to attempt to have a different experience, but instead actively 'allowing' the self to experience current thoughts, feelings and sensations (Hayes, Strosahl & Wilson, 1999).

As stated above, Neff (2003) included a mindful acceptance component in her concept of self-compassion; stating that self-compassionate individuals have the capacity to engage with suffering with an awareness that is mindful but avoids over identification. It is probable that Neff's definition of mindfulness is analogous to that proposed by Bishop et al., (2004), but it is possible that the definitions that Neff drew on to form her construct of mindfulness in the context of self-compassion were less operational, and possibly, less comprehensive.

In line with Neff's (2003) inclusion of mindfulness in her construct of self-compassion, it is probable that self-compassionate individuals are less likely to avoid negative thoughts or images associated with difficult or distressing experiences. Speculatively, this may be linked to safe experiences of parental nurturing and resulting secure attachment. It is possible that early experiences of parents containing and contextualising upsetting or scary experiences may facilitate the ability to mindfully attend to such experiences. The links between mindfulness and attachment, and the impact this may have on self-compassion are discussed below.

1.10.2 Mindfulness, early interpersonal experience and attachment. It has been argued that mindfulness is similar to secure attachment (Shaver et al., 2007). In terms of early interpersonal experience, it has been proposed that individuals with

early experience of attentive, responsive and sensitive caregivers are likely to be both more securely attached and more mindful (Ryan et al., 2007). In terms of early experience of adversity and trauma, maltreatment in childhood has been found to be inversely associated with mindfulness in adulthood (Michal et al., 2007).

There are similarities between Neff's (2003) concept of self-compassion and qualities that have been found to be associated with secure attachment. In two separate experimental studies participants' tendencies to self-enhance were assessed following an exercise in which were asked to think about an accepting loving partner. Arndt, Schimel, Greenberg and Pyszczynski (2002) found that this brief exercise, designed to strengthen feelings of attachment security, weakened the inclination towards self-enhancing social comparisons. Schimel, Arndt, Pyszcynski and Greenberg (2001) also included this exercise and found that following the inducement of feelings of secure attachment, participants did not strive as hard to search for comparison information that indicted that others had performed more poorly. These findings are similar to findings that more self-compassionate individuals are less likely to feel inclined to make downward social comparisons in order to feel good about themselves (Neff, 2003; Neff & Vonk, 2009). The findings that secure attachment is associated with fewer self-enhancing strategies have been argued to indicate that secure attachment has similar psychological correlates to mindfulness (Shaver et al., 2007).

It has been proposed that the capacity for mindfulness may have a similar developmental pathway to that of secure attachment. Mikulincer and Shaver (2004) have suggested that experience of secure attachment figures during infancy enables the development of effective self-soothing techniques via the internalisation of security-based self-representations. Initially individuals will seek out caregivers when

feeling threatened. Over time this may be replaced by accessing memories of being soothed and cared for and finally it is argued that these processes become increasingly implicit and automatic (Shaver et al., 2007). These authors suggest that secure self-representations and resulting 'coherence of mind' facilitate a mindful approach to experiences that are distressing or threatening. Shaver et al., (2007) summarise that interaction with consistently loving and coherent attachment figures supports and sustains self-esteem, mindfulness and emotional regulation. It is of note that Gilbert (2005) has also identified this as a link between early experiences of care-givers, self-soothing and the capacity for self-compassion. These observations suggest that secure attachment, mindfulness and self-compassion may share a developmental pathway.

As discussed, mindfulness is an attentional state associated with neither obsessing about, nor trying to suppress, mental experience. Interestingly, Shaver et al., (2007) identify that these unmindful psychological states are analogous to the characteristics of the two insecure attachment styles proposed by Brennan et al., (1998) (that is, anxious and avoidant). There is empirical evidence to support the above theoretical claims that attachment style is associated with mindfulness. In a correlational study, with a sample of non-clinical participants (n = 70, mean age of 50 years) who volunteered to take part in a three month meditation retreat, a measure of attachment (Brennan et al., 1998) was found to be associated with a measure of five facets of mindfulness (Baer, Smith & Allen, 2004). The mindfulness measure adopted for this study was based on factor analysis of five commonly used measures of mindfulness. This found five facets of mindfulness (non-reactivity to inner experience, observing/noticing/attending, describing/labelling with words, acting with awareness and non-judging of experience). All five facets of mindfulness were found to be negatively associated with the two insecure attachment styles (anxious and

avoidant). In fact, these two attachment dimensions were found to account for 42 per cent of the variance in the total mindfulness score. This finding does potentially suggest a strong relationship between attachment style and mindfulness. However, this study was conducted with a highly selective group (that is, individuals who regularly practice meditation). Therefore, it would have to be replicated with a more representative sample to validate the generalisability of these findings to other populations. As this was a correlational study, the findings do not indicate the directionality of the relationship between attachment style and mindfulness.

In two further correlational studies, Walsh et al., (2009) investigated associations between parental nurturance, attachment and mindfulness. The first study was conducted with undergraduate psychology students (n =123). This study included a measure of attachment-related anxiety and attachment-related avoidance (Fraley et al., 2000). The findings suggested that adult attachment anxiety was negatively associated with mindfulness. Attachment avoidance was found not to predict individual differences in mindfulness. Study two included undergraduate and postgraduate psychology students (n =153). This study did not include any attachment measures, but did include a measure of parental nurturance. This measure covered both maternal nurturance and paternal nurturance (Buri, Kirschner, & Walsh., 1987). Parental nurturance (from both parents) was however found not to predict mindfulness. The authors suggested that this may have been due to the measure employed as it was argued to lack temporal specificity in terms of early, middle or late childhood (this was backed-up by anecdotal reports from participants). It was also suggested that the temporal gap between childhood and adulthood may have allowed participants who were exposed to non-nurturing parents to pursue "psychological repair" (that is, to overcome the negative impact of non-nurturing parents on the

capacity for mindfulness). In summary, these findings indicate that attachment-anxiety, but not parental nurturance, were found to predict mindfulness. However, the suggested caveats associated with the measure of parental nurturance may necessitate further research to validate this. Moreover, it may have been beneficial for study two to have also included the measure of attachment from study one. This would have allowed the authors to attempt to replicate the earlier findings.

1.11 Internet Mediated Research

Internet Mediated Research (IMR) has been adopted for the current study. There is a growing recognition and use of the internet for research purposes. The internet has proved to be an efficient way of collecting data for psychological research (Gosling, Vazire, Srivastava & John, 2004). It can facilitate the collection of data from large samples, it is relatively inexpensive, can be set-up to minimise missing data and overcomes inaccuracy and error associated with data entry (Gosling et al., 2004). It has been argued that participating in on-line studies may diffuse shyness, embarrassment or feelings of being judged (Valaitis & Sword, 2005) and as a result may increase disclose (Joinson; 2002). Three key issues have been highlighted with reference to the credibility of IMR: sampling biases, ethical issues and the credibility of the data (Whitehead, 2007). These will be discussed below.

1.11.1 Sampling biases. There are two main sampling approaches used for IMR. 'Open' approaches allow individuals who access specific websites the opportunity to participate in research. More selective approaches target specific groups; such as, the members of a particular forum or professional group. It has been argued that sampling biases may emerge in open studies as IMR only elicits data from

individuals who have access to, and use, the internet (Krantz & Dalal, 2000; Kraut, Patterson, Lundmark, Kiesler, Mukhopadhyay & Scherlis, 1998); although, this caveat is diminishing with the increasing availability and use of the internet (Whitehead, 2007). It has also been argued that individuals who use the internet are not representative of wider populations as they are more likely to be depressed and socially maladjusted (Kraut et al., 1998). A study that specifically investigated this found it not to be a valid concern (Kraut et al., 2002). More selective approaches are less problematic in terms of sampling biases; particularly in populations that have good access to the internet and are well versed in using it (such as student samples) (Whitehead, 2007).

1.11.2 Ethical issues. A number of ethical issues have been raised with reference to IMR. In terms of seeking consent, informed consent may be given via electronic information sheets and consent forms. Unlike paper forms, electronic consent forms will not include a written signature. It has been argued that the process of gaining consent is more an issue of process than procedure; it is therefore evidence that the process promotes the provision of information about the study rather than a hard copy of the consent form that should be the main issue (Schneier, 2000). It is recommended that there should be explicit and clear instructions presented prior to participation that inform participants of the voluntary nature of their involvement and their right to withdraw at any time (Hewson, Yule, Laurent & Vogel, 2003). It is also recommended that potential participants should have the researchers' contact details should they wish to clarify any details of the study (Whitehead, 2007).

The protection of anonymity is thought to be easier in research conducted over the internet as responses are not linked to an address and face to face contact is not

made (Whitehead, 2007). It has been recommended that data is encrypted (Nosek & Banaji, 2002). However, it may be important to collect identifying information to avoid repetition of responses where this may be an issue (for example, in studies where an incentive is offered for taking part) (Whitehead, 2007).

1.11.3 Credibility of the data. There are a number of issues that have been highlighted with reference to the credibility of data collected via IMR. The main disadvantage of this type of data-collection has been argued to be the lack of researcher involvement and control in comparison to traditional data collection methods (Hewson et al., 2003). It has been argued that due to distance and anonymity, low attentiveness may be augmented for questionnaires completed on-line (Kurtz & Parrish, 2001). Contrastingly, it has been suggested that the anonymity facilitates openness and disclosure; reducing biases and demand characteristics (Gosling et al., 2004). Despite this, the ease of completion of items has been argued to be associated with rushed submission resulting in missed items and random answers (Johnson, 2005). Although, it is possible that direct electronic reproductions of pen and paper measures should not differ greatly in terms of ease of completion and the electronic versions can be set up in such a way that it is not possible to miss items.

A major issue for IMR is the suggestion that electronic versions of pen and paper questionnaires may not be equivalent in terms of the distribution of scores or psychometric properties of the measures (Buchanan et al., 2005). Examples of this are a five factor personality inventory that was found to have a small number of items loading on different factors (Buchanan, 2001, 2002). In contrast to these findings, a study comparing the on-line and off-line completion of 16 questionnaires found no significant differences between these two methods of completion; construct reliability

was comparable and test-retest reliability was found to be high for the internet questionnaires (Ritter, Lorig, Laurant & Matthews, 2004). Comparability between electronic and traditional versions was also found for a measure of personality (Srivastava, John, Gosling & Potter, 2003). Evidence also suggests that gender effects found in internet studies were directly comparable to those found in traditional data sets (Benet-Martinez & John, 1998; Costa, Terracino & McCrae, 2001).

It has been argued that although the comparability of electronically collected data has not yet been resolved completely there is strong evidence that the two methods generally yield consistent findings (Gosling et al, 2007; Whitehead, 2007). Furthermore, it has been argued that any differences in the methods of generating data should be embraced and should be perceived as working towards generalisability of findings (Reips, 2000).

1.11.4 Summary of the use of IMR. A number of issues have been raised with reference to the use of IMR for the collection of data. Evidence suggests that IMR can overcome some of the disadvantages associated with traditional methods (such as, demand characteristics and protection of anonymity). Despite this, specific disadvantages and concerns have been raised with reference IMR (such as sampling biases and ethical issues). However, the majority of these can be overcome with careful methodological design and the targeting of specific populations. There is an ongoing debate as to the credibility of data collected via IMR. Although there is evidence to suggest that the psychometric properties of a questionnaire may be altered by electronic reproduction (Buchanan, 2001, 2002; Buchanan et al., 2005); this has been counterbalanced by findings to the contrary (Benet-Martinez & John, 1998; Costa et al., 2001 Ritter et al., 2004 Srivastava et al., 2003). It is possible that careful

and faithful electronic reproduction of measure may minimise the potential impact on psychometric properties.

1.12 Conclusion

The majority of research conducted into self-compassion has adopted the SCS (Neff, 2003). It is to be assumed then that these findings reflect Neff's (2003) construct of self-compassion. Self-compassion (as measured by the SCS) has proved to be an area worthy of investigation in the field of clinical psychology. It has been found to be linked to both psychopathology (Neff, 2003) and wellbeing (Neff et al., 2007ab). Evidence also suggests that self-compassion may serve as a protective factor against distress from unpleasant experiences or failure (Leary et al., 2007; Neff et al., 2005).

In terms of psychological interventions for self-compassion, emerging evidence indicates that it may be malleable to change through psychological interventions (for example, Gilbert & Procter, 2006). However, findings relating to effective interventions are likely to reflect Gilbert's (2005) construct of self-compassion (rather than that measured by the SCS). A better understanding of etiological factors underlying Neff's (2003) construct of self-compassion may contribute to the further development of psychological interventions to boost self-compassion that may facilitate good mental health and protect against psychopathology.

The main body of literature regarding developmental accounts of self-compassion is theoretical. To date, there has been very limited empirical evaluation of this. Only one study has investigated the proposal that early relationships with care-givers, and associated attachment, may be developmentally critical to the capacity for

self-compassion (Neff & McGehee, 2010). The findings of this study did indicate that relationships with care-givers and attachment styles are associated with self-compassion. However, (Neff, 2009b) has recently been argued that this study only offers initial support for a developmental account. This study did not use a retrospective childhood measure of maternal relating, did not include a measure of paternal behaviour and was limited to age groups that were likely to have been either living at home or have recently left home (and therefore may still be under the direct influence of parental behaviour).

Neff's (2003) concept of self-compassion has three subcomponents: self-kindness, common humanity and mindfulness. As argued above, the theoretical links between developmental accounts of self-compassion and the sub-components of self-kindness and mindfulness are clear; however, potential parallels with common humanity are less obvious. It is possible that an exploration of the potential relationships between these sub-components and early experience of care-givers may contribute to the further understanding of a developmental account of this concept.

Evidence suggests that self-compassion and mindfulness may share a common developmental pathway (Shaver et al., 2007). On this basis, it may be of benefit to conduct a detailed investigation into the extent to which mindfulness accounts for the potential relationships between recall of early parental behaviour, attachment and Neff's (2003) concept of self-compassion.

In summary, theoretical models offer a valuable insight into the potential developmental pathways of self-compassion (Gilbert, 1989, 1995, 2000). However, to date there has been limited empirical evaluation of this. It is proposed that the application of a developmental account to the investigation of Neff's (2003) concept of self-compassion would contribute to this area of research. On this basis, it is argued

that a further empirical investigation of the recall of parental behaviour during childhood, attachment and self-compassion is warranted. It is proposed that this should include an exploration into the relationships between these factors and the sub-components of Neff's (2003) concept of self-compassion, recall of the behaviour of both mothers and fathers and an older age group to investigate stability of these potential relationships across adulthood. It is further proposed that there should be a detailed investigation into the role of mindfulness in these potential relationships.

1.13 Research Questions

1.13.1 Research question one: Is self-compassion related to recall of maternal and paternal behaviour during childhood? This will be explored using a measure of self-compassion and a measure of recall of parental behaviour during childhood. This will be explored for two areas of parental behaviour: rejection and emotional warmth. It is predicted that rejection will be inversely associated with self-compassion and that there will be positive associations between self-compassion and emotional warmth. This will be explored separately for mother and fathers. It is expected that potential associations between self-compassion and parental behaviour will be stronger for mothers in comparison to fathers.

1.13.2 Research question two: What aspects of self-compassion are associated with recall of parental behaviour? This research question seeks to explore whether the three subcomponents of self-compassion (that is, self-kindness, common humanity and mindfulness) are associated with parental behaviour. This will be explored for rejection and emotional warmth. The behaviour of mothers and fathers will be investigated separately. It is predicted that self-kindness and mindfulness will both be

positively associated with parental emotional warmth and negatively associated with parental rejection. It is not possible to make predictions about whether common-humanity will be associated with recall of parental behaviour.

1.13.3 Research question three: Is attachment associated with self-compassion? This will be explored for attachment-anxiety and attachment avoidance. It is predicted that both attachment-anxiety and attachment-avoidance will be inversely related to self-compassion.

1.13.4 Research question four: If there is an association between self-compassion and attachment, does this mediate associations between self-compassion and parental behaviour? If attachment anxiety and avoidance are found to be associated with self-compassion (and self-compassion is found to be associated with the recall of parental behaviour), further analyses will explore whether the attachment variables mediate the associations between self-compassion and parental recall. This will also be explored separately for both parents.

1.13.5 Research question five: If there is a relationship between self-compassion and parental behaviour, is this stable across adulthood? This research question seeks to explore whether the potential associations between the recall of parental behaviour and self-compassion are stable across adulthood. This will be investigated for three age groups: 18-20 years, 21-30 years and 31 years and over. This will be explored for parental rejection and emotional warmth. This will be investigated separately for both parents. It is predicted that the relationships may be less strong for the older age groups.

1.13.6 Research question six: Is self-compassion associated with mindfulness? This will be explored by assessing trait mindfulness. It is predicted that self-compassion will be positively associated with mindfulness.

1.13.7 Research question seven: Is mindfulness a mediating factor in the potential relationship between self-compassion and parental behaviour? If self-compassion is found to be associated with parental behaviour (and mindfulness) there will be an exploration of whether mindfulness is a mediating factor in these relationships. This will be investigated for general mindfulness and for mindfulness towards distressing thoughts and images. This will be explored for parental rejection and emotional warmth. This will be investigated separately for mothers and fathers.

Method Chapter

2.1 Chapter Overview

Firstly, there is a description of the design that has been adopted for the current study; this includes a discussion of the use of IMR for the current study. This is followed by the participant characteristics. The measures that have been selected will be introduced and their psychometric properties outlined. There will then be a discussion of the ethical considerations for the current study. This is followed by a description of the procedure. Lastly, the plan of statistical analyses will be discussed for each of the research questions for the current study.

2.2 Design

A non-experimental, cross-sectional design was adopted for the current study. There was a single group of participants (within subjects). The primary research questions being explored were whether there was a relationship between self-compassion in adulthood and recall of parental behaviour from both parents during childhood, whether this was related to attachment style, whether these potential relationships were stable across adulthood and whether mindfulness played a role in these relationships. All the measures were completed at the same time via the internet. The measure of parental recall was a retrospective assessment of childhood experience.

The sample was a non-clinical sample of postgraduate and undergraduate students attending the University of East Anglia. The participants were all recruited via an invitation email. This was linked to the measures, which were all self-report. The measures consisted of a measure of self-compassion (SCS, Neff, 2003), a

measure of recall of parental behaviour (s-EMBU: Arrindell et al., 1999), a measure of attachment in adult relationships (ECR-R; Fraley, Waller, & Brennan, 2000) a measure of mindful attention and awareness (MAAS, Brown & Ryan, 2003).

All recruitment and data collection was conducted via the internet. This method of data collection was selected in order to recruit a large sample, which is highly beneficial to correlational studies conducted with self-report measures. The use of IMR for the current study is discussed in more detail below.

A longitudinal study would have been preferable in terms of answering the research questions relating to the nature of potential relationships between early experience of parental behaviour and self-compassion in adulthood. However, as this would have had to have spanned the period from childhood into adulthood, this would not have been a viable option. As discussed below, the s-EMBU (Arrindell et al., 1999) is a validated retrospective measure of recall of parental behaviour. As the current study is cross-sectional, the direction of any relationships found cannot necessarily be reliably assumed. Despite this, the primary hypotheses for the current study are one-tailed. The directionality of these is based on theoretical models and previous research. On this basis, conclusions relating to the direction of any of the relationships found are speculative.

The sample used in the current study was a student sample. Consequently, it is unknown whether findings could be generalised to other populations. As there has been very limited investigation in this area, this was felt to be a valid initial exploration of the research questions. It is also of note that, as discussed in the introduction, the vast majority of previous research into self-compassion has been conducted with student samples.

2.2.1 The use of IMR for the current study. As stated, IMR was adopted for the current study. A number of disadvantages have been outlined with regards to conducting research in this way (see the IMR section in the Introduction Chapter, pages 39-43). The methodology adopted for the current study was designed to overcome the majority of these.

It has been suggested that IMR can be associated with biases in sampling (for example, the samples reflect the population demographic who have access to, and regularly use, the internet) (Krantz & Dalal, 2000; Kraut et al., 1998). However, the current study recruited from a population that has access to the internet and is in regular receipt of emails (the method used for recruitment). Consent taking was undertaken in line with recommendations for IMR (Hewson et al., 2003; Whitehead, 2007). Information about the study was presented prior to an electronic consent form. This asked participants to confirm that they had read and understood the information relating to the study. The consent form also required that participants confirmed that they understood that they were free to withdraw from the study at any time. The anonymity of the data were protected (Nosek & Banaji, 2002; Whitehead, 2007) as identifying information was linked to participants responses. In an attempt to maintain the psychometric properties of the measures, all questionnaires were electronically produced as written. It is however possible that electronic reproduction of the measures for the current study impacted on the psychometric properties (see Buchanan et al., 2005) but evidence suggests that this may not be the case (Benet-Martinez & John, 1998; Costa et al., 2001; Ritter et al., Ritter et al., 2004; Srivastava et al., 2003)

2.3 Participants

In this section the rationale behind the number of participants recruited for the current study is described, this is followed by an explanation of the inclusion and exclusion criteria and the recruitment process that was adopted. A table outlining the response rate is included.

2.3.1 Sample size. To determine sample size, a power calculation was conducted using an online power calculator (DanialSoper.com). This estimated that to achieve a medium effect (r =.3), with alpha set at 0.05, for 80 per cent power, a minimum of 64 participants would be required. It was planned that the data would be divided into three age groups (aged 18-20 years, 21-30 years and 31 years and over) for various analyses. It was aimed that there would be a minimum of 64 participants in each of these groups. Three of the measures used for the current study had sub-scores. Despite this, all sub-scores were continuous and were not used to divide the overall sample and therefore did not affect power.

2.3.2 Inclusion and exclusion criteria. The inclusion and exclusion criteria were fairly minimal. This was because the aim was to obtain a sample that was as inclusive as possible within the student population.

The inclusion criterion for the study was: students attending the University of East Anglia. The exclusion criterion was: aged younger than 18. This was chosen as a lower age limit as the aim was to recruit an adult sample.

2.3.3 Recruitment. The current study recruited a non-clinical sample from the undergraduate and postgraduate student population at the University of East Anglia

(UEA). The sample was self-selected from an email inviting students at the University to take part in the research.

The study was open to postgraduate and first and second year undergraduate students attending UEA. Postgraduate students were specifically targeted as it was hoped that the age range would be higher in this group. Potential participants were contacted via email. The email was distributed by the Dean of Students at UEA (see Appendix I); who granted permission for these students to be contacted. Third year students were not included as there is a policy at UEA whereby the mass emailing to students is limited to select groups (to control the amount of emails that students receive). The email that students received included an invitation to participate in the study and a participant information sheet (see Appendix II). The information sheet contained all the information necessary for potential participants to give informed consent, including details of the measures and estimated time to complete the questionnaires. The information sheet was explicit that participation was limited to students aged 18 or over. This also advised on issues of confidentiality and the management of data. Following access to this information sheet, participants were then directed to an electronic consent form with a check-box format (see Appendix III). Participants were required to complete the consent form fully in order to access the battery of measures. Participants who indicted their consent by ticking all the boxes on the consent form were then directed to the battery of questionnaires. Participants were asked for demographic information. This was limited to age and gender as it was felt that other demographic factors would be unlikely to influence the results. Of the sample that gave complete responses, there were 180 males (34 per cent) and 351 females (66 per cent). The mean age of the group was 24.84. This gender split is representative of the gender split for this group of students recorded in

2008-9 (60 per cent female: Higher Education Statistics Agency, 2010); suggesting that this is a fairly representative sample. Table 4 outlines the response rate for the current study.

Table 1.4

Response rate and percentage of students who gave complete responses

Number of individuals approached*	**Number of responses**	**Number of complete responses**	**Per cent approached given complete responses**
Approx 11220	786	531	Approx 4.7

***** Based on figures from 2008-9 (HESA, 2010)

2.4 Measures

All measures included in the current study were self-report. In this section each measure will be described in turn. This will include the theoretical framework underlying the measure, the scale used in the measure and the psychometric properties. Copies of the measures are included in Appendix IV.

2.4.1 Demographic information. As discussed above, this was limited to age and gender. Gender was selected so that it could be controlled for in the analyses. This is relevant as women have been found to have significantly lower self-compassion scores on the SCS compared to men (Neff, 2003). In terms of age, a recent study found that there was no difference in self-compassion scores (as measured on the SCS) between a group of adolescents (mean age = 15.2) and a group of young adults (mean age = 21.1) (Neff & McGehee, 2010). This has not been compared across older age groups. Age was included in the current study to explore whether there was a difference in self-compassion scores between age groups (18-21

years, 21-30 years and 31 years and older). It was felt that age would be interesting to explore in the analysis as the current study is investigating developmental concepts.

2.4.2 Self-Compassion Scale (SCS; Neff, 2003). The SCS is a self-report scale that was designed to measure self-compassion. The SCS comprises 26 items that are scored on a 5-point Likert scale ranging from 'almost never' (1) to 'almost always' (5). The SCS is currently the only measure of self-compassion. It measures Neff's (2003) construct, therefore, the sub-scores reflect this (that is, self-kindness, common humanity and mindfulness).

The SCS was developed for use with an adult population. Neff (2003) conducted a series of studies with non-clinical adult samples to determine the psychometric properties of the SCS. The initial study was conducted with undergraduate students (n =391). Exploratory factor analysis was used to investigate responses to 71 items of the SCS that were generated during pilot testing. Items with a loading of lower than 0.40 were omitted from the final version of the SCS. This was then analysed using confirmatory factor analysis. Neff's (2003) concept of self-compassion is of three separate, but interacting, psychological factors: self-kindness, common humanity and mindfulness. These are perceived as orthogonal concepts with the optimum self-compassionate response at one end and the least self-compassionate response at the other. The piloted version of the SCS was designed to measure these as follows: self-kindness versus self judgement, common humanity versus isolation, mindfulness versus over-identification. For all items, confirmatory factor analysis revealed that two-factor models more adequately fitted the data. The result of this is that the final 26-item version of the SCS comprises six subscales, which have all been found to be internally consistent: self-kindness (.78), self-judgement (.77), common-

humanity (.80), isolation (.79), mindfulness (.75) and over-identification (.81). Final confirmatory factor analysis that analysed these six factors to the final version of the SCS revealed that the model fit the data adequately (NNFI = 0.90; CFI = 0.91). Each of the loadings was found to be significantly different from zero ($p < .001$). The six factors were however found to be highly intercorrelated and further confirmatory factor analysis revealed that a single higher-order factor of self-compassion fit the data marginally well (NNFI = 0.88; CFI = 0.90). The total SCS score was found to have an internal consistency of .92.

This study also found evidence that SCS scores are not affected by a social desirability bias, as a non-significant correlation was found between the SCS and the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) ($r = .05$, $p = .34$).

In terms of construct validity, the SCS was found to be correlated with scales thought to measure similar constructs. The SCS was found to be significantly correlated with the Social Connectedness Scale (Lee & Robbins, 1995) ($r = 0.41$, $p < .01$) and all subscales of the Trait Meta Mood Scale (Salovey, Mayer, Goldman, Turvey & Palfai, 1995) (all r's between 0.11- 0.55 and all p's < .05) and negatively correlated with the Self-Criticism sub scale of the Depressive Experiences Questionnaire (Blatt, D'Afflitti & Quinlan, 1976) ($r = -.65$, $p < .01$).

In terms of sex differences, women were found to have lower overall scores compared to men: $F(1, 389) = 10.83$, $p < .001$. Females were found to report significantly higher levels of self-judgement, isolation, and over-identification and significantly lower levels of mindfulness.

A second study was conducted ($n = 232$ undergraduate students). This again confirmed that the six-factor model fit the data well (NNFI = .92; CFI = .93) and that

a single higher-order factor of self-compassion explained intercorrelations between the six factors (NNFI = .90; CFI = .92). Further analyses revealed that the SCS has good test-retest reliability. The SCS was repeated after an interval of approximately three weeks. The overall SCS score was found to have good reliability (.93) as were the six subscales (self-kindness: .88, self-judgement: .88, common humanity: .80, isolation: .85, mindfulness: .85 and over-identification: .88).

A third study explored the SCS with different samples of participants. The rationale was that in order to further examine the construct validity of the SCS, it should be explored with two groups that would be expected to have different levels of self-compassion. A sample of Buddhist practitioners who practice meditation (n = 43) were compared with the undergraduate sample from study two. As expected, the Buddhist group had significantly higher total self-compassion scores in comparison to the undergraduate sample: $F(1, 271) = 62.03$, $P < .01$. This group also had significantly higher scores on the three 'positive' subcomponents of self-compassion (self-kindness, common humanity and mindfulness) and significantly lower score on the three 'negative' subcomponents (self-judgement, isolation and over-identification). In the Buddhist sample, there were no gender differences in self-compassion scores.

The current study used the total SCS score and the self-kindness, common humanity and mindfulness sub-scores of the SCS. These three sub-scores were selected as they reflect Neff's (2003) construct of self-compassion. The other sub-scores were not used for the analyses in order to limit correlational analyses so as not to inflate the possibility of a type I error.

2.4.3 EMBU Short-Form (s-EMBU: Arrindell et al., 1999). The s-EMBU (acronym from the Swedish 'my memories of upbringing') is a measure of the recall of parental rearing that consists of three subscales: rejection, emotional warmth and over-protection. It is a short form of the original EMBU (Perris, Jacobsson, Lindström, Von Knorring, & Perris, 1980). The EMBU has been recognised as being among the most widely used measures of perceptions of parental behaviour during childhood (Rapee, 1997). The s-EMBU was developed to provide a reliable a valid short form of the EMBU that could be validated across different countries.

The s-EMBU was selected for the current study as it is a retrospective measure that encourages participants to recall their parents' behaviour during their childhood. It is possible that as this is a retrospective measure recall may be affected by events or experiences that occurred after childhood. The s-EMBU was also selected as it allows for recall of parental behaviour to be scored separately for mothers and fathers. This is important as the current study aims to test whether findings that maternal behaviour is linked to self-compassion extends to paternal behaviour (Neff & McGehee, 2010).

The s-EMBU is a 23 item self-report scale that uses a 4-point Likert scale (1 = no/never; 2 = yes, but seldom, 3 = yes, often and 4 = yes, most of the time). Arrindell et al., (1999) investigated the psychometric properties of the s-EMBU with students from 11 countries located in Australasia, Europe and South America (total n = 2438). Arrindell et al., (1999) analysed the factorial invariance of the s-EMBU at measuring the three constructs of rejection, emotional warmth and over-protection. These authors found that only 1 per cent of the items failed to load onto the three constructs; this was taken as a strong indication of factorial validity. There was a cross-national invariance for the constructs between the samples from different countries. Arrindell et al., (1999) also found that there was good internal consistency for all the three

subscales (α scores were .89 for rejection, .79 for over-protection and .90 for emotional warmth). In terms of construct validity, as expected the emotional warmth subscale was found to correlate negatively with trait-Neuroticism (measured using the Eysenk Personality Questionnaire, Eysenk & Eysenk, 1991), and positively with high self-esteem (measured using the Rosenberg Self Esteem Scale: Rosenberg, 1965). Rejection was also found to be associated with trait neuroticism and negatively associated with self-esteem. Over-protection was found to be associated with neuroticism. The rejection and emotional warmth sub-scores were used for the current study. These sub-scores were selected as there were theoretical reasons to predict that these two areas f parental behaviour would be linked to self-compassion.

2.4.4 Experiences in Close Relationships-Revised (ECR-R; Fraley, Waller, & Brennan, 2000). The ECR-R is a self-report measure of attachment that reflects the two dimensional model of attachment anxiety and avoidance that has been adopted for the current study. The ECR-R is designed to measure adult attachment styles in adult romantic relationships. It comprises 36 items that require individuals to consider how participants generally experience relationships. The scale uses the 7-point Likert scale (ranging from 1 = disagree strongly to 7 = agree strongly). ECR-R scores indicate whether, and to what extent, individuals have a secure, anxious or avoidant attachment style.

This measure was selected as it is a well validated and widely used measure of adult attachment that reflects the two-dimensional system of anxiety and avoidance (Brennan, Clark, & Shaver, 1998) which is the theoretical approach that has been adopted for the current study.

Fraley et al., (2000) investigated the psychometric properties of the ECR-R with a large sample (n = 1,085) and found that the ECR-R has a high level of internal consistency (α scores for avoidance and anxiety <. 90). A further study that included longitudinal analyses found that the ECR-R provided highly stable values of latent attachment during a 3-week period (85 per cent shared variance) (Sibley, Fischer, & Liu, 2005). A study conducted with psychology undergraduates (n = 397) further verified that the ECR-R had good internal consistency (α scores were .93 for the avoidance subscale and .92 for the anxiety subscale) (Fairchild & Finney, 2006). The attachment-avoidance and attachment-anxiety sub-scores were both used for the current study.

2.4.5 The Mindfulness Attention and Awareness Scale (MAAS, Brown & Ryan, 2003). This measure was developed on the conceptualisation of mindfulness as a state of consciousness characterised by attention and awareness to present events. The authors argue that individuals may differ in the frequency with which they deploy attention and awareness and that there are individual variations in mindfulness (Brown & Ryan, 2003). Therefore, the MAAS was specifically designed to measure individual differences in the frequency of mindful states over time. This measure was selected for the current study as it is a widely used and well validated measure of mindfulness. Moreover, the theoretical framework underlying the MAAS resonated with that adopted for the current study.

The MAAS is a 15 item self-report measure. Responses are recorded on a 6-point scale (1 = almost always, 2 = very frequently, 3 = somewhat frequently, 4 = somewhat infrequently, 5 = very infrequently and 6 = almost never).

An exploratory factor analysis was conducted with a sample of undergraduate students (n = 313) to explore the initial set of items. This found a strong single factor solution. On this basis, only the 15 items that loaded onto this factor were retained. A confirmatory factor analysis was then performed with a further sample of university students (n = 327). This indicted that the correspondence between the single-factor model and the sample covariance matrix was satisfactory. A cross-validation of the model was performed on a further community sample of adults (n = 239). Again, the fit with a single factor model was found to be satisfactory. The temporal stability of the MASS was explored over a 4-week period with a sample of students (n = 60). The intraclass correlation was .81 (p < .01).

Further studies were conducted by Brown and Ryan (2003) to explore the convergent and discriminant validity of the MAAS. This included six samples of participants consisting of student, community and national samples (n = 1,253). As predicted, the MAAS showed modest correlation with openness to experience (.18, p < .01) (measured using the NEO Personality Inventory; Costa & McCrae, 1992). The MAAS was also found to be correlated with the only published measure of mindfulness/mindlessness at the time this research was conducted (the Mindfulness/Mindlessness Scale; Bodner & Langer, 2001) (r = .31-.33, p < .01). As predicted, the MAAS was found not to correlate with private self-consciousness (r =.01 -.05) (measured using the Self-Consciousness Scale: Fenigstein, Scheier., & Buss, 1975) or self-monitoring (r = -.03) (measured using the Self-Monitoring Scale Revised; Snyder & Gangestad, 1986). The MAAS was found to be negatively correlated with public self consciousness (p < .01) (measured using the Self-Monitoring Scale) and social anxiety (p < .01) (also measured using the Self-Monitoring Scale).

Brown and Ryan (2003) found that the MAAS was correlated with positive and negative wellbeing. This includes negative correlations with depression (r = -.37, p < .01) (measured with the Centre for Epidemiological Studies - Depression; Radolf, 1977) and (r = -.41, p < .01) (the Beck Depression Inventory, Beckham & Leber, 1985). These authors also found a negative correlation between MAAS scores and anxiety (r = -.40, p < .01) (measured using the State Trait Anxiety Inventory, Speilberger, 1983). The MAAS was found to be associated with life satisfaction (r =.26 – .37, p < .01) (measured using the Temporal Life Satisfaction Scale, Pavot, Diener, & Suh, 1998). In terms of physical wellbeing, the MAAS was found to be negatively associated with physical symptoms of illness (r = - .25 – - .51, p < .01) and frequency of medical visits in the previous 21 days (r = -.32, p < .01).

Lastly, Brown and Ryan (2003) found that the MAAS could distinguish between individuals that engaged in meditation (a practice that has been associated with increased mindfulness) (n = 50) and those that did not (taken from the overall sample of 1,253), t(98) = 2.45, p < .05. The total MAAS score was used for the current study.

2.5 Ethical Considerations

This section includes a description of the ethical approval for the current study. This is followed by sections on how confidentiality was protected, issues around consent and coercion and the possibility for distress for the individuals who took part in the study.

2.5.1 Ethical approval. Ethical approval was sought and obtained from the Faculty of Health ethics committee at the University of East Anglia in February 2010 (see Appendix V for approval letter).

2.5.2 Confidentiality. Each participant's responses and demographic information was linked to a numerical identifier to protect anonymity. Participants who chose to enter the prize-draw provided an email address for this purpose only; this was not linked to their responses or demographic information. Contact details were provided for the researchers in the instance that participants wanted to discuss any aspect of the study or concerns that may have arisen in association with participation in the study. It was made clear in the participant information sheet that should participants contact the researcher, anonymity would necessarily be broken. There were five participants that contacted the researcher. All of these enquiries were to verify when the prize-draw would take place. All data for the study were held electronically on a password protected, secure database and the researcher's personal memory stick in line with the Data Protection Act, (1988). No hard copies of the data were generated for the current study.

2.5.3 Consent and Coercion. Consent was obtained before participants took part in the study. The participant information sheet made it clear that participants were free to withdraw from the study at any time and without explanation. If participants chose to do this they were instructed to cease completing the questionnaires and close the window on their computer screen. Participants were also given the option to remove their data at anytime via their unique numerical identifier. It was possible to be clear and open about the purpose and aims of the study in the debrief sheet (see

Appendix VI). There were 255 individuals that went onto the website but did not complete the questionnaires. There were no participants that requested that their data were withdrawn following completion of the questionnaires.

As the study required completion of a number of self-report questionnaires in participant's personal time, a prize-draw of Amazon gift vouchers worth £50 was used as an incentive to take part in the study. The wish to participate in the prize-draw was not assumed but was opted into under the same principles as the provision of data.

2.5.4 Potential for Distress. Due to the nature of the questionnaires included in the study it was deemed possible that they may elicit an emotional response for participants. In order to encourage participation and openness, confidentiality of responses was required. As a result, identification of potential distress for specific participants was not possible. Instead, participants were supplied with the researcher's contact details should they become concerned. As stated, it was made clear that this would break confidentiality. There were no instances of concerned participants contacting the researcher. As an alternative, the debrief sheet also recommended that participants could contact their GP, or the other support agencies that were listed, should they have concerns about their mental wellbeing.

2.6 Procedure

This section outlines the procedure adopted for approaching participants and data collection.

2.6.1 Approaching Participants. Consent to contact participants was requested from the Dean of Students at UEA. Request was granted for all first and second year undergraduate students and all post graduate students to be contacted. These students were sent the invitation email to participate in the study by the Dean of Students (see Appendix I).

2.6.2 Data Collection. All data were collected electronically via the internet. The questionnaires were hosted together on a website supplied by 'Survey Galaxy' (www.surveygalaxy.com). The data that was generated was automatically downloaded onto a linked, password protected, secure database.

The invitation email for participants contained initial information about the study and a link to the participant information sheet (see Appendix II). The participant information sheet was followed by an electronic consent form that was completed by selecting tick boxes (see Appendix III). The consent form was designed in such a way that if it was not fully or correctly completed, participants were not able to access the on-line questionnaires. Prior to completing the battery of questionnaires, consenting participants were asked to provide anonymised demographic information limited to gender and age. The self-report questionnaires were then presented in succession. On completion of the questionnaires, participants viewed a page thanking them for their time and providing debriefing information about the study (see Appendix VI). At this stage participants were offered the opportunity to enter the prize-draw to win £50 worth of electronic Amazon vouchers. Participants who chose to opt into the prize draw were required to provide an email address. To protect anonymity, this was allocated a unique identifier number, which was not linked to their questionnaire data.

The winner of the prize-draw was contacted through the provided email address. The prize vouchers were accessible via an electronic link to the Amazon UK website.

All the demographic and questionnaire data that was generated for the current study was downloaded by the researcher in an anonymised form.

2.7 Analysis Plan

This section describes the initial process of data checking and cleaning. This is followed by the data analysis that was planned for each of the research questions.

2.7.1 Cleaning and checking data. It was planned that the raw questionnaire data would automatically be downloaded into database and would be analysed using the Statistical Packages for Social Sciences SPSS for Windows (version 12.0, 2003). Prior to analysis, the data would be cleaned and checked for outliers. It was planned that Kolmogorov-Smirnov tests would be employed to check the distribution of the data. If data were found to be significantly skewed, attempts would be made to transform the data. If this failed to normalise the distribution of the data, non-parametric analyses would be used. It was planned that it would then be ensued that the data met the assumptions necessary to conduct regression analyses (as it was planned that this would be used for the meditional analysis).

2.7.2 Research question one: Is self-compassion related to recall of maternal and paternal behaviour during childhood? It was planned that correlational analyses would be used to investigate whether there were associations between self-compassion and perceptions of parental behaviour. For these analyses, it was planned

that the total self compassion score would be explored with reference to rejection and emotional warmth from mothers and fathers (analysed separately).

2.7.3 Research question two: What aspects of self-compassion are associated with recall of parental behaviour? The aim was to explore, using correlational analysis, whether the primary sub-components of self-compassion (that is, self-kindness, common-humanity and mindfulness) were associated with the rejection and emotional warmth sub-scores of parental behaviour.

2.7.4 Research question three: Is attachment associated with self-compassion? It was aimed that correlational analyses would be used to explore whether self-compassion (the total score) was associated with the sub-scales of attachment anxiety and attachment avoidance.

2.7.5 Research question four: If there is an association between self-compassion and attachment, does this mediate associations between self-compassion and parental behaviour? It was planned that this would be conducted in accordance with the recommendations of Baron and Kenny (1986). The first step would be to ensure that the outcome variable (self-compassion) was associated with the initial (predictor) variables (parental behaviour) and the mediating variables (attachment anxiety and avoidance). If this was found to be the case, it would be ensured that the initial predictor (parental behaviour) was associated with the putative mediator (attachment). This would be investigated using correlational analyses. If these conditions were met, the final step would be to conduct linear regression analyses to investigate whether the potential mediating variables (attachment anxiety and

avoidance) were mediating the associations found between the initial variables (parental behaviour) and outcome variables (self-compassion). These investigations were planned to be conducted separately for each predictor/initial variable and each mediating variable. All mediational analyses would be followed-up by a Sobel test to ascertain the extent of mediation.

2.7.6 Research question five: If there is a relationship between self-compassion and parental behaviour, is this stable across adulthood? It was planned that this would be investigated using correlational analyses to test the association between self-compassion (total score) and the sub-components of rejection and emotional warmth, for each parent, for the three age groups (18-21 years, 21-30 years and 31 years and over). It was planned that comparative analyses would be used to investigate whether there were significant differences between the age groups. These would be followed up with post hoc analyses to identify where the potential differences lay.

2.7.7 Research question six: Is self-compassion associated with mindfulness? It is aimed that this research question will be explored with correlational analyses to explore whether self-compassion (total score) is associated with mindfulness.

2.7.8 Research question seven: Is mindfulness a mediating factor in the potential relationship between self-compassion and parental behaviour? It is aimed that, should the conditions be met, this will be investigated using the same mediational analyses outlined for research question four. This will be investigated both for general mindfulness and for mindfulness towards distressing thoughts and

images. This will be investigated for parental rejection and emotional warmth. This will be investigated separately for mothers and fathers.

Chapter Three

Results

3.1 Chapter Overview

The first section of the current chapter describes the procedures used for screening, checking assumptions and transforming the data. This includes a separate discussion of the data screening and resulting transformations for each of the measures used. There is also an outline of the investigations that were conducted to ensure that the linear regression analyses in the current chapter did not violate assumptions. The second section reports the demographic variables for participants and the descriptive statistics for the measures. The following sections outline the investigations for each of the research questions. The procedures for this, including the statistical analyses that were used, are described. Lastly, the findings are summarised.

3.2 Data Screening, the Transformation of Variables and Further Investigations

The data were screened in accordance with the recommendations outlined by Tabachnick and Fidell (1996) and Field (2009). The investigations into the transformation of variables, and whether the regression analyses conducted for the current chapter violated assumptions, were conducted in accordance with the recommendations of Field (2009).

3.3 Data Screening

The data were not checked for accuracy of data entry as the website used for the current study limited participant's response choices and this data were

automatically downloaded onto a spreadsheet. These factors overcame potential errors in completion of the questionnaires and data entry.

The amount of missing data were minimised as the website was designed in such a way that all measures (except the s-EMBU) had to be complete for participants to continue to the next questionnaire. The s-EMBU was an exception to this as it included items relating to maternal and paternal behaviour. It was therefore important for participants to be able to leave questions blank if they did not have input from both parents during childhood. For the s-EMBU, data were removed if there was more than one value missing from any of the subscales. The mean number of removed cases was 0.03. In cases with one missing value, the scores were prorated. The mean number of prorated values for the s-EMBU was 0.09.

The questionnaire data were converted into numerical data and transferred into a SPSS database (SPSS for Windows, version 12.0, 2003). Scores for the questionnaires were calculated in SPSS. These were then examined for normality of distribution and outliers. Kolmogorov-Smirnov (K-S) tests were used to assess whether these variables deviated significantly from a normal distribution (for K-S results see Appendix VII). As it has been suggested that with larger sample sizes, significant K-S results can occur due to small deviations from normality (Field, 2009), normal Q-Q plots were requested for all variables with a significant K-S result. All variables with a significant K-S result were transformed (see Appendix VII for results). In accordance with Field, (2009) log transformations were applied to data that appeared to be positively skewed and reverse score transformations to negatively skewed data. Following transformations, K-S tests were repeated with the transformed scores. To avoid repetition and to aid understanding, K-S results are displayed in

Appendix 1. Non-parametric analyses were used for all variables that were not normalised following transformation.

The scale scores were screened for univariate outliers with a *z*-score of 3.29 or above. These outliers were adjusted in accordance with Field (2009) (3 times standard deviation plus the mean).

3.3.1 Self compassion scale. The K-S test indicated that the total score for the SCS did not significantly deviate from a normal distribution. Despite this, K-S tests indicated that all subscales of the SCS (that is, self-kindness, self-criticism, common humanity, isolation, mindfulness and over-identification) were significantly non-normal. Normal Q-Q plots supported the suggestion that the subscales for the SCS deviated from normality. The direction of the skewness was not clear from histograms; therefore, log transformations were applied to all SCS subscales. Further K-S analyses indicated significant skewness for all scales. Outliers were detected on the sub-scales of self-kindness, common humanity and mindfulness. These three scores were adjusted in accordance with Field (2009).

3.3.2 The S-EMBU scale. K-S tests indicated that the subscales of the s-EMBU for both mothers and fathers were all significantly non-normally distributed. Normal Q-Q plots appeared to support these findings. Histograms indicated that the rejection and over-protection scales for both parents were positively skewed and the emotional warmth subscales for both parents were negatively skewed. Log transformations were applied to the positively skewed subscales and reverse score transformations to the negatively skewed subscales. K-S tests indicated that the transformed data were still significantly non-normally distributed.

3.3.3 The Experiences in Close Relationships Scale. K-S statistics indicated that the subscales of the ECRS were significantly non-normally distributed for both anxiety and avoidance. Normal Q-Q plots appeared to support this. Histograms revealed that both subscales were slightly positively skewed; therefore, log transformations were applied. Following transformations, K-S tests revealed that both scales were still significantly non-normally distributed.

3.3.4 The Mindful Attention and Awareness scale. K-S results suggested that the MAAS total was significantly non-normally distributed. The histogram did not clearly indicate the direction of skewedness; therefore, a log transformation was applied. A K-S analysis indicted that the transformed score was still significantly non-normal. Two outliers were identified in the MAAS total score variable. These scores were adjusted in accordance with Field (2009).

3.3.5 Outcome of Data Screening. The SCS total was not significantly non-normally distributed. All other variables were found to be non-normally distributed; however, none of these variables benefited from transformation. Due to this, non-parametric statistics were used on the raw data for all analyses (apart from maternal emotional warmth – where the transformed data were used). In total five univariate outliers with a *z*-score of 3.29 or above were detected in the data. These scores were adjusted in accordance with Field (2009).

3.4 Assumptions for Regression Analyses

For all linear regression analyses reported in this chapter the assumptions were assessed in accordance with the recommendations of Field, (2009). To assess the

assumption of no multicollinearity, VIF and tolerance values were checked. To assess for autocorrelation (that is, that there were independent errors), the Durbin-Watson test was used to ensure that for any two observations the residual terms were uncorrelated. Further analyses were used to identify whether any cases were having an undue influence on the findings. Plots of the standardised residuals against standardised predicted values were requested to check for heteroscedasticity in the data and assess whether the data had broken the assumptions of linearity. Histograms and normal probability plots were used to test the normality of residuals.

In all cases the tolerance values for the predictor variables were found to be less than .01 and the VIF values were found to be less than 10, indicating an absence of high levels of collinearity between predictor variables (Menard, 1995; Myers, 1990; as cited in Field, 2009). The Durban-Watson statistics were all found to be between 1 and 3 indicating that the residual terms were independent (Field, 2009).

It was also checked that no sub-set of cases were having an undue influence on the findings. For all tests there were an acceptable number of cases with standardised residuals of more than ± 2.5. For each regression analysis, the cases with standardised residuals of more than ± 2.5 were checked. In all instances no cases were found to have a Cook's distance greater than 1, suggesting that none of the cases was having an undue influence on the model. The leverage values all lay between 0 – 1, which was deemed acceptable (Field, 2009). The Mahalanobis distance values were also checked. In all instances there were no cases with standardised residuals that exceeded the recommend cut-off. This was taken to indicate that no sub-set of cases was having an undue influence on any of the reported findings.

Lastly, in all instances the plots of standardised residuals against standardised predicted values indicted that there was not heteroscedasticity in the data and that the

data had not broken the assumptions of linearity. The requested histograms and normal probability plots all indicted that the residuals were normally distributed.

In summary, for all regression analyses reported in this chapter, the assumptions were checked and found not to be violated. It was also ensured that the model was not unduly influenced by any of the cases.

3.5 Demographic Information and Descriptive Data for the Questionnaire Scales

Demographic information was collected for age and gender. There were 531 individuals who took part in the study: 180 males (34 per cent) and 351 females (66 per cent). It was not possible to conduct a Cronbach alpha to check for internal consistency as item-by-item questionnaire data were not available. The mean age of the group was 24.84. Different bandings of the age groups are presented in Table 3.1. The descriptive data for the scales and subscale are presented in Table 3.2

Table 3.1

Rates of Different Age Groups

Age Group	Number	Mean Age
18-20	227	19.23
21-30	208	24.16
31-40	96	39.58

Table 3.2

Descriptive Data for the Scales and Subscales

Measure	Mean	Std Deviation
SCS Total	74.71	16.60
SCS Self-Kindness	13.92	3.88
SCS Self-Judgement	13.73	4.01
SCS Common Humanity	12.33	3.43
SCS Isolation	10.97	3.48
SCS Mindfulness	12.98	3.11
SCS Over-Identification	10.79	3.60
s-EMBU Maternal Rejection	10.26	4.08
s-EMBU Paternal Rejection	10.47	4.26
s-EMBU Maternal Emotional Warmth	22.07	4.99
s-EMBU Paternal Emotional Warmth	20.19	5.50
ECRS Anxiety	61.35	22.59
ECRS Avoidance	56.62	22.21
MAAS Total Score	3.71	0.85

Previous research found that females report lower levels of self-compassion on the SCS compared to males (Neff, 2003). Therefore, the difference in self compassion between males and females was compared for the current sample. This found that there was not a significant difference between males and females, $t(529) = 1.29$, $p = .195$. Due to this, it was decided that it was not necessary to control for gender differences in the analyses.

3.6 Research Question One: Is Self-Compassion related to Maternal and Paternal Behaviour during Childhood?

The first research question relates to whether there are associations between self-compassion and parental behaviour during childhood. This was investigated both for maternal and paternal behaviour. The areas of parental behaviour that were hypothesised to be associated with self-compassion were emotional warmth and rejection. It was predicted that there would be a positive association between emotional warmth and self-compassion and an inverse relationship between self-compassion and rejection. This was investigated using Spearman's correlation coefficient analyses with SCS total scores and the emotional warmth and rejection sub-scores for mothers and fathers of the s-EMBU. The findings are presented in Table 3.3

Table 3.3 shows that rejection and emotional warmth were associated with self-compassion in the hypothesised directions. Emotional warmth was found to be associated with self-compassion for both mothers and fathers.

Table 3.3

Associations between SCS Total Score and the s-EMBU Subscales of Rejection and Emotional Warmth

	SCS total
s-EMBU Maternal Rejection	-.16****
s-EMBU Paternal Rejection	-.24****
s-EMBU Maternal Emotional Warmth	.10*
s-EMBU Paternal Emotional Warmth	.12***

* $p < 0.05$, **, ***, $p < .005$, **** $p < .001$ (one-tailed p).

3.7 Research Question Two: What Aspects of Self-Compassion are Associated with Parental Behaviour?

The second research question aimed to further investigate the association between self-compassion and parental behaviour by investigating which areas of Neff's (2003) concept of self-compassing were associated with parental behaviour. In order to limit the number of analyses, the areas of self-compassion explored were self-kindness, common humanity and mindfulness. The rationale for this choice is that these are the areas that are most strongly defined in Neff's (2003) concept of self-compassion. These areas were explored with reference to parental rejection and emotional warmth. This was explored with Spearman's correlation coefficient analyses with the SCS sub-scale scores of self kindness, common humanity and mindfulness and the s-EMBU emotional warmth and rejection sub-scale scores for mothers and fathers. Table 4 displays the findings. Bonferroni adjustments were applied to the findings to control for multiple analyses. Following this, all findings remained significant.

Table 3.4 shows that self-kindness was associated with rejection from both parents and also associated with emotional warmth from both parents. Common humanity was found to only be associated with paternal rejection. Mindfulness was found to be associated with all aspects of parental behaviour.

Table 3.4

Associations between the SCS Subscales of Self-Kindness, Common Humanity and Mindfulness and the s-EMBU Subscales of Rejection and Emotional Warmth

	SCS Self-kindness	SCS Common Humanity	SCS Mindfulness
Maternal Rejection	-.13***	-.06	-.09*
Paternal Rejection	-.14***	-.15***	-.12***
Maternal Emotional Warmth	.08*	.07	.13***
Paternal Emotional Warmth	.10*	.07	.12***

* $p < .0.01$, ** $p < 0.05$, ***, $p < .005$ (one-tailed p).

3.8 Research Question Three: Is Attachment Associated with Self-Compassion?

Research question three aimed to investigate whether attachment, and specifically attachment related anxiety and avoidance, was associated with self-compassion. It was hypothesised that both attachment anxiety and avoidance would be inversely related to self-compassion. To investigate this, Spearman's correlation coefficient analyses were used to explore whether there were associations between the SCS total score and the attachment anxiety and avoidance sub-scales on the ECRS. The findings are displayed in table 3.5.

Table 3.5 shows that both attachment anxiety and avoidance were associated with self-compassion in the hypothesised direction.

Table 3.5

Associations between SCS Total Score and the Attachment Anxiety and Avoidance Subscales of the ECRS

	SCS Total
Attachment Anxiety	-.43****
Attachment Avoidance	-.16****

**** $p < .001$ (one-tailed p).

3.9 Research Question Four: If there is an Association between Self-Compassion and Attachment, does this Mediate Associations between Self-Compassion and Parental Behaviour?

Research question four aimed to further investigate the relationships between self-compassion and parental behaviour by exploring the potential mediational role of attachment in these relationships.

Research question four was investigated with mediational analyses in accordance with the suggestions of Baron and Kenny (1986). The first step was to ensure that the outcome variable (self-compassion) was associated with the initial (predictor) variables (parental behaviour) and the mediating variables (attachment anxiety and avoidance). The findings above indicate that self-compassion is associated with all aspects of parental behaviour and both areas of attachment (see Tables 3.3 and 3.5). The following step was to ensure that the initial predictor (parental behaviour) was associated with the putative mediator (attachment). This was investigated using Spearman's correlation coefficient analyses. Table 3.6 indicates that all aspects of parental behaviour are associated with attachment anxiety and avoidance. The final step was to conduct linear regression analyses to investigate

whether the potential mediating variables (attachment anxiety and avoidance) were mediating the associations found between the initial variables (parental behaviour) and outcome variables (self-compassion). These investigations were conducted separately for each predictor/initial variable and each mediating variable. All mediational analyses were followed-up by the Sobel test to ascertain whether the extent of the mediation was significant.

Table 3.6

Associations between Parental Behaviour and Attachment Anxiety and Avoidance

	Attachment Anxiety	Attachment Avoidance
Maternal Rejection	.14***	.22****
Paternal Rejection	.27****	.18****
Maternal Emotional Warmth	-.09*	-.23****
Paternal Emotional Warmth	-.13***	-.18****

* $p < .0.01$, ***, $p < .005$, **** $p < .001$ (one-tailed p).

3.9.1 Attachment as a potential mediator in the associations found between self-compassion and parental rejection. The results from regression analyses that were used to investigate whether attachment anxiety and avoidance were mediating factors in the associations that had been found between self-compassion and rejection from parents are displayed in Tables 3.7 to 3.10. The findings indicate that both attachment anxiety and avoidance are significant predictors in the relationships between self-compassion and rejection from both parents.

Table 3.7 shows that when attachment anxiety was included in the model, maternal rejection was no longer significant. A Sobel test found this to be significant,

$p < .005$. Table 3.8 shows that when attachment anxiety was included in the model, paternal rejection remained significant, but the level of significance dropped. A Sobel test found that this was significant, $p < .01$.

The findings in Table 3.9 show that when attachment avoidance was included in the model, maternal rejection no longer remained significant. A Sobel test found this to be significant, $p < .005$. Table 3.10 shows that when attachment avoidance was included in the model, paternal rejection remained significant, but dropped slightly. The Sobel test found that this was significant, $p < .01$.

Table 3.7

Linear Regression Analyses of Self-Compassion (SCS Total Score) as a Function of Maternal Rejection (s-EMBU) and Attachment Anxiety (ECRS).

	B	*SE B*	ß
Step 1			
Constant	79.43	1.94	
Maternal Rejection	-0.46	0.18	-.11***
Step 2			
Constant	96.92	2.33	
Maternal Rejection	-.22	0.16	-.06
Attachment Anxiety	-.33	0.029	-.44***

R^2.= .01 for Step1, ΔR^2.= .01 for Step2 ($p < .05$)

***$p < .005$

Table 3.8

Linear Regression Analyses of Self-Compassion (SCS Total Score) as a Function of Paternal Rejection (s-EMBU) and Attachment Anxiety (ECRS).

	B	*SE B*	ß
Step 1			
Constant	83.3	1.78	
Paternal Rejection	-0.82	0.07	-.21****
Step 2			
Constant	98.24	2.2	
Paternal Rejection	-0.43	0.16	-.11**
Attachment Anxiety	-0.31	0.03	-.42****

R^2.= .04 for Step1, ΔR^2.= .04 for Step2 ($p < .001$)

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

Table 3.9

Linear Regression Analyses of Self-Compassion (SCS Total Score) as a Function of Maternal Rejection (s-EMBU) and Attachment Avoidance (ECRS).

	B	*SE B*	ß
Step 1			
Constant	79.43	1.94	
Maternal Rejection	-0.46	0.18	-.11**
Step 2			
Constant	84.82	2.42	
Maternal Rejection	-0.33	0.18	-.08
Attachment Avoidance	-0.12	0.03	-.16****

R^2.= .01 for Step1, ΔR^2.= .01 for Step2 ($p < .05$)

** $p < .0.05$, **** $p < .001$

Table 3.10

Linear Regression Analyses of Self-Compassion (SCS Total Score) as a Function of Paternal Rejection (s-EMBU) and Attachment Avoidance (ECRS).

	B	*SE B*	ß
Step 1			
Constant	83.3	1.87	
Paternal Rejection	-0.82	0.17	-.21****
Step 2			
Constant	88.56	2.41	
Paternal Rejection	-0.73	0.16	-.19***
Attachment Avoidance	-0.11	0.03	-.15***

R^2.= .04 for Step1, ΔR^2.= .04 for Step2 ($p < .001$)

***, $p < .005$, ****, $p < .001$

3.9.2 Attachment as a potential mediator in the associations found between self-compassion and emotional warmth from parents. Regression analyses were also conducted to explore the potential that attachment was mediating the relationships between self-compassion and emotional warmth from parents. The results are displayed in Tables 3.11 to 3.14. The findings suggest that both attachment anxiety and avoidance were mediating the relationships between self-compassion and emotional warmth from both parents.

Table 3.11 shows that when attachment anxiety was included in the model, maternal emotional warmth became non-significant. A Sobel test found this to be significant, $p < .05$. Table 3.12 shows that when attachment anxiety was included in the model, paternal emotional warmth remained significant but the level dropped. A Sobel test found this to be significant, $p < .05$.

The findings in Table 3.13 show that when attachment avoidance was included in the model, maternal emotional warmth became non-significant, A Sobel test found this to be significant, $p < .05$. Lastly, Table 3.14 shows that when attachment avoidance was included in the model, paternal emotional warmth remained significant, but dropped slightly. A Sobel test found this to be significant, $p < .01$.

Table 3.11

Linear Regression Analyses of Self-Compassion (SCS Total Score) as a Function of Maternal Emotional Warmth (s-EMBU) and Attachment Anxiety (ECRS).

	B	*SE B*	ß
Step 1			
Constant	69.6	3.26	
Maternal Emotional Warmth	0.23	0.14	.09*
Step 2			
Constant	91.45	3.48	
Maternal Emotional Warmth	0.15	0.13	.05
Attachment Anxiety	-3.28	0.03	-.45****

R^2.= .01 for Step1, ΔR^2.= .003 for Step2 (p =.11)

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

Table 3.12

Linear Regression Analyses of Self-Compassion (SCS Total Score) as a Function of Paternal Emotional Warmth (s-EMBU) and Attachment Anxiety (ECRS).

	B	*SE B*	ß
Step 1			
Constant	67.88	2.73	
Paternal Emotional Warmth	0.34	0.13	.11*
Step 2			
Constant	90.72	3.17	
Paternal Emotional Warmth	0.19	0.12	.07
Attachment Anxiety	-0.33	0.03	-.43****

R^2.= .01 for Step1, ΔR^2.= .01 for Step2 ($p < .05$)

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

Table 3.13

Linear Regression Analyses of Self-Compassion (SCS Total Score) as a Function of Maternal Emotional Warmth (s-EMBU) and Attachment Avoidance (ECRS).

	B	*SE B*	ß
Step 1			
Constant	69.6	3.26	
Maternal Emotional Warmth	0.23	0.14	.09*
Step 2			
Constant	79.27	4.09	
Maternal Emotional Warmth	0.12	0.15	.04
Attachment Avoidance	-0.13	0.03	-.17****

R^2.= .01 for Step1, ΔR^2.= .003 for Step2 (p =.11)

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

Table 3.14

Linear Regression Analyses of Self-Compassion (SCS Total Score) as a Function of Paternal Emotional Warmth (s-EMBU) and Attachment Avoidance (ECRS).

	B	*SE B*	ß
Step 1			
Constant	67.88	2.73	
Paternal Emotional Warmth	0.34	0.13	.11*
Step 2			
Constant	76.26	3.51	
Paternal Emotional Warmth	0.26	0.13	.09*
Attachment Avoidance	-0.12	0.03	-.16****

R^2.= .01 for Step1, ΔR^2.= .01 for Step2 ($p < .05$)

* $p < .0.05$, **** $p < .001$

3.10 Research Question Five: Are the Relationships that are found between Self-Compassion and Parental Behaviour Stable across Adulthood?

Research question five was designed to investigate whether the potential relationships between self-compassion and parental behaviour were stable across adulthood. To investigate this, the data were divided into three age groups: 18-20 years, 21-30 years and more than 30 years. Firstly, the three age groups were compared for levels of self-compassion (see Table 3.15). Stability across adulthood was investigated with SCS total scores and the s-EMBU subscales of rejection and emotional warmth for both parents across the three age groups.

A Kruskal-Wallis test was used to assess whether there were differences in the level of self-compassion between the three age groups. This found that there was a

significant difference, H (2) = 16.63, $p < .001$. This was followed-up with Mann-Whitney tests to find out where the difference/s lay. These indicated that there was not a significant difference between the groups 18-20 and 21-30, U = 21425.00, z = 1.67, *ns*. There were significant differences between the groups 18-20 and 31+, U = 7736.00, z = 4.12, $p < .001$ and the groups 21-30 and 31+, U = 8099.00, z = 2.64, p <.01. This indicates that the age group 31+ were significantly more self-compassionate compared to the other two groups.

Table 3.16 shows the associations between self-compassion and parental behaviour for the three age groups. The findings suggest that parental behaviour mainly continues to be associated with self-compassion throughout adulthood.

Table 3.15

Means and Standard Deviations of SCS Total Score for the Three Age Groups

Age Group	Number	Mean SCS Score	Std deviation
18-20	227	72.23	15.49
21-30	208	74.73	17.31
31+	96	80.55	16.25

Table 3.16

Associations between SCS Total Score and the s-EMBU Subscales of Rejection and Emotional Warmth across the Three Age Groups

	18-20	21-30	30+
s-EMBU Rejection Mother	-.24****	-.24****	-.14
s-EMBU Rejection Father	-.27****	-.28****	-.27**
s-EMBU Emotional Warmth Mother	.15*	.13*	.29***
s-EMBU Emotional Warmth Father	.12*	.18***	.32***

$p < .1$, * $p < .01$, ** $p <. .05$, $p < .005$***, $p < .001$**** (one-tailed p).

3.11 Research Question Six: Is Self-Compassion Associated with Mindfulness?

Research question six aimed to investigate whether self-compassion was associated with mindfulness. This was explored with the SCS total (with the mindfulness items removed) and the MASS total score. Table 3.17 indicates that mindfulness was found to be associated with self-compassion.

Table 3.17

Relationships between SCS total (with mindfulness items removed) and Mindfulness (MAAS).

	MAAS Mindfulness
SCS Total Score (Mindfulness Items Removed)	.350****

$p < .001$**** (one-tailed p).

3.12 Research Question Seven: Is Mindfulness a Mediating Factor in the Potential Relationships between Self-Compassion and Parental Behaviour?

The aim of research question seven was to investigate whether mindfulness was a mediating factor in the associations that had been found between self-compassion and parental behaviour. Mindfulness was investigated with the MAAS total score.

The initial step was to investigate whether mindfulness was associated with parental behaviour. This was investigated separately for mothers and fathers. The findings in Table 3.18 indicate that rejection was significantly associated with mindfulness but emotional warmth was not. This was found for both parents. On this basis, regression analyses were conducted to explore whether mindfulness was a mediating factor in the relationship between self compassion and parental rejection (for this analysis the SCS mindfulness items were removed).

Table 3.19 shows that when MASS was included in the model, maternal rejection did not remain significant. A Sobel test found this to be significant, $p < .01$. Table 3.20 shows that when MASS is included in the model, paternal rejection remained significant, but the coefficient dropped slightly. A Sobel test found this to be significant, $p < .05$.

Table 3.18

Associations between the MASS Total Score and the s-EMBU Subscales of Rejection and Emotional Warmth

	MAAS total
s-EMBU Rejection Mother	-.17****
s-EMBU Rejection Father	-.21****
s-EMBU Emotional Warmth Mother	.06
s-EMBU Emotional Warmth Father	.06

**** $p < .001$ (two-tailed p).

Table 3.19

Linear Regression Analyses of Self-Compassion (with Mindfulness Items Removed) as a Function of Maternal Rejection (s-EMBU) and Mindfulness (MAAS).

	B	*SE B*	ß
Step 1			
Constant	79.43	1.94	
Maternal Rejection	-0.46	0.18	-.11**
Step 2			
Constant	51.52	3.63	
Maternal Rejection	-0.29	0.17	-.07
MAAS	7.06	0.79	.36****

R^2.= .01 for Step1, ΔR^2.= .01 for Step2 ($p < .05$)

** $p < .0.05$, **** $p < .001$

Table 3.20

Linear Regression Analyses of Self-Compassion (with Mindfulness Items Removed) as a Function of Paternal Rejection (s-EMBU) and Mindfulness (MAAS).

	B	*SE B*	ß
Step 1			
Constant	83.3	1.87	
Paternal Rejection	-0.82	0.17	-.21****
Step 2			
Constant	46.19	3.62	
Paternal Rejection	-0.63	0.16	-.16****
MAAS	6.77	0.79	.35****

R^2.= .05 for Step1, ΔR^2.= .05 for Step2 ($p < .001$)

****$p < .001$

3.13 Summary

The findings from initial analyses indicted that self-compassion was associated with rejection and emotional warmth, experienced from both parents, in the predicted directions. Beyond this, it was found that both the self-kindness and mindfulness aspects of self-compassion were linked to early parental behaviour, but that common humanity was only associated with rejection from fathers.

As predicted, both attachment anxiety and avoidance were found to be associated with self-compassion. Following this, attachment was investigated as a potential mediator in these associations. For both rejection and emotional warmth, the results indicated that attachment anxiety and avoidance were both significant mediators in the relationships between self-compassion and parental behaviour.

Investigations were conducted into whether self-compassion was stable across adulthood. It was found that the oldest age group (30 years and over) were more compassionate than the two other age groups (18-20 years and 21-30 years). Self-compassion was found to be significantly associated with all aspects of parental behaviour across the three age groups; with the exception of maternal rejection which was not significantly associated with self-compassion in the oldest age group.

Mindfulness was investigated as a mediating factor in the associations found between self-compassion and parental behaviour. Initial analyses found that mindfulness was only associated with rejecting behaviour from parents. Further analyses indicated that mindfulness was a significant mediator in the associations found between parental rejection and self-compassion for both parents.

It is of note that many of the correlation coefficients for these findings are modest. The potential implications of each of the findings are discussed in the Discussion Chapter.

Chapter Four

Discussion

4.1 Background and Aims of the Research Project

The current study was designed to investigate whether self-compassion is associated with recall of parental behaviour during childhood. The rationale behind this was to further evaluate developmental accounts of self-compassion (Gilbert 1989, 1995, 2005, 2009). Within this, the current study aimed to explore the stability of the potential associations between self-compassion and early relationships with care-givers and the possible roles of attachment and mindfulness. The inclusion of attachment was based on theoretical models which suggested that self-compassion may have a similar developmental pathway to attachment (via the internalisation of significant early interpersonal experiences; Gilbert, 2005, 2009). Mindfulness was included due to the identification that it has been argued to be strongly linked to self-compassion (Neff, 2003) and has also been suggested to be associated with early experience with care-givers (see, Shaver et al., 2007). Therefore, it was predicted that attachment and mindfulness may be implicated in the developmental pathway between early relationships with care-givers and self-compassion in adulthood.

4.2 Chapter Overview

Initially there is a description of the sample included in the current study. The research questions and findings will then be summarised and discussed. This includes an exploration of how the research questions relate to the previous literature and the conclusions that were drawn. This is followed by sections on the clinical implications of the findings, a discussion on the limitations of the research project and suggestions

for further research. Lastly, the conclusions of the research project are outlined and discussed.

4.3 A Description of the Sample Demographic Information and Questionnaire Findings

There were 531 individuals who took art in the current study. Of this group, 34 per cent were male and 66 per cent were female. Figures from the 2008-9 cohorts of first year, third year and post-graduate students attending UEA indicate that this was a fairly representative gender split (see Method Chapter). It could not be established from previous research whether the mean scores of the self-report measures for the current study were similar to previous findings (with the exception of the MAAS where the current and previous total mean score was comparable; Brown & Ryan, 2003).

4.4 Research Question One: Self-compassion and Perceptions of Parental Behaviour during Childhood

The aim of the first research question was to ascertain whether the recall of parental behaviour during childhood was related to self-compassion in adulthood. The areas of parental behaviour that were hypothesised to be associated with self-compassion were rejection (predicted inverse relationship) and emotional warmth (predicted positive relationship). This was investigated separately for maternal and paternal behaviour. It was tentatively predicted that the relationships between recall of parental behaviour and self-compassion would be stronger in relation to maternal behaviour as compared to paternal behaviour.

The findings indicated that self-compassion was associated with early perceptions of both parental rejection and emotional warmth in the predicted directions. Specifically, the results showed that perceptions of both rejection and emotional warmth from fathers and mothers were related to self-compassion.

These findings support the proposition that early experiences with care-givers are associated with the capacity for self-compassion in adulthood. In terms of the mechanisms that are proposed by developmental models, the findings support suggestions that experiences of emotional warmth or rejection from primary care-givers are internalised and subsequently guide whether individuals engage in self-critical or self-compassionate self-to-self relating at times of difficulty (Gilbert 1989, 1995, 2005, 2009).

Developmental factors were previously explored in a study conducted by Neff and McGehee (2010). This study investigated maternal support as a predictor of individual differences in self-compassion with a sample of adolescents (mean age 15.2 years) and young adults (mean age 21.1 years). In line with the findings of the current study, the authors found that maternal support predicted self-compassion. It was concluded that this may imply that the way that individuals relate to themselves (especially during times of suffering or failure) may be modelled on experiences within the family. Specifically, it was argued that if parents are cold, critical or angry, or conversely, warm and supportive this may become internalised and reflected in the individual's "inner dialogue". The critique of this study in the Introduction Chapter (page 28) noted that the sample was fairly young and may therefore have continued to be under the direct influence of maternal behaviour. Furthermore, the measure used by Neff and McGehee (2010) reflected current maternal behaviour as opposed to behaviour during childhood. On this basis, the inference that these relationships had

been internalised may not have been valid as it may have been that the external current environment was not supportive of a self-compassionate stance (as opposed to previous experience). The age group included in the current study (mean age 24.8) were less likely to have been under the direct influence of parental behaviour, and the measure used was a retrospective measure of childhood relating, therefore the current findings may lend further empirical support to the suggestion that these relationships are internalised and form the basis of self-to-self relating (see Gilbert, 2005). This was further investigated by separating out the age groups in the current sample. This is discussed in greater depth below.

Neff and McGehee (2010) did not investigate the potential relationship between self-compassion and paternal behaviour. This is likely to be due to theoretical accounts, including attachment theory, that imply that as mothers are generally considered the primary care-giver this would form a stronger basis for the development of internal working models or self-to-self relating (see Bowlby, 1982). The current study found that perceptions of rejection and emotional warmth from fathers during childhood were as predictive of self-compassion as perceptions of maternal behaviour. The mean scores indicated that perceptions of these behaviours were at similar levels for both parents. It is therefore unlikely the associations found between paternal behaviour and self-compassion were due to more extreme or demonstrative behaviour from fathers. It is possible that the impact of paternal behaviour may reflect the increasing involvement of fathers in childrearing. Although, there is evidence from the field of attachment that fathers play an important role in the development of attachment (Cohen & Campos, 1974; Ducharme et al., 2002; Easterbrooks & Goldberg, 1984; Grossmann et al., 2002; Lamb, 1977; Main & Weston, 1981). The findings from the current study indicate that they are also

implicated in the development of self-compassion. Interestingly, the pattern of the findings suggest that, as with mothers, both emotional warmth and rejection from fathers was associated with self-compassion.

The relationships between perceptions of parental behaviour and self-compassion found in the current study were modest (*r*s between .10-.24). Neff and McGehee (2010) also found modest relationships between maternal support and self-compassion (*r*s between .26-.28). These authors concluded that this finding implied that although maternal support is related to the capacity to be self-compassionate, it does not determine how self-compassionate an individual is. The modest relationships found in the current study may reflect a number of different potential factors. It may have been that the measure of perceptions of parental behaviour did not fully capture the important aspects of this with regards to shaping individual differences in self-compassion. It is also possible that individuals may be able to overcome the impact of early experience on their capacity for self-compassion in adulthood. Lastly, it may be that factors other than parental behaviour influence an individual's capacity for self-compassion. These possibilities are discussed in more depth below.

As stated in the Introduction Chapter, interactions between children and parents are likely to be complex (page, 19). For example, parents can be extremely protective of their children without being soothing or comforting (Gilbert, 2005). Parental behaviour is not always consistent. Factors that can change over time (such as psychopathology) may impact on the way that parents relate to their children. In terms of attachment theory, Rutter (2002) has argued that early interactions with care-givers are complex and inconsistent and suggests that theoretical models stating that attachment behaviours fit into discreet categories are flawed. Recent developments in attachment theory also suggest that more subtle factors, such as the ability to

recognise and articulate feelings, may be influential in the development of internal working models (Allen & Fonagy, 2006). It is possible that, if early interactions with care-givers are more implicated in the development of self-compassion than the strengths of coefficients found in the current study would suggest, the measure of perceptions of parental behaviour adopted for the current study did not reflect all the aspects of parental behaviour that were influential in the development of self-compassion. It is however likely that any quantitative measure of parental behaviour would struggle to capture the complexities and nuances of parent to child interrelating.

Another factor underlying the modest to moderate strengths of the correlations found in the current study may be that throughout the lifetime individuals are to some extent able to overcome the negative consequences of early parental behaviour. This has been discussed in the literature on attachment (see Roisman, Padrón, Sroufe & Byron, 2002). This might suggest that other factors, such as the experience of warm and compassionate friendships and relationships, may update patterns of self-to-self relating learnt in childhood. This is discussed in more depth below in the sections on attachment and the stability of self-compassion throughout the lifetime.

Irons et al. (2006) investigated the relationships between perceptions of parental behaviour during childhood and the propensity towards self-attacking or self-reassurance at times of difficulty. This study included the same measure of parental behaviour as the current study (the s-EMBU). As discussed in the Introduction Chapter (page, 28), it is possible that the constructs of self-attacking and self-reassurance are more closely related to Gilbert's developmental conceptualisation of compassionate self-to-self relating. Interestingly, the strengths of the relationships found by Irons et al. (2006) were also modest to moderate (all *r*s between .16 - .33).

This may indicate that (as found with the measure of self-compassion in the current study) either other factors experienced throughout the lifetime may influence the propensity towards self-attacking and self-reassurance or that the measure failed to capture all the important aspects of these early interactions.

4.5 Research Question Two: The Sub-Components of Self-Compassion and Perceptions of Parental Behaviour during Childhood

The second research question reflected the aim to investigate the relationships between early experience with care-givers and Neff's (2003) construct of self-compassion in greater depth. Neff (2003) has proposed that self-compassion has three underlying sub-components: self-kindness, common humanity and mindfulness. As outlined in the Introduction Chapter (page, 26), there is a clear theoretical rationale for predicting that self-kindness and mindfulness may be associated with parental behaviour. However, it was deemed less clear for common humanity.

Neff (2003) has proposed that self-kindness is in opposition to self-criticism. There are parallels between this and Gilbert's (2005) proposal that early experiences of care-givers may become internalised to form the basis for self-to-self relating. Parents who are warm, supportive and nurturing may facilitate an internal dialogue or patterns of self-to-self relating that are also kind and supportive. In contrast, experiences of criticism or rejection are more likely to form the basis of a more critical stance of self-to-self relating. Mindfulness has been theorised to be developmentally linked with early experience of care-givers (Mikulincer & Shaver, 2004; Ryan et al., 2007; Shaver et al., 2007). In parallel with developmental accounts of self-compassion, the capacity for mindfulness in adulthood has been proposed to be associated with early experience of being contained and soothed (Shaver et al., 2007).

As stated above, the theoretical links between parental behaviour and common humanity are less clear. In the Introduction Chapter (page, 26) it was tentatively suggested that early experience of being part of a functional social group (or family) may foster feelings of connectedness to others and an awareness of their suffering. However, it is acknowledged that this is speculative and is not based on existing evidence. On this basis, it was predicted that perceptions of parental behaviour during childhood, and specifically rejection and emotional warmth, would be associated with both self-kindness and emotional warmth. No specific predictions were made with regards to common humanity. Again this was explored separately for mothers and fathers.

As predicted, the findings indicated that self-kindness and mindfulness (measured on the SCS) were positively associated with emotional warmth from both parents and inversely associated with rejection from both parents. These findings support the suggestion that these aspects of self-compassion are associated with childhood experiences of care-givers. Common humanity was only found to be associated with rejection from fathers. This is a difficult result to interpret. It is possible that paternal rejection is particularly important in the development of recognition that suffering is part of the human condition. It is however important to note that there is a limited theoretical basis for suggesting this. As a number of correlations were performed, this could be a spurious finding (although this was controlled for). Further research could investigate this in more depth.

The coefficients again indicate that the strength of the relationships found between recall of parental behaviour and the sub-components of self-compassion were all of a modest strength (*r*s between .08 -.15). As discussed above, this may indicate that either the measure of parental behaviour did not capture the influential aspects or

that other factors influenced the development of self-compassionate, self-kindness and mindfulness. As suggested by Neff and McGehee (2010), the relationship with care-givers does appear to be associated with the capacity for self-compassion; however, the findings suggest that it does not fully determine individual differences in self-compassion.

It is important to note that Neff's (2003) measure of self-compassion has not been well validated in terms of the three sub-components. On this basis, the findings in the current study should be interpreted tentatively and should be perceived as offering an initial insight into the possibility that early interpersonal experience with care-givers contributes differently to the different aspects of self-compassion.

4.6 Research Questions Three and Four: Self-Compassion and Attachment

Research questions three and four were designed to investigate the relationships between self-compassion and attachment style. Attachment style in adulthood is thought to reflect early experiences with primary care-givers, and specifically, interactions around threat and distress (Bowlby, 1969, 1972, 1982, 1988). There are many similarities between attachment theory and Gilbert's (2005) developmental perspectives on compassion. The current study adopted a measure of attachment style in adulthood. This reflected the two-dimensional model of attachment proposed by Brennan et al. (1998). This suggests that there are two forms of insecure attachment: avoidant and anxious. It was hypothesised that self-compassion would be negatively associated with both anxious and avoidant attachment in adulthood. Beyond this, it was predicted that adult attachment style would be a mediating factor in the relationships found between perceptions of parental behaviour and self-compassion.

The findings indicated that both attachment anxiety and avoidance were inversely associated with self-compassion. The coefficients suggested that there was a modest relationship between attachment avoidance and self-compassion (r = -.16) and a moderate relationship between attachment anxiety and self-compassion (r = -.43).

These findings suggest that self-compassion is related to adult attachment style. This further supports the proposition that self-compassion is associated with early relationships with care-givers. According to Brennan et al. (1998) attachment avoidance is characterised by discomfort with closeness or dependence on others. The inverse relationship between this and self-compassion may indicate that individuals who have experienced physical and emotional closeness from primary care-givers as safe, and consequently, have the capacity to form close relationships with partners, are more able to be internally compassionate and soothing in response to personal suffering or distress. Attachment anxiety is characterised by fear of rejection or abandonment (Brennan et al., 1998). This reliance on others is likely to reflect doubts about self-worth (see Bartholomew & Horowitz, 1991). The inverse relationship found between this and self-compassion may indicate that early experiences of being consistently supported and praised by parents may foster a self-compassionate stance that is accepting of personal flaws and failings and is less reliant on others to create a sense of safety and self-worth.

Neff and McGehee (2010) also found that self-compassion was associated with attachment style. These authors concluded that this further supports the suggestion that self-compassion is associated with the internalisation of early experience of primary care-givers. Again, it is important to note that the correlation coefficients found in the current study indicated that the strength of these relationships were modest to moderate. The findings of Neff and McGehee (2010) are similar (*r*s

between .24-.39). These findings do appear to indicate further evidence for the application of a developmental approach to Neff's (2003) construct of self-compassion. However, once again, the strength of the findings may indicate that other factors are also contributing to individual differences.

In order to investigate whether attachment style was a mediating factor in the relationships that had been found between perceptions of parental behaviour and self-compassion, mediational analyses were conducted. The findings indicated that both attachment anxiety and avoidance were significant mediators in the associations that had been found between self-compassion, rejection and emotional warmth from both parents. These findings do offer initial support for the suggestion that adult attachment mediates the relationships between early experiences with care-givers and self-compassion. Despite this, the adjusted R^2s for the mediational analyses indicate that only very small amounts of the variance were explained. As discussed above, this may indicate although the findings do support the developmental approach adopted for the current study, this does not explain all aspects of individual difference in self-compassion.

4.7 Research Question Five: The Stability of the Relationships between Early Interpersonal Experience with Care-Givers and Self-Compassion in Adulthood

This research question sought to explore whether the relationships found between the recall of parental behaviour and self-compassion were stable across adulthood. Criticism of the study conducted by Neff and McGehee (2010) (outlined above) noted that this study included age groups that may have been under the relative influence of maternal behaviour at the time of the study. On this basis, the aim of the current study was to investigate the potential relationships between parental behaviour

and self-compassion in older age groups. For the current study, this was investigated for three age groups: 18-20 years, 21-30 years and 31 years and over.

The findings indicated that the oldest age group was significantly more compassionate than the other two groups. This finding may suggest that self-compassion increases in adulthood. This is a tentative interpretation however as the mean SCS score is not dramatically different in the oldest age group. In terms of the relationships with parental behaviour, the findings are mixed. For the two younger groups, relationships were still found between parental behaviour and self-compassion. This was found for both rejection and emotional warmth from both parents. In the oldest age group, a relationship between maternal rejection and self-compassion was not found. Despite this, self-compassion was found to be associated with the other areas of parental behaviour for both mothers and fathers. These findings may indicate that throughout adulthood individual differences in self-compassion are less influenced by negative interpersonal relationships with mothers that include rejecting behaviour. It is possible that individuals who have these sorts of experiences are more able to overcome the effects in terms of self-to-self relating with increased temporal and proximal distance from the care-giver. It is also possible that factors such as warm and supportive relationships and friendships with others may have a stronger influence on self-to-self relating with increased distance from care-givers. These are speculative interpretations that may not be supported by the finding that rejection from fathers is still associated with self-compassion in this older age group. It is possible that this finding reflected experience of interpersonal trauma from fathers that were reported as 'rejection'. This was not controlled for in the current study. On this basis, additional research would be required, with individuals who are

at later developmental stages in adulthood and including a measure of interpersonal trauma in childhood, to explore this further.

4.8 Research Questions Six and Seven: The Role of Mindfulness in the Relationships between Early Interpersonal Experiences with Care-givers and Self-Compassion

The aim of research questions six and seven was to further explore the potential role of mindfulness in the relationships that had been found between perceptions of parental behaviour during childhood and self-compassion. This was based on observations that Neff (2003) includes a mindfulness component in her concept of self-compassion and the theoretical parallels between developmental accounts of self-compassion and mindfulness. Developmentally, both self-compassion and mindfulness have been linked to experiences of being contained and soothed and of feeling connected to the family (Gilbert, 2005; Ryan et al., 2007; Shaver et al., 2007). In the Introduction Chapter (page 36), it was specifically argued that experiences of having distressing experiences and the emotional responses to these sensitively contained may facilitate the development of a mindful stance towards negative thoughts and images and therefore an increased capacity for a self-compassionate response to difficulty or failure. In terms of early adversity, mindfulness has been found to be correlated with maltreatment from parents in childhood (Michal et al., 2007). On this basis, it was proposed that self-compassion and mindfulness may share a common developmental pathway. It was predicted that self-compassion (with the mindfulness items removed) would be associated with trait mindfulness. Beyond this, it was predicted that mindfulness may be a mediating factor in the relationships found between recall of parental behaviour and self-compassion.

The findings indicated that self-compassion (with the mindfulness items removed) was associated with mindfulness (r = .35). In terms of investigating the possibility that mindfulness was a mediating factor in the relationships found between recall of parental behaviour and self-compassion, mindfulness was found to be associated with parental rejection but not emotional warmth. The relationship with parental rejection was found for both parents. On this basis, mediational analyses were conducted to investigate whether mindfulness was a mediating factor in the relationships found between self-compassion and parental rejection. It was found that mindfulness was a significant mediator in the relationships between rejection and self-compassion.

It is perhaps surprising that mindfulness was found not to be associated with emotional warmth. Theoretical accounts suggest that experiences of being contained and soothed in infancy would be associated with the capacity for mindfulness (Ryan et al., 2007; Shaver et al., 2007). This formed part of the rationale behind research questions six and seven. It was felt likely that soothing at times of distress would be reflected in experiences of emotional warmth from parents. The findings of the current study may indicate that being soothed and contained in childhood are less critical to the development of the capacity for mindfulness than previously theorised. It is possible that this is supported by previous findings that maternal nurturance was not associated with mindfulness (Walsh et al., 2009). Alternatively, it is possible that the measure used in the current study (and previous research) did not manage to capture the influential aspects of the care-giver relationship.

The finding that perceptions of rejection from parents were associated with mindfulness supports previous findings of a link between childhood maltreatment and mindfulness (Michal et al., 2007). This might indicate that early experiences of

feeling rejected and criticised by care-givers results in an inability to tolerate (and therefore mindfully respond to) threat-based emotions associated with internal and external events. It is possible that in extreme cases, perceptions of rejection from parents may have been associated with interpersonal trauma which may have impacted on the findings. On this basis, it would have been insightful to have included a measure of early interpersonal trauma as this was not explored or controlled for in the current study (this is discussed in more detail below).

The findings that mindfulness mediated the relationships between early experiences of rejection and self-compassion supports the suggestion that early experiences of being punished or rejected by care-givers at times of difficulty or distress are internalised which results in an inability to respond mindfully to distressing material and that this turn decreases the capacity for self-compassion (and is likely to result in self-critical appraisals). Despite the statistical significance of these findings, it is important to note that the adjusted R^2s for the mediational analyses indicate that only very small amounts of the variance were explained. Again this might indicate that factors other than early interpersonal experience and mindfulness are also underlying self-compassion.

4.9 Clinical Implications

Self-compassion has been found to be both linked to psychological wellbeing and a protective factor against a number of mental health disorders. Specifically, it has been found to be positively associated with life satisfaction, happiness, optimism, positive affect, wisdom, personal initiative, conscientiousness, curiosity, agreeableness and extroversion and negatively correlated with self-criticism, depression, anxiety and neurotic perfectionism (Neff, 2003; Neff et al., 2007b).

Evidence suggests that self-compassion may be malleable (see Neff et al., 2007b). Specifically, the experience of a caring or compassionate relationship either with a romantic partner or within a therapeutic setting may update internal working models of self-to-self relating in such a way that facilitates self-compassion (Bowlby, 1988; Liotti, 2007).

Recently, there has been a growing interest in the development of strategies that aim to increase self-compassion in order to protect against or help to manage psychopathology linked to shame and self-criticism (such as depression, posttraumatic stress disorder and Axis 1 anxiety disorders) (Gilbert, 2009; Gilbert, 2010; Gilbert & Procter, 2006; Gilbert & Irons, 2005; Hackmann, 2005; Lee, 2005). These approaches have collectively been termed 'compassion focussed therapy' (CFT) (Gilbert, 2010). These forms of clinical intervention are conceptually founded on Gilbert's developmental accounts of self-compassion (Gilbert 1989, 1995, 2000; See Gilbert, 2005, 2009, 2010); which to date has limited empirical support. These accounts argue that early interpersonal experiences with care-givers are implicated in the development of self-compassion. Specially, it is argued that experiences of being abused, shamed and criticised will result in the internalisation of models of self-to-self relating that decrease the capacity for self-compassion and facilitate a self-attacking stance in response to difficulty. The current study offers initial empirical support for this developmental account of self-compassion. Despite this, it is important to note that the measure of self-compassion adopted for the current study was founded on Neff's (2003) account of self-compassion, which may conceptually differ from that proposed by Gilbert (2005, 2009, 2010).

CFT interventions utilise mindfulness and imagery techniques to enable individuals to take a more compassionate approach in self-to-self relating, specifically

targeting shame and self-attacking (Gilbert, 2005; 2009; 2010). Interventions aimed at increasing self-compassion may have been founded on the developmental theoretical accounts proposed by Gilbert (1989, 1995, 2005); however, CFT approaches are mainly concerned with the 'here and now' (that is, they generally do not involve exploration of the potential impact of early relationships). Despite this, it has been documented that the use of strategies to encourage a self-compassionate approach may be effective in treating individuals where there is evidence of a link between early interpersonal experiences and self-critical thinking (Hackmann, 2005; Lee, 2005). Interestingly the findings of the current study suggest that early experience with fathers may be important in the development of self-compassion. This may be clinically significant as conceptual models implied that it was maternal behaviour that was of central importance (based on Bowlby's, 1982 concept of monotropy) (although more recent findings in the field of attachment research do recognise the importance of fathers: Cohen & Campos, 1974; Ducharme et al, 2002; Grossmann et al., 2002; Lamb, 1977). On this basis it may be important to ensure that the therapist is aware that the early paternal relationship should potentially be considered. It is argued below that further research may gain a better insight into which specific aspects of the care-seeker to care-giver relationship may be implicated in the development of self-compassion. The findings of the current study also add empirical support for the use of mindfulness techniques within compassion focussed interventions.

4.10 Limitations of the Research project

The limitations of the current study that have been recognised relate to the measures and sample adopted.

As there are no measures of self-compassion that do not include a mindfulness component, the mindfulness items of the SCS were removed for the analyses exploring associations between self-compassion and mindfulness. It is possible that this may have impacted on the psychometric properties of the SCS. Consequently, the findings regarding self-compassion and mindfulness should be considered with caution.

The data for the current study was collected via the internet. The result of this was that the sample size for the current study was large, increasing the power for the analyses. It has been argued that the data collected via IMR may be more accurate as it is thought to increase disclosure due to distance and anonymity (Gosling et al., 2004; Joinson; 2002; Valaitis & Sword, 2005). Despite this, it is important to note that it is not known whether reproducing the measures in an electronic format would have affected the psychometric properties. Previous research has indicated that this does impact on the psychometric properties of self-report measures (Buchanan, 2001, 2002) and evidence that it does not (Benet-Martinez et al., 1998; Costa et al, 2001; Ritter et al., 2004; Srivastava et al., Potter, 2003).

The measures used in the current study were unlikely to have captured all aspects of the complex variables being explored. As stated above, human relationships are vastly complex and nuanced and recent literature suggests that subtle interactions, such as the ability to recognise and articulate thoughts and feelings, may impact on attachment and the development of internal working models (Allen & Fonagy, 2006). This would be a likely limitation of any quantitative measure but this may have been of particular relevance to the current study as the coefficients found for the majority of the analyses were modest despite the large sample size. On this basis, it cannot be inferred whether the coefficients were modest as the important

aspects of the care-seeker to care-giver relationships were not captured; or alternatively, whether this was due to factors that influenced the development of self-compassion, but were not included in the current study. Further qualitative or mixed methods investigations may offer some insight into this. This is discussed in more detail below.

The current study was correlational and employed retrospective measures despite the investigation of longitudinal concepts. The correlational nature of the data means that the direction of the relationships found is speculative. Factors such as the ability to accurately recall early experiences (which would be likely to be very limited for early childhood) and current perspective may have influenced the responses given. Further to this, as the data were cross-sectional the different age groups that were compared included different participants (as opposed to different time-points as would have been the case with a longitudinal study). Consequently, the findings of differences in self-compassion and the relationships between this and the recall of parental behaviour may have been due to the differences between the groups rather than changes in self-compassion over time.

As with the majority of the previous research into self-compassion, the current study was conducted within a student population. This limited sampling impacts on the generalisability of the findings. Furthermore, arguably this is a group that cannot avoid the types of difficulty measured by the SCS (it is of note that this measure was developed with a student sample). This increased exposure to the types of difficult experiences that may elicit the emotional responses measured by the SCS may allow for individuals to learn to manage their responses regardless of early experience. Further research with other, more inclusive samples, may offer a better understanding

of the nature of the relationships investigated in the current study. This is discussed below.

The current study aimed to investigate whether there was evidence that associations between early experience with care-givers and self-compassion are stable over time. This links in with the speculation noted above that experience throughout the lifetime, such as compassion experienced in other human interactions (for example from friends or romantic partners) may update the internal working models that influence an individual's capacity for self-compassion (Bowlby, 1988; see Liotti, 2007 for a discussion of this within the therapeutic relationship). Despite this as an aim of the current study, the age groups of the samples included were fairly limited (18-20, 21-30 and 30+ years). Again, further research with older age groups would extend the current findings.

The measure of parental recall used for the current study is largely aimed at conventional two parent families and therefore the findings may not reflect families that do not fit this (for example, individuals raised in 'blended' families, by other family members, homosexual parents or in care).

Potential ways to overcome some of the caveats outlined in this section are discussed below in the section detailing suggestions for future research.

4.11 Suggestions for Further Research

The current study is the first to be specifically designed to explore the application of developmental accounts to Neff's (2003) construct of self-compassion. On this basis the current study can be viewed as preliminary, and as such, only tentative interpretations can be drawn from the findings. Despite the limitations

discussed above, relating to the measures and the sample employed, these initial findings do indicate that this may be a worthwhile area to pursue.

As discussed above, the measures employed for the current study may have limited the findings. As quantitative measures cannot capture the complexity of human relationships, it is possible that a more qualitative approach may offer a richer understanding of the way that early experiences contribute to the development of self-to-self relating. It may be interesting to ask individuals what aspects of their upbringing or early interpersonal experiences they feel shape the current ways in which they relate to themselves during times of difficulty. It may also be interesting to get a more detailed picture of the different ways in which more subtle aspects of the care-giver to care-seeker interaction may impact on this. The findings of the current study indicated that experience of rejection and emotional warmth from parents impacts on this but it may be insightful to expand on this by asking individuals about the types of behaviour they experienced. For example, in terms of 'rejection' is there a difference between punitive or uninterested parenting? In addition, are there different categories of 'emotional warmth' for example, supportive, encouraging and caring? If so, it may be worth enquiring whether participants perceive this to have impacted on their self-to-self relating, especially during times of distress and difficulty.

The current study investigated parental behaviour but did not specifically explore the potential role of early interpersonal trauma (such as neglect, sexual and physical abuse) which has been implicated in the development of self-compassion (Gilbert, 2005). It is possible that in the current study this may have been included in the category of rejection. Consequently, it is not possible to determine whether it was only severe interpersonal trauma or more subtle rejecting or punitive behaviour that impacted on self-compassion. This could be investigated with the inclusion of a

measure of childhood trauma as well as a measure of parental behaviour. This would allow for the role of different types of interpersonal trauma to be both investigated directly and controlled for in the analyses of other types of parental behaviour (such as rejection).

As discussed above, the current study included a student sample. Further research with a more diverse sampling would increase the generalisability of the findings. For example, the suggestion above that student samples may be particularly adept at managing their emotional responses to the types of difficulty measured by the SCS, despite upbringing, may be to some extent surmounted with the use of more inclusive sampling. The findings of the temporal stability of the relationship between parental behaviour and self-compassion were mixed. It was tentatively concluded that over time, with the experience of adult caring and romantic relationships, the impact of parental behaviour during childhood may lessen. This could be further investigated with older adult samples. It may be interesting to include a qualitative component to investigate the types of relationship participants have experienced since childhood. This could also include a measure of trauma to investigate whether the impact of this is less likely to be overcome than other milder forms of rejection and punishment.

4.12 Summary and Conclusion

The aim of the current study was to investigate a developmental account of self-compassion. Self-compassion seems to be a state that consists of feelings of warmth and soothing and an associated internal dialog that is soothing and compassionate. The capacity for self-compassion is prominent when individuals are faced with experiences of adversity and failure. Self-compassionate individuals will respond with self-kindness and awareness that suffering and failure is a necessary

aspect of human experience. This emotional response may encompass a felt sense of soothing and warmth and images, memories and thoughts that have compassionate and self-soothing themes (for example, "it doesn't matter", "this will pass", "it's not your fault"). People who are less self-compassionate may be more susceptible to responding in a self-critical or self-punitive way. This may involve feelings of anger, guilt and shame and associated self-critical thoughts and images (for example, "this is typical of you", "you always make a mess of things").

Theories of self-compassion suggest that the way that people relate to themselves around experiences of adversity and failure is associated with early relationships and is mainly shaped by internalising maternal behaviour towards the childhood self (Gilbert, 2005, 2009; Neff, 2009ab; Neff and McGehee, 2010). The findings of the current study reflect this, suggesting that early experiences of parental warmth are associated with a self-compassionate stance towards difficulty and failure, whereas, parental rejection during childhood appears to be associated with a more self-critical and punitive response. Interestingly, the findings indicated that early experience of paternal behaviour was also influential. This may reflect the increasing involvement that fathers have in childrearing and it implies that fathers also have a significant and central role in shaping the internal working models that govern the way that individuals relate to themselves when faced with difficulty, distress and failure.

The findings of the current study also indicate that attachment style and mindfulness may be mediators of the relationships found between self-compassion and early experiences of parental behaviour. The current chapter has highlighted that these findings may have both theoretical and clinical implications.

The current study was based on a theoretical developmental approach to self-compassion proposed by Gilbert (1989, 1995, 2005, 2009, 2010). This approach specifies the evolutionary and biological mechanisms that may be implicated in the development of self-compassion. The measure of self-compassion adopted for the current study (SCS: Neff, 2003) was not developed within this conceptual framework. Despite this, it has been proposed that the developmental pathway for Neff's concept of self-compassion may be analogous to that proposed by Gilbert (Neff, 2009ab; Neff and McGehee, 2010). The current study was designed to empirically evaluate this. The findings regarding the associations between self-compassion and recall of parental behaviour were supportive of this suggestion.

The current study also found that self-compassion may increase over time, and very tentatively, may be less influenced by experiences of rejection from care-givers the further an individual gets from childhood. Although it was argued that, as this was a cross-sectional study, further research would be required to confirm this speculative interpretation. The findings were also supportive of the suggestion that attachment style may be mediating the association between the behaviour of care-givers and the development of self-compassion.

Mindfulness was found to be related to self-compassion. Interestingly, despite the finding that emotional warmth was related to self-compassion, mindfulness was found to be inversely related to rejection but was not associated with emotional warmth. It is therefore possible that adverse early relationships with care-givers may be more implicated in the development for the capacity for mindfulness than caring or nurturing experiences. Alternatively, this finding may have been accounted for by early interpersonal trauma, which could have had a strong impact on the capacity to mindfully process distressing or difficult experiences (which may have been captured

by the questions relating to parental rejection). It is important to note that this was not controlled for in the current study.

As outlined above, the conclusions drawn from the results are all extremely tentative as there is limited previous research to support the findings and furthermore as the majority of the coefficients found in the current study were modest. The modest coefficients may indicate either that other factors also contribute to individual capacity for self-compassion or that the measures used did not capture all influential aspects of early interpersonal relating. It is also important to note that the current study was correlational despite the exploration of longitudinal concepts.

Despite these caveats, the findings of the current study were largely supportive of theoretical accounts of the impact of the behaviour of care-givers on the development of self-compassion. This has clinical implications as it is supportive of the theoretical accounts that have been used as a conceptual foundation for clinical interventions using self-compassion (see Gilbert, 2005, 2009, 2010). The findings were also supportive of the use of mindfulness techniques within these interventions (Gilbert, 2009, 2010). The findings that paternal behaviour may also be implicated are clinically significant as therapists should arguably be aware of unconscious assumptions that it is the relationship with the mother that is the most influential on critical or non-compassionate self-to-self relating.

Further research to build on the current findings may be of value. This could include a qualitative component to attempt to further explore and develop ideas around the specific aspects of the early care-seeker to care-giver relationship that may be manifest in self-compassionate self-to-self relating in adulthood. Future research could also include a measure of early interpersonal trauma to explore the specific role of this in the development of self-compassion.

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Appendix I

Invitation email for participation in the study

I would like to invite you to participate in a study. The aim of the study is to increase understanding of how we relate to ourselves. A more complete description of the aims will be provided at the end of your participation in the study.

If you choose to participate, you will be asked to complete six short questionnaires. This will take at least 25 minutes. It is possible that some of the questions included in the study may cause mild distress. All information that you give will be anonymous and will not be linked to you. No personal details will be included in any published versions of the study.

Participation in the study will entitle you to enter a free prize-draw to win £50 worth of gift vouchers to spend on the Amazon UK website (www.amazon.co.uk). If you wish to enter this you will be asked to provide your email address for you to be contacted in the event of winning. This email address will not be linked to any of the responses that you give to during the study and will be destroyed on completion of the study.

I am conducting this study as part of a doctorial thesis for The University of East Anglia, Clinical Psychology Course. It is possible that it will be published in a psychology journal.

If you would like to discuss this further or have any questions please do not hesitate to contact me.

If you would like to participate in the study please follow the link below which will provide further information and allow you to complete the questionnaires at any time.

LINK www----------

Thank you for taking the time to read and consider this research

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Appendix II

School of Medicine, Health Policy and Practice

Doctoral Programme in Clinical Psychology

University of East Anglia
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Participant Information Sheet

Study title

Associations between self-compassion, mindfulness, early and current relationships

You are being invited to take part in a research study. Before you decide, it is important for you to understand what your participation will involve. Please take time to read the following information carefully. Please contact the researcher on the email address below if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

What is the purpose of the study?

At this point, further information of the nature of these studies may affect the results. A full debrief as to the nature of the study will be given when you have completed the questionnaires.

Why have I been invited to take part in the study?

All UEA students are being invited to take part in this study.

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

If you decide to take part in the study you will be asked your age and gender then you will be requested to complete six on-line questionnaires. This will take at least 25 minutes.

Do I have to take part?

Whether or not you take part in the study is up to you. If you do decide to consent to take part in the study you can opt out at any time and without giving a reason. In this instance, no questions will be asked about your discontinued participation.

Are there any risks involved in taking part?

It is possible that some of the questions asked could cause distress or upset. If you wish to you can choose to stop completing the questionnaires at any time. If you do find any of the questions upsetting, you can contact me to discuss any concerns you have (see contact address listed at the bottom of this sheet). In this case, anonymity will be broken. If you do contact me you should be aware that it may be possible for me to identify you and I may direct you to an appropriate supportive organisation (see list at the end of this information sheet). Alternatively, you may wish to contact your GP or any of the supportive organisations listed at the end of this information sheet.

Will my taking part in the study be kept confidential?

All the information collected about you in the course of the research will be kept strictly confidential, in accordance with requirements of the Data Protection Act (1988). No identifying information will be associated with the answers that you give on the questionnaires. All answers that you give will be kept anonymous.

Participation in the prize draw

Following completion of the questionnaires you will be invited to enter a free prize-draw for the opportunity to win £50 worth of Amazon gift vouchers to be spent at www.amazon.co.uk. If you would like to enter the prize-draw, you will be asked to provide an email address. This will not be linked to the answers that you give on the questionnaires. If you win the vouchers you will receive an email that will include a link to www.amazon.co.uk where you will be able to retrieve the vouchers.

What will happen to the results of the research study?

When I have finished collecting information for the research I will write up my doctoral thesis and I aim to prepare results for publication in a psychology journal.

This study is supervised by Professor Malcolm Adams within the School of Medicine, Health Policy and Practice.

Complaints

If you would like to make a complaint about any aspect of this study please contact Kerensa Rands (Senior Administrative Assistant) in the Department of Clinical Psychology: tel: 01603 539310, email: K.Rands@uea.ac.uk

Thank you for taking the time to read this. If you need further information please feel free to contact the lead researcher below.

Contact for further information or with any concerns arising from your participation in this study: Corinna Hackmann, School of Medicine Health Policy and Practice, University of East Anglia, Norwich, NR4 &TJ. Email: c.hackmann@uea.ac.uk

Further contact numbers for support and information:

NHS direct

NHS direct can provide local information and guidance relating to all medical and mental health concerns

Telephone: 0845 4647

The University of East Anglia Counselling Service

The UEA Counselling Service offers a confidential service to UEA students

Reception: 01603 592651

Email: csr@uea.ac.uk

Samaritans

The Samaritans offer telephone guidance and support to people with any worries or concerns

Website: www.samaritans.org

Telephone: 08457 90 90 90

Appendix III

School of Medicine, Health Policy and Practice

Doctoral Programme in Clinical Psychology

University of East Anglia
Norwich NR4 7TJ England

Consent Form

If you would like to take part in this study please read the following and tick put your initials in the boxes you agree to.

1. I give my consent to participate in the current study..…… ☐

2. I have read and understood a copy of the information sheet…... ☐

3. I understand that any information I give will remain confidential and will only be used for the purposes stated..…... ☐

4. I am aware that I am free to change my mind and can choose to stop completing the questionnaires or remove my data at any time and without explanation……... ☐

Appendix IV

Self-compassion scale

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.
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.

s-EMBU

Instructions

Below are a number of questions concerning your childhood. Please read through the following instructions carefully before filling out the questionnaire.

Even if it is difficult to recall exactly how our parents behaved towards us when we were very young, each of us does have certain memories of what principles they used in our upbringing. When filling out this questionnaire it is essential that you try to remember your parents' behaviour towards you as you yourself experienced it. You will find a number of questions, to be answered according to different alternatives. For each question you must circle the alternative applicable to your own mother's and father's behaviour towards you.

Be careful not to leave any questions unanswered. We are aware that certain questions are impossible to answer if you do not have any sister(s) or brother(s) or if you have been raised by one parent only. In this case leave these questions unanswered.

For each question please circle the responses applicable to your mother's and father's behaviour towards you. Read through each question carefully and consider which one of the possible answers applies to you. Answer separately for your mother and your father.

An example to illustrate how you should fill out the questionnaire:

		No, never	Yes, but seldom	Yes, often	Yes, most of the time
I got beaten by my parents	F	1	2	**3**	4
	M	**1**	2	3	4
My parents praised me	F	1	2	**3**	4
	M	1	2	3	**4**

F=Father, M=Mother.
Values that are bold represent circled values.

Item:

1. It happened that my parents were sour or angry with me without letting me know the cause.

2. My parents praised me.

3. It happened that I wished my parents would worry less about what I was doing.

4. It happened that my parents gave me more corporal punishment than I deserved.

5. When I came home, I then had to account for what I had been doing, to my parents.

6. I think that my parents tried to make my adolescence stimulating, interesting, and instructive (for instance by giving me good books, arranging for me to go on camps, taking me to clubs).

7. My parents criticised me and told me how lazy and useless I was in front of others.

8. It happened that my parents forbade me to do things other children were allowed to do because they were afraid that something might happen to me.

9. My parents tried to spur me to become the best.

10. My parents would look sad or in some other way show that I had behaved badly so that I got real feelings of guilt.

11. I think that my parents' anxiety that something might happen to me was exaggerated.

12. If things went badly for me, I then felt that my parents tried to comfort and encourage me.

13. I was treated as the “black sheep” or “scapegoat” of the family.

14. My parents showed with words and gestures that they liked me.

15. I felt that my parents liked my brother(s) and/or sister(s) more than they liked me.

16. My parents treated me in such a way that I felt ashamed.

17. I was allowed to go where I liked without my parents caring too much.

18. I felt that my parents interfered with everything I did.

19. I felt that warmth and tenderness existed between me and my parents.

20. My parents put decisive limits for what I was and was not allowed to do, to which they then adhered rigorously.

21. My parents would punish me hard, even for trifles (small offences).

22. My parents wanted to decide how I should be dressed or how I should look.

23. I felt that my parents were proud when I succeeded in something I had undertaken

Experiences in Close Relationships Scale

Instructions: The following statements concern how you feel in romantic relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided to the left, using the following rating scale:

Disagree Strongly			Neutral/Mixed			Agree strongly
1	2	3	4	5	6	7

1. I prefer not to show a partner how I feel deep down.
2. I worry about being abandoned.
3. I am very comfortable being close to romantic partners.
4. I worry a lot about my relationships.
5. Just when my partner starts to get close to me I find myself pulling away.
6. I worry that romantic partners won't care about me as mush as I care about them.
7. I get uncomfortable when a romantic partner wants to be very close.
8. I worry a fair amount about losing my partner.
9. I don't feel comfortable opening up to romantic partners.
10. I often wish that my partner's feelings for me were as strong as my feelings for him/her.
11. I want to get close to my partner, but I keep pulling back.
12. I often want to merge completely with romantic partners, and this sometimes scares them away.
13. I am nervous when partners get too close to me.
14. I worry about being alone.
15. I feel comfortable sharing my private thoughts and feeling with my partner.
16. My desire to be very close sometimes scares people away.
17. I try to avoid getting too close to my partner.
18. I need a lot of reassurance that I am loved by my partner.
19. I find it relatively easy to get close to my partner.
20. Sometimes I feel that I force my partners to show more feeling, more commitment.
21. I find it difficult to allow myself to depend on romantic partners.
22. I do not often worry about being abandoned.
23. I prefer not to be too close to romantic partners.
24. If I can't get my partner to show interest in me, I get upset or angry.
25. I tell my partner just about everything.

26. I find that my partner(s) don't want to get as close as I would like.
27. I usually discuss my problems and concerns with my partner.
28. When I'm not involved in a relationship, I feel somewhat anxious and insecure.
29. I feel comfortable depending on romantic partners.
30. I get frustrated when my partner is not around as much as I would like.
31. I don't mind asking romantic partners for comfort, advice, or help.
32. I get frustrated if romantic partners are not available when I need them.
33. It helps to turn to my romantic partners in times of need.
34. When romantic partners disapprove of me, I feel really bad about myself.
35. I turn to my partner for many things, including comfort and reassurance.
36. I resent it when my partner spends time away from me.

Mindful Attention and Awareness Scale

Day-to-Day Experiences

Instructions: Below is a collection of statements about your everyday experience. Using the 1-6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what *really reflects* your experience rather than what you think your experience should be. Please treat each item separately from every other item.

1	2	3	4	5	6
Almost Always	Very Frequently	Somewhat Frequently	Somewhat Infrequently	Very Infrequently	Almost Never

I could be experiencing some emotion and not be conscious of it until some time later.

I break or spill things because of carelessness, not paying attention, or thinking of something else.

I find it difficult to stay focused on what's happening in the present.

I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.

I tend not to notice feelings of physical tension or discomfort until they really grab my attention.

I forget a person's name almost as soon as I've been told it for the first time.

It seems I am "running on automatic," without much awareness of what I'm doing.

I rush through activities without being really attentive to them.

I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.

I do jobs or tasks automatically, without being aware of what I'm doing.

I find myself listening to someone with one ear, doing something else at the same time.

I drive places on 'automatic pilot' and then wonder why I went there.

I find myself preoccupied with the future or the past.

I find myself doing things without paying attention.

I snack without being aware that I'm eating.

Appendix V

Ethics committee approval letter

Dr Corinna Hackmann
Trainee Clinical Psychologist
Postgraduate Programmes Office
Room 2.01,Elizabeth Fry Building
Faculty of Health
University of East Anglia
Norwich
NR4 7TJ

16th February 2010

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Chancellor's Drive Annexe
University of East Anglia
Norwich NR4 7TJ
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Email: margaret.rhodes@uea.ac.uk
Direct Dial: +44 (0) 1603 59 7190
Research: +44 (0) 1603 59 1720
Fax: +44 (0) 1603 59 1132

Web: http://www.uea.ac.uk

Dear Corinna

Self-Compassion: The Impact of Recall of Parental Behaviour, Adult Attachment and Mindfulness - 2009/10-008

The amendments to your above proposal have now been considered by the Chair of the FOH Ethics Committee and we can now confirm that your proposal has been approved.

Please could you ensure that any 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

Maggie Rhodes
Research Administrator

Appendix VI

School of Medicine, Health Policy and Practice

Doctoral Programme in Clinical Psychology

University of East Anglia
Norwich NR4 7TJ England

Participant Debrief Sheet

Study title: Self-Compassion: The Impact of Recall of Parental behaviour, Adult Attachment and Mindfulness

Thank you for taking part in the above study.

The aim of this study is to investigate how the perceptions that individuals have of their parental behaviour during childhood and early adolescence affects the degree to which they are compassionate towards themselves and how mindful they are (that is, the ability to be aware of what is happening in your mind and body moment to moment without judgement). The current study also aims to investigate whether these factors are related to how anxious or avoidant people feel in their adult relationships.

All the responses that you have given during the study have been anonymised; therefore, the responses you gave cannot be linked to you. If you have any concerns about your mental wellbeing please contact your GP to discuss these. At the bottom of this information sheet is a list of contact details for other agencies that may be able to offer support in relation to any concerns you may have.

Thank you for taking the time to read this. If you would like any further information please feel free to ask any questions you have or contact the lead researcher below.

This study is supervised by Professor Malcolm Adams within the School of Medicine Health Policy and Practice. If you would like to make a complaint about any aspect of

this study please contact Kerensa Rands (Senior Administrative Assistant) in the Department of Clinical Psychology: tel: 01603 539310, email: K.Rands@uea.ac.uk

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Samaritans

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Compassionate Mind

The compassionate mind website provides further information about self compassion and also includes helpful resources to help build self compassion.

www.self-compassion.org

Appendix VII

Kolmogorov-Smirnov results

Self Compassion Scale

SCS total score: $D(531) = .04$, $p = .06$.

SCS sub-scores:

SCS self-kindness, $D(531) = .08$, $p < .001$

SCS self-judgement, $D(531) = .08$, $p < .001$

SCS common humanity, $D(531) = .08$, $p < .001$

SCS isolation, $D(531) = .09$, $p < .001$

SCS mindfulness $D(531) = .07$, $p < .001$

SCS over-identification, $D(531) = .09$, $p < .001$

S-EMBU Scale

Mother rejection, $D(531) = .21$, $p < .001$

Father rejection, $D(531) = .21$, $p < .001$

Mother emotional warmth, $D(531) = .14$, $p < .001$

Father emotional warmth, $D(531) = .10$, $p < .001$

Mother over protection, $D(531) = .11$, $p < .001$

Father over protection, $D(531) = .07$, $p < .001$

ECRS Scale

Anxiety, $D(531) = .50$, $p < .005$

Avoidance, $D(531) = .61$, $p < .001$

MAAS total score

$D(531) = .05$, $p < .05$

Kolmogorov-Smirnov results for transformed variables

SCS Scale

SCS self-kindness, $D(531) = .11$, $p < .001$

SCS self-judgement, $D(531) = .09$, $p < .001$

SCS common humanity, $D(531) = .12$, $p < .001$

SCS isolation, $D(531) = .1$, $p < .001$

SCS mindfulness $D(531) = .12$, $p < .001$

SCS over-identification, $D(531) = .1$, $p < .001$

s-EMBU Scale

Mother rejection, $D(531) = .17$, $p < .001$

Father rejection, $D(531) = .17$, $p < .001$

Mother emotional warmth, $D(531) = .05$, $p < .005$

Father emotional warmth, $D(531) = .05$, $p < .005$

Mother over protection, $D(531) = .09$, $p < .001$

Father over protection, $D(531) = .11$, $p < .001$

ECRS Scale

Anxiety, $D(531) = .10$, $p < .001$

Avoidance, $D(531) = .07$, $p < .001$

MAAS total score

$D(531) = .09$, $p < .001$