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The Role of Autobiographical
Memory in Psychopathology

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General Abstract

Over the past decade, there has been a growing interest in autobiographical memory (AM) and its application to psychopathology. The literature review provides an overview of AM and its application to depression and anxiety. The conceptualisation of AM is outlined from a historical perspective and its reciprocal relationship with the self-concept is considered. Conway and Pleydell-Pearce's (2000) recent framework for AM, the self-memory system, is described and its clinical implications are discussed. Finally, current understanding of the role of AM in the maintenance of depression and anxiety is reviewed, with a special emphasis upon major depressive disorder, post-traumatic stress disorder and social anxiety. A number of gaps in the literature are identified and areas for future research are suggested. Using Clark & Wells' (1995) model of social phobia as a basis, the empirical paper addresses several of the gaps in the social anxiety literature. This study comprised three main parts; an exploratory analysis of memory phenomenology in undergraduates with high and low social anxiety; an examination of the use of observer and field perspectives; and, investigation of the effect of switching memory perspective on associated affect and self-appraisal. The findings provided some limited support for Clark and Wells' (1995) model but further work is required to develop current understanding of the role of AM in social anxiety.

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Literature Review*

The Role of Autobiographical Memory in Depression and Anxiety

Running head: Autobiographical Memory, Depression and Anxiety

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Abstract

Over the past decade, there has been a growing interest in autobiographical memory (AM) and its application to psychopathology. The concept of AM has evolved from episodic memory and is a distinctive self-referent form of memory (Conway, 2001). A close relationship exists between AM and the self-concept, which enables the individual to maintain a sense of being a consistent person over time (Nelson, 2003). Recently, Conway & Pleydell-Pearce (2000) have proposed a framework of AM, called the self-memory system. The self-memory system's primary function is to maximise self-continuity by continually devising and executing specific procedures aimed at goal attainment. Considerable research suggests that AM may play a significant role in psychopathology. The present paper focuses on the role of AM in depression, PTSD and social phobia and outlines contemporary findings and disputes in this area. A number of gaps in the literature are identified and Conway & Pleydell-Pearce's (2000) self-memory system is proposed as a novel framework in which to further our understanding of the role of individual differences in psychopathology.

Key words: Autobiographical, Memory, Depression, Anxiety, Cognition

Introduction

Over the past decade, research has revealed that autobiographical memory (AM) processes may play an important role in the maintenance of a number of emotional disorders (Brewin, 1998). To date, empirical interest in this area has predominantly focussed upon depression and post-traumatic stress disorder (PTSD), largely due to the fact that these psychological states appear to be characterised by converse biases in AM recall (Conway & Pleydell-Pearce, 2000). That is, depression has been associated with impoverished memory for autobiographical events (Park, Goodyer, & Teasdale, 2002), whereas the recall of vivid and detailed memories is a cardinal feature of PTSD (Brewin, 1998). Such findings have important implications for the development of disorder-specific psychological treatment protocols (Brewin, 1998).

There is increasing recognition that AM may also play an important role in maintaining social phobia and this has been implied in recent conceptual models of this disorder (Clark & Wells, 1995; Rapee & Heimberg, 1997). Whilst there is uncertainty over the presence of an AM recall bias (Rapee, McCallum, Melville, Ravenscroft, & Rodney, 1994), contemporary research suggests that AM processes may be pivotal in maintaining social anxiety through the imagery used by socially anxious individuals when recalling social experiences (Wells & Papageorgiou, 1999).

The aim of the present paper is to review the current understanding of AM processes in the maintenance of depression and anxiety disorders, with an emphasis upon major depressive disorder, PTSD, and social phobia. While the paper will place

an emphasis upon the clinical evidence, contemporary findings from a range of additional psychological disciplines, including cognitive, social and neuropsychological domains will also be discussed. This is important because work in one area of AM all too rarely informs work taking place in another (Conway & Pleydell-Pearce, 2000). Of particular interest to the present discussion is Conway and Pleydell-Pearce's (2000) recently published framework for AM, which provides a useful basis for interpreting the clinical findings that will be discussed. The review is split into four main sections: [1] an introduction to the conceptualisation of AM; [2] a discussion of the relationship between AM and the self-concept; [3] presentation of a contemporary model of AM; and, [4] an examination of AM findings in the clinical literature.

Memory

Types of Memory

The study of memory has been referred to as one of the oldest and most complex areas of psychological enquiry (Rubin, 1996). Over the past century, researchers have sought to simplify its study by distinguishing a number of different types of memory and it is now widely accepted that memory is not a unitary concept but rather reflects a series of subsystems that are probably served by independent neural pathways (Gilboa, in press). For instance, Squire (1995) proposed a fundamental distinction between 'declarative' and 'non-declarative' memory. The former refers to memories involving a conscious recollection process, while the latter applies to memories that appear to be automatic in nature, occurring outside

consciousness (e.g. remembering how to drive a car). Memories that fall within the declarative domain are the focus of the present review.

Declarative memory consists of two sub-types; ‘semantic’ and ‘episodic’ memory (Tulving, 1972, 1983, 2002). Tulving proposed that semantic memory refers to information about the state of the world that is context-free. For example, an individual may know that all elephants have trunks but be unaware of when and how this information was learned. On the other hand, episodic memory concerns the recall of personal experiences that comprise details of associated temporal and spatial information. For instance, an individual may recall having learnt about elephants in a particular class at school. Although there remains some dispute regarding the empirical basis for the dichotomy between episodic and semantic memory (see Foster & Jelicic, 1999 for a recent review), the distinction has helped to inform our current understanding of AM.

Episodic and Autobiographical Memory: One and the Same?

It is apparent from an examination of the literature that there exists some discord amongst researchers about the relationship between AM and episodic memory. For instance, AM has recently been defined as, “...an explicit memory of an event that occurred in a specific time and place in one’s personal past” (Nelson & Fivush, 2004, p.486), which is almost identical to Tulving’s (1972) conceptualisation of episodic memory. Indeed, some authors assert that AM and episodic memory are essentially the same thing (Tulving, 1983; Kopelman & Kapur, 2001).

However, other authors have argued strongly against this view on theoretical grounds, claiming that episodic and AM represent different aspects of memory

(Conway & Pleydell-Pearce, 2000). According to Conway (1990), one of the main difficulties is that over the years the term episodic memory has become closely associated with laboratory-based methods of studying memory, namely word-list recall. Gilboa (in press) has also questioned the validity of equating episodic and AM. He asserted that equating the two assumes that the recall of a discrete experimental stimulus and the recollection of a significant life event have the same status and involve the same cognitive processes and neurological structures.

Conway and colleagues have argued convincingly throughout a series of papers (Conway & Pleydell-Pearce, 2000; Conway, 2001) that AM is considerably more than just a memory associated with spatial and temporal information and, in fact, "...constitutes a major crossroads in human cognition where considerations relating to the self, emotion, goals and personal meanings all intersect." (Conway & Rubin, 1993, p.103). Similarly, Brewer (1986) proposed that the self-referent nature of AM is its defining feature.

To clarify the proposed distinction between episodic and AM, Conway (2001) has attempted to redefine the concept of episodic memory. He suggested that episodic memory represents a system containing sensory and perceptual detail for very specific events. Conway asserts that these traces are stored for a matter of only minutes or hours and degrade rapidly unless they become linked to more permanent AM structures. Thus, by this view, episodic memory can be conceptualised as a sub-stage within the encoding of AM. Gilboa (in press) supported this distinction when he reviewed an extensive number of functional imaging studies in which list learning tasks were compared with the recall of autobiographical events. Gilboa found that while the pattern of recall appeared similar, there were also significant differences.

In particular, activation of the left ventromedial prefrontal cortex was noted in AM tasks, but not in word recall. Gilboa (in press) concluded that it might be more fruitful to consider declarative memory as comprising semantic, episodic and autobiographical memory.

It is apparent that the continued use of brief and non-specific working definitions of AM (such as that quoted above from Nelson & Fivush, 2004) are potentially misleading. Consequently, more refined definitions are required to help clarify the distinguishing features between episodic and AM. As a primary step, Conway (1990, 2001) proposed that AMs comprise the following properties:

1. They are self-referent in nature.
2. They are accompanied by an experience of remembering.
3. They contain personal interpretations.
4. They are not necessarily true.
5. They have a duration of years, rather than minutes or hours.
6. They contain information at a variety of levels, ranging from general time data to specific sensory and perceptual detail.
7. They are often accompanied by images.

In summary, it is apparent that there is some dispute regarding a precise definition and conceptualisation of AM at present. However, evidence from neuroimaging research supports the theoretical position that it is erroneous to equate memory for experimental stimuli in laboratory conditions with memory for life events. While Tulving's (1972, 1983) initial dichotomy between episodic and semantic memory has been useful, recent research indicates that it may be too broad and more refined definitions are required to further our understanding of human

memory and the role it might play in maintaining emotional disorders. Consequently, for the remainder of the paper, AM is conceptualised as being a highly complex and rich type of self-referent memory that comprises spatial and perceptual information, in addition to a wealth of personal meanings, emotional reactions and aspirations.

When AM is conceptualised in this way, it is more than simply a store of past experiences and one can begin to conceive how this type of memory might influence an individual's future cognitions, emotions and behaviour. The link between an individual's self-view and AM has important implications for the maintenance of psychopathology. The aim of the following section is to review briefly what is currently known about the relationship between the self-concept and AM.

Autobiographical Memory and the Self-Concept

The relationship between the self and AM has interested philosophers for well over a century. Whilst a comprehensive discussion of work in this area is beyond the scope of the present paper, some of the main findings will be reviewed briefly (see Wilson & Ross, 2003 for a detailed review).

It is widely accepted that there is an exceptionally close relationship between the self and AM, even to the point that some authors have questioned whether they might be the same phenomenon (Nelson, 2003). This was first illustrated over a century ago, when William James (1890/1950) famously remarked that if a man were to wake one morning having lost all of his memories, he would essentially be a different person. Furthermore, evidence for this link is provided by case examples in

the neuropsychological literature, in which neurologically impaired individuals, who have lost their AM, have also lost their sense of self-identity (Schacter, 1996).

One of the primary functions of AM is to represent past events in the present so that an individual maintains a sense of being a coherent and consistent person over time (Albert, 1977; Nelson, 2003). A plethora of research has established that humans have a strong need for self-continuity to provide reassurance that the world is a predictable and controllable place (Janoff-Bulman, 1992). As a corollary to this argument, it follows that individuals typically resist information that is incongruent with the current self-view, as this may serve to destabilise the homeostasis (Burke, 1996). Indeed, this view is consistent with Beike and Landoll's (2000) findings that the recall of life memories that were dissonant with an individual's current self-view typically resulted in strong negative cognitive reactions.

Research suggests that the need for self-consistency is not left to chance and is aided by memory biases. Indeed, such biases were noted in Bartlett's (1932) early work, when he found that an individual's current self (i.e. their beliefs, emotions and goals) influenced how they recalled life experiences. The effect of the self on the biased recall of autobiographical information has been demonstrated in several studies. For instance, McAdams (1982) conducted a spontaneous recall study on individuals who had been separated into two groups upon the basis of a personality measure that examined levels of intimacy and power motivation. McAdams found that individuals who were high on these dimensions showed a significant bias in recalling life events that were consistent with these motivations in comparison to controls scoring lower on these measures. More recently, Woike, Gershkovich, Piorkowski, and Polo (1999) demonstrated that individuals were significantly more

likely to recount experiences that were congruent with high scores on particular personality variables. Such findings suggest that an individual's current self-view may influence what is recalled from AM in an attempt to maintain self-consistency.

However, in some circumstances, an individual's current self-view might influence AM beyond that of simply priming the content of recall. For instance, in the case of some traumatic memories, the memory may be so destabilising to the self that only partial aspects of it are available to conscious recall (Williams, 1996), whilst in some circumstances it may be repressed completely (Freud, 1957). Furthermore, the effect of current self-beliefs on AM may be more dramatic and several researchers have found that individuals will often distort existing memories to become consistent with current beliefs and in some cases may even completely fabricate memories (Brewer, 1986, 1996; Conway, 1996).

Such findings have important implications for the present discussion concerning the role of AM in the maintenance of psychopathology. For instance, the need for self-continuity raises the possibility that individuals might strive for consistency over self-enhancement. Consequently, individuals in a depressed or anxious state may resist experiences that are directed at encouraging favourable self-appraisal, such as those provided through behavioural experiments in therapy. Support for this point can be drawn from Keyes and Ryff's (2000) telephone interview of 1,108 adults. These findings showed that experiences of perceived improvement to an individual's sense of self typically resulted in increases in both negative and positive symptoms of mental health. Keyes and Ryff suggested that increases in negative symptomology resulted from the violation of the need for consistency.

In summary, it is apparent that there is an inextricable association between the self and AM. The above findings suggest that an individual's current self-view may play a role in the maintenance of psychopathology by influencing both the content and process of recalled memories, ranging from the priming of certain memories to the distortion and complete fabrication of life experiences. This notion is consistent with the cognitive distortions in thinking outlined by Beck (1976). Given that the vast majority of therapeutic work involves discussing and interpreting the meanings that clients have attached to their past life experiences, these findings have implications for the maintenance of psychopathology. Consequently, it is crucial to establish a working framework of AM in order to elucidate the cognitive processes involved in these biases. One recent model of AM that has attempted to incorporate aspects of the self is Conway and Pleydell-Pearce's (2000) self-memory system, which will now be discussed.

Conway and Pleydell-Pearce's (2000) Self-Memory System

Conceptualisation of Autobiographical Memory

The self-memory system (Conway & Pleydell-Pearce, 2000) is a higher order model that has drawn together and built upon research from disparate areas of psychology to provide a coherent framework for the conceptualisation of AM. The model is comprehensive and a full review is not possible in the present paper. Rather, the intention of this section is to review those aspects of the framework that are most relevant to the present discussion about the role of AM in psychopathology.

Conway and Pleydell-Pearce (2000) conceive of AM as a collection of transitory mental constructions that are formed together from an underlying autobiographical knowledge store. Patterns of activation are thought to constantly arise and dissipate across these knowledge structures in response to internal and external cues, although the vast majority of these never combine to form a conscious memory. A central tenet of this model is that AMs are not discrete and holistic memory traces but are rather a set of mental representations constructed at the point of recall by central control processes (Conway, 1996).

The authors suggest that normally encoded AMs always comprise information at three levels of specificity; lifetime period, general event and event-specific knowledge (ESK). Lifetime periods represent thematic knowledge about others, activities, goals and so forth that are characteristic of particular time periods in an individual's life (e.g. when I lived with X, when I worked at Y) and are considered to be the most abstract level of information. For any given period of chronological time, several lifetime periods may overlap. General events on the other hand represent knowledge about actual events, which may be specific (e.g. climbing Mount Everest), specific and repeated (e.g. playing football in the summer evenings), or extended events (e.g. dating a particular girlfriend). This level of information is locally organised in discrete structures within the autobiographical knowledge store and is thought to contain information about goals and the extent to which these have been attained (Robinson, 1992). General event knowledge can be used to access ESK, which is the least abstract level of information. ESK is thought to contain perceptual-sensory information about a specific event, which gives rise to the visual imagery often associated with AM (Williams, Healy, & Ellis, 1999).

The Working Self

Conway and Pleydell-Pearce (2000) assert that the retrieval of AM is governed by central or executive processes, termed the 'working self', a concept not dissimilar in function to the 'central executive' in Baddeley and Hitch's (1974) model of working memory. Conway and Pleydell-Pearce suggest that these control processes are responsible for implementing plans generated from currently active self-goals, while concurrently inhibiting other activations that might impede the attainment of these. The authors propose that these control processes constrain and guide an individual's cognitions and behaviour to promote adaptive ways of operating in the world.

Although Conway and Pleydell-Pearce (2000) do not comment specifically upon the nature of these self-goals and the manner in which they are generated, the authors point to Higgins' (1987) work as providing a possible explanation. Higgins proposed that there are three self-types; the actual self (i.e. how one currently views themselves), the ideal self (i.e. what one aspires to) and the ought self (i.e. the self one should be according to society). Following the need for self-continuity, Conway and Pleydell-Pearce (2000) propose that the working self is constantly generating goals to reduce discrepancies between the three self-types. The authors suggest that this psychological tension is sufficient to drive the self-memory system.

In order to facilitate the attainment of currently active goals, Conway and Pleydell-Pearce (2000) suggest that the working self allows preferential access to, and makes highly available those relevant aspects of knowledge from the autobiographical store. This is consistent with McAdams (1982) and Woike et al.'s (1999) findings, in which aspects of an individual's current self influenced the

content of spontaneously recalled memories. Conway and Pleydell-Pearce (2000) further assert that the goals of the working self constrain the search parameters within the autobiographical knowledge store to prevent or attenuate access to traumatic memories that may destabilise the system and thus interfere with the attainment of current goals. The authors suggest that the construction of memories for particularly emotionally laden goal-related experiences is potentially problematic for the working self due to the intense state of reliving that these memories can induce (Brewer, 1996). Conway and Pleydell-Pearce (2000) argue that such memories have the potential to reinstate goals and emotions that featured in earlier experiences, thus compromising current self-goals. The protective role played by the working self would account for cases of impaired memory in individuals who have endured traumatic experiences, such as childhood sexual abuse (e.g. Reviere, 1996).

Related to this point, is a finding that the attachment style of an individual may be associated with the recall of AM. Bowlby (1982) suggested that individuals have an 'internal working model' of attachment, stemming from their experiences in childhood. These attachment styles provide a way for individuals to maintain a positive view of their parents and thus minimise attention to negative experiences. Conway and Pleydell-Pearce (2000) suggested that such attachment styles would be assimilated into an individual's working self and thus influence the nature of his or her goals and subsequent access to the autobiographical store. This is consistent with the findings of Bakermans-Kranenburg and Ijzendoorn (1993) who compared recall in individuals with dismissive attachment styles and those with secure attachments. Individuals with dismissive attachment styles demonstrated significantly poorer recall of detail for negative childhood experiences in comparison to those with

secure attachments, while there was no difference in the recall of positive childhood experiences between the groups. This finding suggests that there is a relationship between attachment style and AM and that individuals with dismissive attachments may have more restricted access to the autobiographical knowledge store for negative childhood experiences than those with secure attachment styles. This may be due to the working self considering the recall of negative experiences from childhood as being potentially too disruptive for conscious recall.

Retrieval of Autobiographical Memory

Conway and Pleydell-Pearce (2000) propose that AM can be retrieved in two main ways; generative and direct retrieval. The former involves a fully controlled search procedure that is modulated by executive control processes and is the mechanism by which the majority of memories are recalled. Conway and Pleydell-Pearce suggest that when the system is presented with a cue, the autobiographical store is accessed and a search commences at the abstract level of lifetime period information. Once located, the lifetime period information is used to access general event and ESK respectively. This process will occur continuously until a relevant specific memory is formed. Evidence for this search process was recently provided by Haque and Conway (2001) in a study that entailed interrupting the recall of AM at differing points in the process. They found that abstract information appeared to be more common when the process was interrupted earlier on, whilst a tendency for more general event and ESK was reported during later interruptions.

Conversely, direct retrieval is a process that occurs in the absence of any control from executive processes. Internal and external cues are thought to constantly generate activations across autobiographical knowledge structures, although these

rarely coalesce into memories in the absence of formal search procedures. However, on occasion a memory may be successfully formed, which becomes linked to current working self-goals and subsequently enters into consciousness, appearing spontaneous.

Summary of the Self-Memory System

The self-memory system described by Conway and Pleydell-Pearce (2000) is an interesting framework that has drawn together research from disparate disciplines of psychology. The authors propose that AMs are not discrete and holistic traces but are rather mental constructions of varying levels of specificity that are formed at the point of recall by executive processes. The retrieval of memories is governed by the working self, which constrains search parameters, according to currently activated self-goals. The working self makes goal-relevant information highly available, whilst concurrently preventing or attenuating access to memories that may destabilise current procedures. Conway and Pleydell-Pearce (2000) have proposed that whilst the majority of memories are systematically retrieved through generative retrieval, some memories may be spontaneously formed through an un-modulated, direct retrieval mechanism.

The self-memory system is a useful framework because it provides a conceptual basis upon which to interpret previous research within the AM literature. With respect to the maintenance of psychopathology, the model has several important implications. First and foremost, the model highlights that the AM system is a dynamic and powerful set of processes that directly influence an individual by constraining his or her cognitions and behaviour. This is an important consideration given that little emphasis has traditionally been given to the role of AM in

conceptual models of psychopathology, with the exception of PTSD (Brewin, 1998) and to a lesser extent, social phobia (Rapee & Heimberg, 1997). Secondly, if memories are not completely formed until the point of recall, one can begin to conceive of how distortions in memory may occur (e.g. Beck, 1976). It also raises the possibility that memories for events could alter over time, given changes in an individual's current goals. Finally, the model elucidates the motivation of individuals to recall or indeed repress particular memories, in terms of self-goal attainment, rather than just merely considering some memories as "too traumatic".

In following section, current research regarding the role of AM in the maintenance of depression and anxiety disorders is reviewed.

Autobiographical Memory and Depression

Research has indicated that depressed individuals often exhibit a relative inability to retrieve specific AMs in response to cue words, even when explicitly instructed to do so. Rather, they tend to recall more general memories, such as those that concern several occurrences or a category of events (e.g. when I am in the garden). This phenomenon has been termed 'overgeneral memory' and has been implicated in the maintenance of depression. For instance, memory overgenerality is negatively correlated with problem-solving ability (Pollock & Williams, 2001) and the ability to imagine the future in particular ways (Williams et al., 1996). Deficits in these abilities may in turn give rise to feelings of hopelessness and depressed mood (Hermans et al., 2004).

The relationship between depression and AM was first investigated in a seminal paper by Williams and Broadbent (1986) using a paradigm called the Autobiographical Memory Test (AMT). This methodology, which has since dominated this field of research, entailed asking participants to provide a specific AM in response to a series of keywords that were positive and negative in nature. A specific memory was defined as an event that occurred at a particular time and place and whose duration was no longer than a day. Participants were permitted up to 60 seconds to retrieve a specific memory and prompted to try again within the time limit if the memory was deemed too general. Williams and Broadbent (1986) first administered the AMT to 25 depressed individuals who had taken an overdose within the past 96 hours and matched groups of non-depressed hospital patients and healthy controls. The overdose patients took significantly longer to retrieve specific memories in response to positive cue words than the matched control groups. This protracted retrieval latency was attributed to the fact that depressed individuals initially retrieved overgeneral memories and thus required more prompting and time to produce sufficiently specific memories. The results also showed that depressed individuals failed to retrieve as many specific negatively associated memories as controls, albeit not to a significant degree. This initial finding was suggestive of qualitative differences in memory retrieval between depressed individuals and non-depressed controls.

Williams and Dritschel (1988) replicated this study and reported a similar pattern of results. They compared 24 depressed individuals with a group of matched non-depressed controls on the AMT. The depressed group produced significantly fewer initial specific memories to cue words, especially to words with a positive

valence. Similarly, Williams and Scott (1988) compared 20 depressed individuals with 20 matched controls and found that the clinical group retrieved initial specific memories on average 40% of the time, compared to 70% in the control group. Once again, overgenerality was especially pronounced in response to positive cue words (see also Puffet, Jehin-Marchot, Timsit-Berthier, & Timsit, 1991 for a replication).

In summary, these findings suggest that depressed mood is associated with a reduced ability to access specific AMs in response to cue words, especially positive words. With reference to Conway and Pleydell-Pearce's (2000) self-memory system, this finding could be interpreted as evidence of restricted access to the autobiographical memory store for positive memories, possibly attributable to the fact that such memories would not be consistent with the individual's currently "depressed" self-view. Thus, the generative retrieval process gets aborted at an abstract level of knowledge, such as that of lifetime period or general event knowledge, before ESK can be accessed. Such a deficit has significant clinical implications for recovery from depression, in that individuals may find it difficult to draw upon and benefit from positive experiences within therapy (e.g. behavioural experiments).

Whilst a steadily accumulating body of research evidence has supported the presence of overgeneral memory, the assumption that this bias is a phenomenon of a depressed state has been questioned. Indeed, some authors have argued that it might be a more stable trait. For instance, Williams and Dritschel (1988) compared 16 formerly depressed individuals with a group of currently depressed patients and a healthy control group. Findings revealed no significant differences between formerly and currently depressed groups, with both samples recalling significantly fewer

specific memories than the healthy controls. Mackinger, Pachinger, Leibetseder, and Fartacek (2000) reported concordant findings when they compared the AMT in a group of formerly depressed women and a group with no depressive history. The formerly depressed group produced significantly more overgeneral memories than those with no psychiatric history. The findings of these studies suggest that overgeneral memory might be a cognitive style that presents a vulnerability for the onset of depression.

Support for the notion of overgenerality as a vulnerability factor has been provided by several studies. For instance, Brittlebank, Scott, Williams, and Ferrier (1993) conducted a longitudinal study, in which they found that overgenerality of memory at initial assessment was a better predictor of subsequent depression severity (at 7-month follow-up) than initial levels of depression. Similarly, Mackinger et al. (2004) reported that the level of overgenerality in response to positive and aggressive cue words predicted depression severity at 3-weeks follow-up in a group of males attending for detoxification therapy. This effect was maintained even after controlling for variables such as initial depression, mental status and degree of alcohol dependence. However, contrary to these findings, Brewin, Reynolds, and Tata (1999) conducted a 6-month follow-up study of depressed individuals and found no evidence that overgenerality predicted depression severity.

Further support for the notion of overgenerality as a cognitive style comes from studies in other clinical populations, such as PTSD (McNally, Lasko, Macklin, & Pitman, 1995), acute stress disorder (Harvey, Bryant, & Dang, 1998) and borderline personality disorder (Startup et al., 2001). Kuyken and Brewin (1995)

suggested that one possible common denominator of these disorders is the experience of trauma. In order to investigate this hypothesis, they compared clinically depressed women with and without a history of childhood physical or sexual abuse. They found that overgeneral memory was more pronounced in those who experienced sexual abuse compared to those who experienced physical or no abuse. The level of depression was unrelated to overgeneral memory, although there was an association between the number of prior depressive episodes.

Further evidence for the relationship between childhood sexual abuse (CSA) and overgenerality was provided by Henderson, Hargreaves, Gregory, and Williams (2002) in a study of female undergraduates. Performance on the AMT was independent of current mood state, however, individuals reporting a history of CSA retrieved significantly fewer specific memories. This is consistent with Dalglish et al. (2003), who found that self-reported parental abuse was correlated with overgenerality in a sample of individuals with an eating disorder, even after controlling for depression. This finding has been replicated by de Decker, Hermans, Raes, and Eelen (2003) in a sample of adolescents, who reported that the levels of self-reported trauma (i.e. level of distress and severity) correlated with extent of overgenerality (see also Hermans et al., 2004 for a replication).

However, there remains a lack of consensus due to contradictory empirical findings in this area. Several studies have failed to replicate the association between overgeneral memory and an abuse history, finding a stronger relationship with levels of depression. Orbach, Lamb, Sternberg, Williams, and Dawud-Noursi (2001) conducted a 7-year follow-up of a group of children who had been witness and/or victim to violence within the family home. They found that overgeneral memory was

correlated with level of depression but not trauma history. Similar findings have been reported in clinically anxious and borderline personality disorder populations with co-morbid depression (Wessel, Meeren, Peeters, Arntz, & Merckelbach, 2001; Arntz, Meeren, & Wessel, 2001). However, it is worthy of note that in the study by Wessel et al. (2001), participants in the abused groups had relatively low scores on measures of physical and sexual abuse and thus it is difficult to ascertain to what extent this may have influenced the findings (Hermans et al., 2004).

In summary, whilst there is evidence to suggest that overgeneral memory, particularly in the recall of positive experiences, is associated with depressed mood, this is far from a lucid picture. In fact, considerable evidence now points to the hypothesis that overgeneral memory may not simply be a state marker of depression, but may constitute a stable cognitive style, which poses a vulnerability for the development of depression. Such a proposition has significant implications for therapeutic intervention, in particular relapse prevention. For instance, Watkins, Teasdale, and Williams (2000) have shown that Socratic questioning leads to momentary decreases in overgenerality, which suggests that learning this skill could help clients to overcome an AM bias.

An accumulating body of research suggests that an overgeneral cognitive style might be linked to a history of trauma, such as physical or sexual abuse. However, to compound matters further, some recent studies (e.g. Orbach et al., 2001) have failed to replicate such findings, instead finding stronger associations with depression. Although these findings appear perplexing, it may simply reflect the fact that the relationship between these variables is complex and not simply a matter of overgeneral memory being either linked to depression or a history of trauma. Indeed,

it is likely that the objective presence of trauma alone is not sufficient to give rise to an overgeneral cognitive style and that it is more likely to relate to the manner in which the experience is processed and managed. This is an important point to consider given that many of the above studies have failed to distinguish between objective and subjective measures of abuse. This notion is consistent with Conway and Pleydell-Pearce's (2000) model, which predicts that constrained access to the autobiographical store would depend upon the nature of an individual's currently active goals rather than simply whether they are depressed or have a history of abuse. Thus, the self-memory system provides a useful framework in which to conceptualise the role of individual differences in the development of overgeneral memory, and may help to account for some of the diverse findings outlined above.

Furthermore, in a recent meta-analysis of 14 studies that have considered overgenerality in psychological conditions, Van Vreeswijk and Jan de Wilde (2004) found that the method of AMT administration moderated performance. Significant moderating factors included whether the participants' answers were audio-taped, the presentation style of the cues (i.e. verbal or non-verbal) and the maximum time allowed to respond. Therefore, in order to be able to interpret the findings accurately, future research studies should be encouraged to employ a standard version of the AMT.

The following section will now consider the role of AM in anxiety disorders.

Autobiographical Memory and Anxiety Disorders

At the present time, relatively little is known about the role of AM in anxiety disorders. Preliminary findings in individuals with generalised anxiety disorder (GAD) and obsessive-compulsive disorder (OCD) have led some authors to suggest that anxiety disorders appear to be characterised by attentional, rather than AM biases (Williams, Watts, MacLeod, & Matthews, 1997). However, there are two anxiety disorders in which AM processes play a maintenance role beyond that of simple recall biases, namely PTSD and social phobia. The following section will provide the reader with a brief overview of current understanding in this area.

Generalised Anxiety Disorder and Obsessive-Compulsive Disorder

Studies of overgeneral memory have yielded inconsistent findings to date with GAD and OCD populations (Burke & Mathews, 1992; Wilhelm, McNally, Baer, & Florin, 1997). For instance, Wilhelm et al. (1997) compared 36 OCD patients with 24 healthy controls on the AMT. Although the authors found that the clinical group retrieved significantly fewer specific memories than controls, they also noted that the level of co-morbid depression was correlated with overgenerality in the clinical group. Thus, it is difficult to ascertain from these findings whether the presence of overgenerality was a phenomenon of anxiety, depression, or a combination of the two.

Stronger evidence to suggest that GAD is not characterised by biases in AM was recently provided by Wessel et al. (2001). The authors attempted to tease apart the association between anxiety, depression and overgenerality by comparing five different groups on the AMT. These groups comprised individuals with a primary

diagnosis of anxiety ($n = 31$), those with a diagnosis of anxiety with depression in remission ($n = 20$), individuals with a diagnosis of anxiety and depression ($n = 25$), those with a primary diagnosis of depression ($n = 17$) and healthy controls ($n = 24$). Wessel et al. (2001) found that depression appeared to be the common factor associated with overgenerality, whilst there were no differences in levels of specificity between anxiety groups without depression and healthy controls.

In summary, whilst only a few studies have considered the relationship between GAD, OCD and overgeneral memory, preliminary findings suggest that level of memory specificity does not play a significant role in the maintenance of these disorders. However, further research is required to confirm this initial hypothesis. It is possible that the traditional positive and negative cue-words included on the AMT may be insufficient to activate schemas in individuals with anxiety disorders and an interesting area of future work would be to administer the AMT with an additional set of anxiety-relevant threatening cue words. Furthermore, it would be fruitful to administer the AMT to clinically anxious individuals who had been pre-exposed to a “heightened anxiety” condition to ascertain whether an overgeneral bias might emerge following the activation of relevant anxiety schemas.

The role of AM processes in the maintenance of PTSD will now be considered.

Post-Traumatic Stress Disorder

PTSD is a common reaction to traumatic experiences (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995) and is characterised by disturbances in AM processes that are implicated in the maintenance of psychopathology (Brewin,

Dalgleish, & Joseph, 1996). Whilst a significant proportion of individuals recover spontaneously over the course of weeks or months, some cases may persist for years (Kessler et al., 1995).

In individuals with persistent PTSD, the nature of their memory difficulties is often somewhat of a puzzle (Ehlers & Clark, 2000). On the one hand, such individuals typically struggle to intentionally recall the traumatic experience, often omitting central details (e.g. Tromp, Koss, Figueredo, & Tharan, 1995). On the other hand, a defining hallmark of this psychological disorder is the persistent presence of highly detailed, frequent, and unwanted memory intrusions that are related to sensory aspects of the original trauma event (Brewin et al., 1996). Recent research has showed that intrusive memories have phenomenological differences to intentionally recalled memories (Ehlers & Clark, 2000):

1. They comprise sensory and perceptual impressions, rather than thoughts, which are predominantly visual in nature.
2. They are experienced as if they are happening in the present.
3. They are triggered by a wide range of cues, including stimuli that do not appear to have obvious semantic associations with the original trauma.
4. They are not accessible to a conscious retrieval process.

It is important for contemporary models of PTSD to account for these differences in AM processes because the persistence of intrusive memories can predict the course of future recovery. For instance, McFarlane (1992) conducted a longitudinal study of fire-fighters, who had been involved in a major incident, and found that the level of intrusive memories following the experience predicted

subsequent levels of psychopathology. The levels of exposure to the stressor and degree of loss experienced were unrelated to symptomology. Concordant findings were also reported by Shalev, Peri, Canetti, and Schreiber (1996).

Contemporary cognitive models all agree that intrusive memories in persistent PTSD can be attributed to the fact that the memory for the traumatic experience has not been encoded normally. For instance, it has been suggested that traumatic experiences inevitably violate an individual's expectations and current self-views, making them difficult to encode using typical AM processes (Janoff-Bulman, 1988). This is consistent with Conway and Pleydell-Pearce's (2000) suggestion that a key feature of a traumatic memory is that it presents a threat to current plans and goals. Due to the fact that an individual's active goals will typically be inconsistent with the traumatic experience, it cannot become integrated into the autobiographical store in the usual manner. Consequently, the memory for the traumatic event remains disorganised, fragmented and unelaborated, resulting in the absence of a coherent narrative with which to make sense of the incident (e.g. Ehlers & Clark, 2000).

A corollary of this argument is that not all individuals will develop PTSD symptomatology following exposure to a traumatic event. Ehlers and Clark (2000) assert that the individual's appraisal of the event is critical to the outcome. The authors suggest that persistent PTSD is only likely to occur if an individual processes the trauma in a way that leads to a sense of serious, current threat. Conway and Pleydell-Pearce (2000) have also suggested that when an individual is able to use his or her existing knowledge base and goal structure to encode the experience, it will be assimilated into the autobiographical store.

Cognitive models of PTSD account for the difference between intentional and unintentional memory retrieval in slightly different ways. Brewin et al. (1996) suggested that intrusive memories constitute a distinct form of memory that differs from AM. In their dual representation model, the authors propose that traumatic experiences are subject to both conscious and non-conscious memory processing. Subsequently, those aspects of the experience that are consciously processed can be intentionally recalled through normal AM retrieval channels. However, these memories may be selective in their detail because the high levels of emotion that are invariably present in traumatic experiences lead to attentional narrowing and reduced short-term memory capacity (Brewin et al., 1996). This would explain the omission of central details in trauma victims' accounts (e.g. Tromp et al., 1995). Conversely, those aspects of the experience that are processed non-consciously are not available to intentional retrieval but may be triggered when an individual is exposed to a related cueing stimulus. As these non-conscious aspects of the traumatic memory are not subject to the same filtering processes as conscious AM (e.g. Conway & Pleydell-Pearce, 2000), it is possible that the two memory types may have different meanings for the individual, even though they refer to the same event. That is, whilst the conscious aspects of the memory may have been processed in such a way as to be consistent with current self-views, the raw, unadulterated non-conscious memory may remain "at odds" with this view, which could account for the highly distressing nature of intrusive memories.

On the other hand, Ehlers and Clark (2000) have proposed that intrusions represent a disorganised form of general AM. They have drawn upon Conway and Pleydell-Pearce's (2000) work and suggest that the poorly elaborated traumatic

memory is not successfully integrated with respect to time and place (i.e. lifetime period and general event information). Ehlers and Clark propose that this accounts for the weak intentional recall as generative retrieval processes cannot be activated, and the feeling that the event is occurring in the present due to the absence of temporal and spatial markers. In spite of this difference, Ehlers and Clark (2000) agree with Brewin et al. (1996) that traumatic memories may be intentionally recalled or elicited on a cue-driven basis, through exposure to related internal or external stimuli.

In summary, whilst these two models account for PTSD symptomatology in slightly different ways, there is agreement that traumatic memories are processed in a manner that renders them distinct from non-traumatic AMs. Notably, the memory remains fragmented, disorganised and unelaborated. Thus, one would expect phenomenological differences between traumatic and general memories. Although a number of laboratory studies have investigated these differences, surprisingly little work has considered naturalistic AMs (Hellawell & Brewin, 2004).

There is some AM evidence to support the claim that there are phenomenological differences between traumatic and general memories. For instance, Tromp et al. (1995) found that rape memories were less vivid and detailed than memories of other unpleasant events. In a subsequent study, Koss, Figuerdo, Bell, Tharan, and Tromp (1996) conducted a postal survey comprising two large samples of women; medical centre workers ($n = 1,307$) and university employees ($n = 2,142$). This questionnaire was concerned with memories of rape and other non-traumatic intense pleasant and unpleasant autobiographical experiences. The findings revealed that memories of rape were described as more emotionally intense but less

clear and coherent than non-traumatic memories. However, it is important to note that only subjective information was gathered and the level of detail contained within the memories was not assessed objectively by the researchers (Porter & Birt, 2001).

Further evidence of fragmentation in traumatic memories was provided by Van der Kolk and Fisler (1995). They asked PTSD patients to describe their memories for a traumatic event and another intense but non-traumatic experience. Traumatic events tended to be recalled in terms of powerful and fragmentary somatosensory experiences with a narrative content account only developing after a period of time. However, this study relied on retrospective accounts and did not include a control group. In another qualitative analysis of traumatic memories, Harvey and Bryant (1999) also found that traumatic memories were disorganised and fragmented in their structure.

Finally, indirect evidence for the role of fragmentation in traumatic memories as a maintaining factor in PTSD was provided by Foa, Molnar, and Cashman (1995). They considered the properties of rape memories in individuals with PTSD before and after exposure therapy and found that reduction in the fragmentation of the narrative was associated with a reduction in trauma-related anxiety.

In summary, the above findings support the notion of phenomenological differences between traumatic and non-traumatic memories. Traumatic memories are characterised by elevated levels of sensory and emotional reliving and a fragmented narrative. These findings are consistent with contemporary models of PTSD (Brewin et al., 1996; Ehlers & Clark, 2000) and are concordant with the notion that PTSD symptoms may stem from difficulties in encoding traumatic AMs through normal processes.

However, some inconsistent findings have emerged in recent years. For instance, Berntsen (2001) found that intrusive memories were not a unique feature of traumatic memories. In fact, in a diary study of undergraduates who had experienced trauma ($n = 12$) and a control group ($n = 14$), intrusive memories were reported for a range of highly emotional events, both positive and negative in nature. This suggests that intrusive recollections may not be the result of inadequate elaboration in AM systems, but rather are associated with intense emotional arousal in general (see also Cahill, Prins, Weber, & McGaugh, 1994).

In a recent study, Porter and Birt (2001) asked 306 undergraduate students to give detailed accounts of two life experiences, namely their most traumatic and most positive emotional experiences. The findings indicated that memories for traumatic and positive events were equivalent in terms of vividness and coherence. Although participants in this study were not screened for symptoms of PTSD, the authors noted that many distressing memories were recalled, including incidences of rape. Porter and Birt actually found that traumatic memories were recalled with more richness of detail than positive emotional memories. This finding is interesting as it suggests that traumatic memories may be intentionally recalled with increased levels of detail compared to positive, non-traumatic memories.

Further evidence to indicate that traumatic memories are not characterised by fragmentation was provided by Berntsen, Willert, and Rubin (2003). These authors conducted a phenomenological comparison of memory in 25 students who reported a prior trauma experience and symptoms consistent with a PTSD profile, and 88 students who reported a trauma history but no PTSD symptom profile. Those

participants with a PTSD profile reported more vivid recollection of emotion and sensory impressions but no more fragmentation.

Similar findings were reported by Rubin, Feldman, and Beckham (2004), who recruited 50 war veterans with PTSD and asked them to recall a number of memories. These memories included one memory from 2 years before service, one non-combat related memory during service, one memory from combat and one memory that had become an intrusive memory. Following a comparison of memory characteristics, there were no differences found in the degree of fragmentation, even though there were differences in the degree to which participants felt as if they were reliving the memory.

Whilst the above findings support the notion of phenomenological differences between traumatic and non-traumatic memories, they are not consistent with predictions based on Brewin et al.'s (1996) and Ehlers and Clark's (2000) models. Although these studies found that traumatic memories were associated with elevated levels of sensory reliving and increased affect, there was no evidence of fragmentation of traumatic memories in individuals with PTSD. This is a significant finding in light of the fact that contemporary cognitive models suggest that unelaborated trauma memory is pivotal in maintaining intrusions, and further work is required to address these discrepancies. The above findings also suggest interesting areas for further work. For instance, Berntsen (2001) found that intrusive memories were not unique to traumatic memories but also manifested in response to emotionally intense positive memories. This finding may be significant in furthering current understanding of the origin and nature of intrusions and future work might

investigate whether it is high levels of emotion per se, rather than just intense levels of negative emotions that lead to intrusions.

The role of AM in social anxiety is reviewed in the following section.

Social Anxiety

Over the past decade, research has indicated that social anxiety is characterised by biases in attention (Musa & Lepine, 2000). However, to date, very little work has considered the role of memory processes, particularly AM, in this disorder. This is surprising given that recent conceptual models of social phobia implicate the role of AM in its maintenance (Clark & Wells, 1995; Rapee & Heimberg, 1997).

Both Clark and Wells (1995) and Rapee and Heimberg (1997) suggest that socially anxious individuals attend to and process threatening information in a biased manner, which serves to maintain their anxiety. These cognitive biases arise through the activation of maladaptive schemas, which filter and ascribe meaning to social experiences, in such a way that the individual appraises relevant social situations as dangerous (Clark & Wells, 1995). These maladaptive schemas are thought to relate to early experiences and, as a corollary, should be maintained by AMs for prior life events. Consequently, it would be reasonable to assume that individuals with social anxiety should demonstrate biases in AM for threatening material that differentiates them from non-socially anxious populations (Wenzel, Werner, Cochran, & Holt, 2004).

At this time, a clear understanding of the role of AM in social anxiety has not been achieved, and the findings remain equivocal. For instance, in a series of studies,

Rapee et al. (1994) failed to find evidence of an AM recall bias for threatening information in individuals with social anxiety.

Further evidence to support a lack of AM bias in this disorder was provided by Wenzel, Jackson, and Holt (2002). These authors compared individuals with social anxiety ($n = 16$) and non-anxious controls ($n = 17$) on a form of the AMT, which involved the presentation of 15 social threat and 15 neutral cue words. Results demonstrated no significant differences between the groups in terms of the specificity and affective tone of participant responses.

In a recent extension of this study, Wenzel et al. (2004) presented social phobics and non-anxious controls with a series of cue words, which comprised socially threatening, positive and neutral stimuli. As in the previous study, there was no evidence of an AM bias in social anxiety. In fact, it was the non-anxious individuals who demonstrated a greater bias toward the retrieval of negative social memories in response to social threat words.

In summary, findings from the above studies would not support the notion of an AM bias in social anxiety. However, there are several possible explanations for these results. For instance, it is possible that the avoidance of social situations characteristic of individuals with this disorder leads to a limited pool of memories upon which participants can draw during the presentation of social-threat words (Wenzel et al., 2002). Alternatively, AM biases may only become apparent once relevant social schemas have been activated and the apparent absence of a bias may be attributable to the inefficiency of the AMT paradigm in producing this effect.

In an alternative paradigm, Field and Morgan (in press) investigated memory bias through its association with post-event processing (i.e. the subsequent post-mortem undertaken after social situations). The authors instructed socially anxious and non-socially anxious students to recall a recent ambiguous social event and after prompting, to engage in either positive, negative or neutral processing of this event. Following 3 minutes of post-event processing, participants engaged in a free AM recall task, which they subsequently rated on indices of positivity, anxiety and shame. Results showed that socially anxious individuals recalled significantly more negative and shameful memories, regardless of whether the post-event processing was positive or negative in nature. However, with regards to anxiety, socially anxious participants recalled more anxious memories compared to controls except after negative post-event processing, when they produced relatively calming memories.

This interesting finding suggests that the presence of an AM recall bias in individuals with social anxiety may be attributable to the operation of maladaptive schemas that are activated through post-event processing. However, caution should be exercised in interpreting these findings as there is a potential query regarding the ecological validity of this paradigm. It is questionable to what extent individuals spontaneously recall negative and shameful memories following naturalistic post-event processing and this issue requires further investigation, particularly with clinical populations.

The type of imagery associated with the recall of AMs has also been investigated as a potential maintaining factor in social anxiety. Clark and Wells (1995) asserted that when socially anxious individuals believe they are in danger of

negative evaluation by others, they shift their attention inwards to the detailed monitoring and observation of themselves. Once this has occurred, the internal information available to them (e.g. anxiety related sensations, thoughts and behaviours) is used to infer how they are perceived by others. This attentional shift serves to heighten the salience of negative self-related information at the expense of disconfirmatory external information in the environment (e.g. other people's favourable reactions). Clark and Wells (1995) proposed that the resulting negative self-impression can occur in the form of a visual image, as seen from the perspective of an observer rather than through the individual's own eyes (field perspective). These images are typically distorted and often involve visualisation of the most fear-inducing outcome, based upon previous adverse social experiences (Hackman, Clark, & McManus, 2000). A similar account of negative self-visualisation has also been proposed by Rapee and Heimberg (1997).

The presence of observer perspective images in individuals with social anxiety has been demonstrated in several studies. For instance, Hackmann, Surawy, and Clark (1998) found that socially anxious individuals were more likely to report seeing themselves from an observer perspective (i.e. seeing yourself from the outside looking in) during a social situation in comparison to controls, who were more likely to adopt a field perspective (i.e. looking out from behind your own eyes).

Whilst models of social anxiety consider the in-situ shift to an observer perspective, no specific mention is made of observer perspectives in memory. However, Coles, Turk, and Heimberg (2002) suggested that taking an observer perspective in AM for social situations is a probable extension of this phenomenon. Support for this suggestion is provided by Wells, Clark and Ahmad (1998). These

authors asked 12 social phobics and 12 age-matched controls to recall recent social and non-social anxiety-provoking situations. The findings revealed that whilst there were no between-group differences in the recall of non-social events, with all participants reporting more field perspectives, individuals with social anxiety were more likely to recall social situations from an observer perspective. However, Wells et al. (1998) did not control for the age or content of the recalled memories. This is a potential confounding variable, as older memories are more likely to be experienced from an observer perspective (Nigro & Neisser, 1983; Robinson & Swanson, 1993).

Wells and Papageorgiou (1999) compared the use of the observer perspective in a variety of anxiety conditions; social phobia, agoraphobia, blood-injury phobia, and a group of healthy controls. They found that patients with social anxiety and agoraphobia were significantly more likely than the other groups to use the observer perspective in the recall of socially threatening situations. Wells and Papageorgiou argued that this showed the observer perspective was not associated with anxiety disorders per se but was specifically linked to social evaluative concerns.

Furthermore, Coles, Turk, Heimberg, and Fresco (2001) found that it was not just social situations per se that resulted in the observer perspective. The authors compared 30 socially anxious individuals with a group of 24 matched controls and found that whilst individuals with social anxiety reported more observer perspectives than controls in high-anxiety situations, there was no difference between the groups in low and moderate-anxiety situations, and both groups were more likely to use a field perspective.

Most recently, the observer perspective has been researched by Coles et al. (2002). In this study, the authors attempted to control for individual differences in

the experiences recalled by setting up standardised social role-play situations. A group of 22 individuals with social anxiety and 30 non-anxious controls were asked to indicate the perspective adopted during recall at two time points, immediately after and 3 weeks later. Individuals with social anxiety reported a higher incidence of the observer perspective in the immediate recall condition, compared to the controls. At 3-week follow-up, the socially anxious participants were even more likely to report an observer perspective, although there was no change in perspective evidenced by the controls. This finding again suggests that individuals with social phobia are significantly more likely to recall a social experience from an observer perspective but further indicates that the perspective is not a static phenomenon, but may change over time.

The impact of the observer perspective on the maintenance of social anxiety has been highlighted by Wells and Papageorgiou (1998). They compared the outcome of a single session of exposure therapy and a single session of attentional re-training (i.e. externalising attention and reducing self-focus) on a clinical group of social phobics. The findings demonstrated that attentional re-training produced significantly reduced ratings of anxiety, fewer negative cognitions and a shift to a field perspective in comparison to the exposure only group. This has important implications for clinical work with social anxiety, as it could suggest that training individuals to change perspectives may lead to a reduction in symptoms. However, it is important to note that it could have been the switching of attention that led to these effects, rather than the change in perspective and further research is required to clarify this.

In summary, it is apparent from the above findings that individuals with social anxiety exhibit an AM bias in the imagery used to recall socially threatening situations. Socially phobic individuals are significantly more likely to adopt an observer perspective for the recall of social situations when compared to non-socially anxious or healthy controls. The observer perspective may maintain social anxiety because the inward focus of attention prevents the individual from acknowledging potentially disconfirmatory information in the environment. Indeed, this suggestion was confirmed by Wells and Papageorgiou's (1998) study, which found that the observer perspective was associated with significantly elevated levels of self-reported anxiety.

However, whilst Clark and Wells (1995) provide an account of why individuals adopt the observer perspective (i.e. inward focus of attention), they do not attempt to provide an explanation for the function of this phenomenon. Indeed, it would be simple to conclude on the basis of the above findings that the observer perspective does not have an adaptive function. However, the study of memory perspective is not unique to cognitive clinical psychology and empirical work from social psychology literature suggests that the observer perspective may well be functional.

For instance, Nigro and Neisser (1983) investigated the use of the observer and field perspectives in an analogue sample and found that older memories and those associated with increased levels of emotional self-awareness were more likely to be recalled from an observer perspective. This suggests that the observer perspective may not be unique to the recall of negative social situations but may extend to positive emotional memories, but this has not been considered in the

literature. Furthermore, field memories were associated with significantly higher levels of affect (including anxiety) than observer memories (see also McIsaac & Eich, 2002 for similar findings), which is contrary to the predictions of Clark and Wells (1995).

In another study, Robinson and Swanson (1993) investigated the effect of switching memory perspective on a group of undergraduates. The authors asked half of the group to switch the perspective for the recall of an event (i.e. either from observer to field or vice versa) and the other half to use the same perspective. The authors found that when participants used the same perspective or switched from an observer to a field perspective, there was no difference in the emotional intensity associated with the recalled memories. However, when participants switched from a field to an observer perspective, a significant reduction in levels of emotionality was noted.

Contrary to the predictions of Clark and Wells (1995) and the findings of Wells and Papageorgiou (1998), the studies reported above suggest that the observer effect may be associated with reduced, rather than elevated levels of affect. These findings have important clinical implications as they suggest that a possible function of the observer perspective is to reduce anxious emotionality. Consequently, on the basis of this hypothesis, adopting a third-person perspective could be conceptualised as a form of avoidance or detachment from the memory, which might also account for the maintenance of social anxiety. Further work is required to test this hypothesis. However, it is noted that the above studies did not employ clinical populations and it is possible that the effects may vary.

With the exception of Wells and Papageorgiou (1998), no studies have investigated the phenomenological characteristics of memories recalled by individuals with social anxiety. It might be useful for future work to explore these phenomenological characteristics in more detail to further our understanding of this aspect of social phobia. Furthermore, given that training individuals to switch perspective is a recommendation of current treatment programmes for social phobia (Wells & Papageorgiou, 1998), the effect of switching has yet to be explored in any detail. Consequently, it is important for future research to consider the effect of switching memory perspective on the phenomenological characteristics associated with that memory.

Conclusion

Over the past decade, there has been a growing interest in the notion of AM and its application to psychopathology. The concept of AM has evolved from that of episodic memory to become established as a distinctive form of memory, which comprises a complexity of information about personal meanings, goal attainment and emotions (e.g. Conway, 2001). However, more refined definitions of AM are required to conceptualise this phenomenon more accurately.

There is a growing recognition regarding the role AM may play in the maintenance of a number of prominent emotional disorders, such as depression, PTSD and social phobia. However, further research on the lines outlined above in the review is required to address the identified gaps in the literature. Conway and Pleydell-Pearce's (2000) self-memory system may provide a novel and well-needed framework in which to further our understanding of the function of AM and afford a

useful basis on which to interpret the role of individual differences in the course of psychopathology, in terms of individual goals. It is crucial that we continue to further our knowledge of the function of AM in psychological disorders, in order to both improve our conceptualisation of and devise increasingly more effective psychological treatment protocols for these prevalent and debilitating conditions.

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Empirical Paper*

The Role of Autobiographical Memory in Social Anxiety

Running head: Autobiographical Memory and Social Anxiety

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Abstract

Autobiographical memory (AM) may have an important role in maintaining social anxiety. The current study explored the phenomenological characteristics of different types of memory in high ($n = 30$) and low ($n = 30$) socially anxious undergraduate students. Use of visual memory perspectives (i.e. field and observer), and the effects of changing perspective on associated affect and self-appraisal were also investigated. First recalled memories were found to be more vivid, accurate and detailed. Whilst the experimental groups differed on a range of memory characteristics, there was no evidence that high socially anxious participants used an observer perspective more than their low socially anxious counterparts. Furthermore, changing memory perspective revealed that field perspectives were associated with significantly higher levels of affect than observer memories. The findings provided limited support for Clark and Wells' (1995) model of social anxiety but further work is required to develop current understanding of the role of AM in social anxiety.

Key words: *Autobiographical, Memory, Social, Anxiety, Phobia, Cognition*

Introduction

Interest in the clinical implications of autobiographical memory (AM) has gained increasing momentum over the past decade (Williams, 1996). It is now widely accepted that AM plays a pivotal role in maintaining a number of prominent emotional disorders, namely depression and post-traumatic stress disorder (Brewin, 1998; Conway & Pleydell-Pearce, 2000). Such knowledge has been instrumental in developing psychological treatment programmes for these conditions (see Brewin, 1998). More recently, clinicians have started to investigate the role of AM in other disorders, and there is increasing recognition that AM may be influential in the maintenance of social phobia (Wenzel, Werner, Cochran, & Holt, 2004).

At present, the memory processes involved in the maintenance of social phobia are not well understood. This can be attributed to the predominant focus on attentional processes in contemporary models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997). Whilst these models have made relatively few explicit predictions regarding the role of memory, several hypotheses can be derived from their conceptual frameworks.

For instance, Clark and Wells (1995) and Rapee and Heimberg (1997) both propose that individuals with social phobia attend to and process threatening information in a negatively biased manner. These biases in information processing are linked to beliefs that individuals hold about themselves and their social world, which may arise from, and be maintained by, autobiographical memories of early negative social experiences. This suggestion has two main implications: [1] that memory plays a role in maintaining social anxiety at a schema level; and, [2] that,

following the activation of such schemas, these adverse memories should be prominent within the person's mind. Consequently, it is reasonable to expect individuals with social phobia to demonstrate a negative bias in the recall of threatening social memories (Wenzel et al., 2004).

Clark and Wells (1995) proposed that perceived danger of negative evaluation by others in social situations leads socially anxious individuals to shift their attention inwards to the detailed monitoring and observation of themselves. This internal information (i.e. anxiety related sensations, thoughts and behaviours) is used to construct an image of how socially anxious individuals believe that other people perceive them. This view of the self is often experienced from the perspective of an observer, rather than through the person's own eyes (i.e. field perspective). This mentally constructed image is often a distorted reflection of the individual's fears about how he or she will appear in the situation, which serves to heighten and maintain anxiety. Although Clark and Wells' (1995) account only refers to the imagery experienced during an in-situ attentional shift, there is considerable evidence to suggest that the observer-perspective is also used in the recall of threatening situations (e.g. Coles, Turk, & Heimberg, 2002).

Indeed, Hackmann, Clark, and McManus (2000) found that the mental self-imagery in social phobia was often associated with observer-perspective memories of adverse social events that occurred around the onset of the disorder. Similarly, Rapee and Heimberg (1997) hypothesised that socially anxious individuals possess a distorted "baseline" mental image of how they appear to others, based upon an amalgamation of prior negative social experiences.

Finally, Clark and Wells (1995) suggested that memory serves a key function in the maintenance of social phobia through two main processes; anticipatory and post-event processing. The former refers to the analysis and monitoring of a forthcoming situation. Clark and Wells (1995) propose that individuals typically appraise the situation in a negative manner by recollecting and scrutinising perceived social failures from the past, which heightens anxiety about the anticipated social event. Post-event processing refers to the detailed post-mortem of the memory for the event, in which the socially anxious individual focuses upon ambiguous signs of social acceptance. Post-event processing is also likely to evoke other past memories of perceived social failure. If this is true, then AM could play a significant role in the maintenance of social phobia through biased recall of social experiences. Additionally, memories for negative social events might be phenomenologically different from non-social memories, in that they are linked to higher levels of anxiety and more negative self-perceptions and self-evaluations.

In summary, Clark and Wells' (1995) and Rapee and Heimberg's (1997) models both generate a number of hypotheses regarding the role of AM. For instance, it is reasonable to theorise that memory maintains social anxiety through a bias towards the recall of threatening material and a distinctive visual perspective within such recollections.

The empirical evidence regarding the role of AM in social phobia is currently limited. To date, there have only been four studies that have investigated whether there is a recall bias for negative autobiographical material and a consensus regarding the findings remains equivocal. Three of these studies did not find an AM recall bias in individuals with social phobia (Rapee, McCallum, Melville,

Ravenscroft, & Rodney, 1994; Wenzel, Jackson, & Holt, 2002; Wenzel et al., 2004), whilst one study did find evidence of a bias (Field & Morgan, in press).

Whilst three studies did not find a recall bias, it is important to point out some methodological limitations. Firstly, only the qualities of the memory spontaneously provided by the participant were investigated (i.e. only those aspects of the memory objectively available to the experimenter). The participants' subjective feelings and cognitions regarding the recollected memories, which are the typical focus of clinical interventions, were not specifically explored and measured. A second limitation concerns the large number of social memories (e.g. 30 memories) that participants were required to recall in two of the studies (Wenzel et al., 2002; Wenzel et al., 2004). Social avoidance is characteristic of social anxiety, and therefore clinical participants may have been at a disadvantage compared to controls due to a relatively limited pool of available memories (Wenzel et al., 2002). This may have led to a dilution of the experimental effect; a bias may only have appeared in the first few memories produced, as these may represent the most salient or significant social experiences. Finally, all three studies used an experimental paradigm that involved the presentation of a single cue word. This approach might not capture the types of memory that are most relevant to social anxiety. Alternatively, biased recall may only occur if relevant threat schemas have been activated. Indeed, Field and Morgan (in press) recently found that when socially anxious participants engaged in intensive rumination about a recent ambiguous social situation prior to a free-recall task, they provided significantly more shameful and negative memories than non-anxious controls.

The evidence supporting the use of the observer perspective in the recall of social memories by socially anxious individuals is considerably more convincing. Wells and Papageorgiou (1999) found that patients with social phobia and agoraphobia were significantly more likely to use the observer perspective in the recall of anxiety provoking social memories than a blood/injury phobia group. The authors argued these findings showed that the observer perspective was not associated with anxiety disorders per se but was specifically linked to social evaluative concerns.

Furthermore, there is evidence that the observer perspective is not a trait characteristic of individuals with social phobia and is restricted to the recall of threatening social memories. Wells, Clark, and Ahmad (1998) found that when recalling recent anxiety provoking events, socially anxious individuals and age-matched controls did not differ in perspective with regards to non-social experiences (both groups were more likely to adopt a field perspective). However, individuals in the socially anxious group were significantly more likely to adopt an observer perspective when recalling socially threatening experiences. Furthermore, Coles, Turk, Heimberg, and Fresco (2001) reported that the observer perspective does not occur across all social situations but only those that are appraised as highly threatening. Socially anxious individuals were as likely as controls to adopt a field perspective in low and moderate anxiety provoking situations.

Most recently, Coles et al. (2002) reported that, following participation in a standardised social role-play, individuals with social anxiety used the observer perspective more in an immediate recall condition compared to non-anxious controls. Additionally, at 3-week follow-up, socially anxious participants were even more

likely to use the observer perspective in their recollection, whilst there was no change in perspective in the controls. This finding confirms that individuals with social phobia are significantly more likely to recall a social experience from an observer perspective and further indicates that the perspective is not a static phenomenon, but may change over time.

The observer perspective has been directly implicated in the maintenance of social anxiety. Wells and Papageorgiou (1998) found that attentional retraining reduced self-focus in a clinical sample of socially phobic individuals. This was associated with increased use of the field perspective, in addition to significant reductions in anxiety ratings and negative cognitions.

In summary, there is mounting evidence to indicate that individuals with social anxiety are significantly more likely than non-socially anxious individuals to adopt an observer perspective in the recall of highly threatening social situations. Furthermore, adopting an observer perspective in the recollection of social experiences has been linked with increased anxiety and negative cognitions, suggesting that this perspective may play a role in the maintenance of social phobia.

The majority of the evidence concerning the role of memory in social phobia has been published in recent years. Therefore, although few explicit predictions have been made in contemporary models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997), there is a growing awareness that this might be a significant omission. Further examination of AM processes is needed in order to develop a fuller conceptualisation of this prevalent anxiety disorder (Faravelli et al., 2000).

Reviewing the existing research in this field highlights a number of gaps and unanswered questions within the literature. Firstly, little is known about the subjective phenomenological characteristics of memories for threatening social experiences in individuals with social anxiety. Secondly, it remains unclear whether the observer perspective is uniquely associated with negative social memories or whether this perspective is also used when socially anxious individuals recall positive social memories. Thirdly, the effects of switching memory perspective have yet to be explored in detail. Given the clinical implications of switching perspective (e.g. Wells & Papageorgiou, 1998), it is necessary to establish the consequences of switching on both affect and the associated meaning of the memory.

With regard to the latter two questions, it is useful to consider some of the findings from the social psychology literature concerning memory perspective. For instance, Nigro and Neisser (1983) conducted a series of studies to investigate memory perspective in a university undergraduate sample and found that age and level of emotional self-awareness influenced recall perspective. Older memories and memories associated with high levels of emotional self-awareness were more likely to be recalled from an observer perspective, whereas newer memories and those lower in emotional awareness were more likely to result in the adoption of a field perspective. Interestingly, Nigro and Neisser (1983) found that the field perspective was associated with higher subjective levels of affect (including anxiety) than the observer perspective (see also McIsaac & Eich, 2002 for similar findings). These findings have two main implications: [1] the observer perspective may not be unique to socially phobic individuals and may be quite prevalent within the general population; and, [2] the observer perspective may not be solely associated with the

recall of threatening social situations but may be used in a range of memories that comprise a high degree of emotional self-awareness. However, Nigro and Neisser (1983) did not screen participants for levels of social anxiety and therefore it is not known whether social anxiety might influence these results in a different way.

The effect of switching perspective in an unselected sample of participants was examined by Robinson and Swanson (1993). These authors found that when individuals switched from a field to an observer perspective, they reported significantly lowered subjective feelings of emotionality. This is an interesting finding because it contradicts predictions based on Clark and Wells' (1995) model of social phobia, which suggests that the observer perspective is associated with elevated levels of affect (i.e. anxiety). It also contradicts Wells and Papageorgiou's (1998) findings, which suggested that using the field perspective was associated with decreased level of anxious affect, compared to an observer perspective. However, it is important to note that Wells and Papageorgiou (1998) combined switching attention as well as changing perspective in their study and it could have been the switching of attention that led to these a reduction in anxiety, rather than the change in perspective.

The purpose of the present paper was to address these unanswered questions and discrepancies between the clinical and social literature regarding the role of AM in social anxiety. The study had three main aims.

Firstly, to explore differences in the phenomenological characteristics of memories in individuals with high and low scores on measures of social anxiety. This was an exploratory study, as there is no previous research in this area. Four different types of memory were considered; positive social, negative social, positive

non-social and negative non-social memories. On the basis of empirical findings (e.g. Hackmann et al., 2000), the first one or two memories spontaneously recalled by individuals in each category were expected to be the most important, as these memories would be most likely to reflect any biases in their phenomenological characteristics. These initial memories were also the most likely to be spontaneously recollected on a daily basis, and therefore, would have more ecological validity than the recall of a whole series of memories (e.g. Wenzel et al., 2004). The phenomenological characteristics of interest in the present study were theory-driven on the basis of current research and broadly concerned three main areas: [1] basic memory characteristics (e.g. vividness, perspective, etc.); [2] mood, self-awareness and self-confidence; and, [3] self-reflection and coping strategies.

The second aim of the study was to investigate the use of the observer perspective by high and low socially anxious individuals in recollection across different categories of memory. In accordance with Clark and Wells (1995), it was expected that the observer perspective would occur significantly more often amongst high socially anxious individuals in the recall of negative social memories, compared to low socially anxious individuals. Also of interest was the use of the observer perspective in the recall of positive memories, as this has not been considered in previous studies.

The final aim of the present paper was to investigate the effect of switching perspective on associated levels of affect and self-appraisal. On the basis of the research reported above, it was possible to generate two competing hypotheses with respect to anxiety. Consistent with Clark and Wells' (1995) and Wells and Papageorgiou's (1998) work, it was predicted that the observer perspective would be

associated with significantly higher subjective levels of anxiety than the same memory recalled from a field perspective. On the other hand, consistent with Nigro and Neisser (1983) and Robinson and Swanson (1993) the alternative prediction was that the field perspective would be associated with significantly higher levels of emotionality (including anxiety) than the same memory recalled from an observer perspective. Furthermore, in accordance with Wells and Papageorgiou (1998), the observer perspective should be associated with significantly more negative cognitions than the same memory recalled from a field perspective.

Method

Design

The study was split into two main parts. The first part, which was divided into two phases, used a mixed design to investigate differences in the phenomenological characteristics of memories recalled by high and low socially anxious individuals. In phase one, there was one between-subjects variable (high or low social anxiety group) and three within-subject variables, which comprised, memory type (i.e. social or non-social), valence (i.e. positive or negative) and order of recall (i.e. first or second memory recalled). In phase two, there was one between-subjects variable (high or low social anxiety group) and two between-subjects variables; memory type and valence.

The second part of the study investigated the effect of switching memory perspective on selected phenomenological characteristics. There was one between-subjects variable (high or low social anxiety group) and three within-subjects variables; memory type, valence and memory perspective (i.e. observer or field).

Participants

One hundred and twenty-five undergraduate students were screened using the Fear of Negative Evaluation scale (FNE; Watson & Friend, 1969). Individuals were assigned to either a high or low social anxiety group, in accordance with Stopa & Clark's (2001) methodology. Participants who scored 20 or above (upper quartile: high social anxiety (HSA) group) or eight or below (lower quartile: low social anxiety (LSA) group) were invited to take part in the study. Sixty participants completed the study (HSA FNE $M = 24.50$, $SD = 3.06$; LSA FNE $M = 5.17$, $SD = 1.76$). The HSA group comprised 30 women (age $M = 20.10$, $SD = 3.47$) and the LSA group comprised 25 women and five men (age $M = 21.23$, $SD = 5.05$). The mean ages of the two groups did not differ significantly, $t(58) = -1.01$, $p = .32$. Numbers of participants in the analyses varied because of missing data.

Measures

The FNE was used for screening in order to form high and low social anxiety groups. The Social Interaction Anxiety Scale (SIAS; Mattick & Clarke, 1989) and Social Phobia Scale (SPS; Mattick & Clarke, 1989) were used to provide more information about the social anxiety status of individuals in each group. Participants were screened for depressive symptoms with the Beck Depression Inventory (Beck, Steer, & Brown, 1996). A modified version of the Memory Characteristics Questionnaire (Johnson, Foley, Suengas, & Raye, 1988) was employed to investigate both the phenomenological characteristics of participants' memories and the effect of switching memory perspective.

Fear of Negative Evaluation scale (FNE; Watson & Friend, 1969)

This 30-item questionnaire, which is scored on the basis of true or false responses, measures the level of apprehension associated with receiving negative evaluation from others. The FNE possesses good internal consistency ($\alpha = .94$) and test-retest reliability ($r = .78$) with an undergraduate population (Watson & Friend, 1969). Scores on the FNE have been used to discriminate between individuals with social phobia and both non-clinical controls and patients with other anxiety disorders (e.g. Stopa & Clark, 2000).

Social Interaction Anxiety Scale (SIAS) and Social Phobia Scale (SPS; Mattick & Clarke, 1989)

These two scales are typically used together in research studies. The SIAS assesses social interaction anxiety (e.g. having a conversation), whilst the SPS assesses anxiety associated with either anticipating or actually being observed by others in social interaction (e.g. giving a speech). Both scales comprise 20 items, which are rated on a five-point scale, from 0 (not at all characteristic or true of me) to 4 (extremely characteristic or true of me). The SIAS and SPS have good levels of test-retest reliability (SIAS, $r = .92$; SPS, $r = .93$) and high internal consistency (SIAS, $\alpha = .94$; SPS, $\alpha = .93$; Mattick & Clarke, 1989). Both scales have good concurrent validity with other measures of social anxiety and discriminate between individuals with social phobia and both non-patient controls and those with other anxiety disorders, such as agoraphobia and simple phobia (Mattick & Clarke, 1989; Rapee, Brown, Antony, & Barlow, 1992).

Beck Depression Inventory – Second edition (BDI-II; Beck, Steer & Brown, 1996)

This 21-item self-report scale is employed widely in both research and clinical practice to assess the severity of depressive symptomatology. All items are coded on a four-point scale, ranging from 0 to 3. The BDI-II has been demonstrated to have good levels of test-retest reliability ($r = .93$; Beck et al., 1996), internal consistency ($\alpha = .90$), concurrent validity and an adequate factor structure (Storch, Roberti, & Roth, 2004).

Memory Questionnaire

The wording and format of the memory questionnaire was adapted from the Memory Characteristics Questionnaire (MCQ), designed by Johnson et al. (1988), which has been used in several studies to investigate phenomenological characteristics of memory (e.g. Robinson & Swanson, 1993). The MCQ assesses a wide range of memory characteristics (e.g. visual detail, complexity, temporal information, feelings and familiarity). An initial version was developed and piloted on three people. The final version is described below.

The MCQ was adapted for use with a socially anxious population (MCQ-SA). These changes were theory-driven on the basis of Clark and Wells' (1995) model of social phobia. For instance, the original MCQ only measured emotionality as a single item, whilst the adapted MCQ-SA assessed anxiety, happiness, and emotionality associated with the memory. Seven new items were included in the MCQ-SA, which comprised: how confident the individual felt; how confident the individual thought they appeared to others; how well the person thought they handled the situation; the extent to which the person thought they could handle the same

experience again; whether the individual had learnt from the situation; how strong the individual felt; and, how positive the experience was in the long-term.

In accordance with Johnson et al. (1998), seven-point scales (1 to 7) were used for most items, with the exception of items relating to how positive the experience was in the long-term and how well the person thought they had handled the situation, which were measured on a scale ranging from -3 to +3. However, items relating to self-awareness, self-confidence and mood were measured on eleven-point scales, ranging from 0 to 100, to mirror clinical practice. All questions on the MCQ-SA were positively scored, with the exception of the following items, which were reverse-scored: how confident the individual felt; how confident the individual thought they appeared to others; the extent to which the person thought they could handle the same experience again; whether the individual had learnt from the situation; and, how strong the individual felt.

The MCQ-SA comprised two parts. Part One (see Appendix C) asked participants to generate written accounts of two memories in each of the following categories; positive social, negative social, positive non-social and negative non-social. Four versions of the questionnaire were constructed in order to counterbalance the order in which participants recalled the different types of memory. The first part of the questionnaire also contained the rating scales as outlined above, which were completed separately for each memory.

Part Two (see Appendix D) comprised the same rating scales as Part One, with the exception of items pertaining to stable information already collected (e.g. age of memory). Furthermore, Part Two also asked how easy the participant had

found it to switch memory perspective, which was reverse-scored on a seven-point scale (1 to 7).

Procedure

Ethical approval was granted by the University Ethics Committee (see Appendix E). All participants were assessed either individually or in groups of two. Participants read an information sheet and signed a consent form (see Appendix F) and were subsequently asked to read the instructions for Part One of the MCQ-SA. Clarification was provided for individuals who were unsure of any instructions. Participants completed the questionnaire independently, and took a five minute break after they had generated the required memories and associated cue words. Participants then spent approximately 60 seconds thinking about each of the memories and completing the associated rating scales. The first part of the study took approximately one hour.

Participants completed the second part of the study seven to ten days after the initial phase. Participants were provided with a pre-prepared copy of Part Two of the MCQ-SA. Part Two contained the cue words associated with their original memories and instructions to remember the memory from the opposite perspective to that used in the initial recall (i.e. if they had remembered the memory from a field perspective in Part One, they were asked to recall it from the observer perspective in Part Two). Participants spent approximately 60 seconds recalling the memory and then completed the associated rating scales for each of their memories. Following completion of the MCQ-SA, participants completed the SIAS, SPS and BDI and were provided with a written debrief (see Appendix G). Participants received either research credits or £10 payment to cover expenses.

Results

Participant Characteristics

Table 1 shows the means and standard deviations for high socially anxious (HSA) and low socially anxious (LSA) group on the FNE, SIAS, SPS and BDI-II.

Table 1.

Means and Standard Deviations of Participant Screening Measures

Screening Measure	High Social Anxiety	Low Social Anxiety
	Group ($n = 30$)	Group ($n = 30$)
	$M(SD)$	$M(SD)$
Fear of Negative Evaluation Scale	24.50 (3.06)	5.17 (1.76)
Social Interaction Anxiety Scale	27.40 (12.09)	14.50 (7.34)
Social Phobia Scale	23.20 (11.97)	9.90 (5.05)
Beck Depression Inventory	11.33 (9.20)	7.93 (7.70)

The HSA group scored significantly higher on all measures of anxiety; FNE, $t(46.35) = 29.99, p < .001$, SIAS, $t(47.84) = 5.00, p < .001$ and SPS, $t(39.02) = 5.61, p < .001$. The two groups did not differ significantly on their levels of depression, $t(58) = 1.55, p = .13$.

Memory Characteristics

Table 2 shows means and standard deviations for age (in months), vividness, detail and accuracy of recall. All memory characteristics were investigated using separate 2 (group) x 2 (social) x 2 (valence) x 2 (order of recall) analyses of variance.

Table 2.

Means and Standard Deviations of Memory Characteristics

Memory Type	Order of Recall	Age (months) <i>M(SD)</i>	Vividness <i>M(SD)</i>	Detail <i>M(SD)</i>	Accuracy <i>M(SD)</i>
High Social Anxiety Group (<i>n</i> = 29)					
Social					
Positive	First	49.52 (67.62)	5.66 (1.23)	5.14 (1.25)	5.31 (1.39)
	Second	41.52 (34.59)	4.83 (1.28)	4.41 (1.18)	4.59 (1.02)
Negative	First	55.59 (64.26)	5.62 (1.24)	4.97 (1.27)	5.38 (1.15)
	Second	45.10 (31.09)	5.17 (1.63)	4.66 (1.63)	4.48 (1.48)
Non-Social					
Positive	First	29.14 (18.72)	5.76 (1.15)	5.14 (1.22)	5.59 (1.15)
	Second	39.07 (30.75)	5.00 (1.28)	4.55 (1.33)	4.79 (1.26)
Negative	First	46.97 (34.89)	5.34 (1.61)	5.07 (1.41)	5.17 (1.44)
	Second	52.00 (43.54)	5.21 (1.52)	4.86 (1.46)	4.69 (1.47)
Low Social Anxiety Group (<i>n</i> = 22)					
Social					
Positive	First	51.32 (51.97)	5.64 (1.26)	4.91 (1.38)	5.55 (1.06)
	Second	49.27 (48.58)	5.59 (1.30)	5.18 (1.53)	4.73 (1.72)
Negative	First	69.45 (89.14)	5.18 (1.30)	4.82 (1.50)	5.00 (1.54)
	Second	62.32 (61.92)	4.95 (1.79)	4.55 (1.79)	4.86 (1.78)
Non-Social					
Positive	First	47.32 (36.30)	5.32 (1.70)	5.05 (1.43)	5.55 (1.37)
	Second	60.59 (51.19)	5.23 (1.23)	4.59 (1.50)	5.18 (1.37)
Negative	First	56.68 (44.22)	5.91 (1.31)	5.59 (1.50)	5.95 (1.25)
	Second	60.82 (63.09)	5.00 (1.75)	4.82 (1.65)	5.18 (1.53)

Age of Memory

There was a main effect of valence, $F(1, 49) = 7.19, p < .05$, but no other main effects or interactions. Negative memories were significantly older than positive memories (Positive $M = 45.12, SD = 44.55$; Negative $M = 55.26, SD = 54.97$).

Vividness

There was a main effect of order of recall, $F(1, 49) = 8.85, p < .01$, which was modified by a group x valence x order of recall interaction, $F(1, 49) = 4.72, p < .05$. Investigation of this interaction showed that in the HSA group, the first positive memory was more vivid than the second, $t(28) = 4.08, p < .001$, whereas there was no difference for the LSA group.

Detail

There was a main effect of order of recall, $F(1, 49) = 7.13, p < .05$, but no other main effects or interactions. Memories that were recalled first were rated as significantly more detailed than those recalled second (First memories recalled $M = 5.08, SD = 1.35$; Second memories recalled $M = 4.69, SD = 1.49$).

Accuracy

There were main effects of memory type (i.e. whether the memory was social or non-social), $F(1, 49) = 4.39, p < .05$ and order of recall, $F(1, 49) = 23.59, p < .001$. Social memories were rated as significantly less accurate than non-social memories (Social memories $M = 4.98, SD = 1.42$; Non-social memories $M = 5.24, SD = 1.39$). Memories that were recalled first were rated as significantly more accurate than

those recalled second (First memories recalled $M = 5.43$, $SD = 1.31$; Second memories recalled $M = 4.79$, $SD = 1.45$).

This analysis demonstrated that first memories were more detailed and accurate for both groups and more vivid for the HSA group. Consequently, analyses of the remaining memory characteristics were performed on the first memory only.

Mood, Self-Awareness and Self-Confidence

Table 3 shows the means and standard deviations for anxiety, happiness, emotionality, self-awareness, self-confidence and appearing confident to others. All six memory characteristics were investigated using separate 2 (group) x 2 (memory type) x 2 (valence) analysis of variance.

Table 3.

Means and Standard Deviations of "Mood, Self-Awareness and Self-Confidence" Memory Phenomenology

Characteristic	High Social Anxiety Group (<i>n</i> = 29)				Low Social Anxiety Group (<i>n</i> = 27)			
	Social		Non-Social		Social		Non-Social	
	Positive <i>M(SD)</i>	Negative <i>M(SD)</i>	Positive <i>M(SD)</i>	Negative <i>M(SD)</i>	Positive <i>M(SD)</i>	Negative <i>M(SD)</i>	Positive <i>M(SD)</i>	Negative <i>M(SD)</i>
Anxiety	32.76 (30.22)	81.38 (18.85)	40.69 (36.05)	74.14 (24.28)	30.74 (32.81)	64.44 (27.78)	9.26 (29.60)	69.26 (23.52)
Happy	88.28 (11.36)	14.48 (12.70)	88.62 (13.02)	9.31 (9.98)	80.74 (17.30)	23.33 (19.01)	83.70 (19.64)	11.85 (13.31)
Emotional	54.14 (26.12)	71.72 (19.47)	66.21 (27.44)	78.62 (19.59)	54.07 (25.46)	56.67 (32.46)	65.93 (25.15)	78.89 (19.87)
Self-awareness	58.62 (26.15)	67.93 (25.27)	62.41 (24.74)	66.21 (20.94)	57.04 (27.15)	60.37 (26.24)	55.9 (26.93)	62.59 (28.09)
Self-confidence	31.03 (25.12)	87.93 (14.24)	34.83 (27.60)	70.34 (26.39)	34.44 (27.78)	67.41 (29.30)	26.67 (24.18)	75.19 (24.24)
Confident to others	2.10 (1.05)	5.66 (1.34)	2.97 (1.59)	4.90 (1.47)	2.19 (1.21)	4.44 (1.74)	3.00 (1.36)	4.59 (1.67)

Anxiety

There were significant main effects of valence, $F(1, 54) = 85.10, p < .001$ and group, $F(1, 54) = 4.42, p < .05$ but no other significant main effects or interactions.

Negative memories were rated as significantly more anxiety provoking than positive memories (Negative memories $M = 72.50, SD = 24.25$; Positive memories $M = 33.48, SD = 32.18$). Individuals in the HSA group rated their memories as significantly more anxious than their LSA counterparts (HSA $M = 57.24, SD = 34.76$; LSA $M = 48.43, SD = 33.80$).

Happiness

There was a significant main effect of valence, $F(1, 54) = 802.58, p < .001$, which was modified by a valence x group, $F(1, 54) = 5.72, p < .05$, and a memory type x valence interaction, $F(1, 54) = 6.94, p < .05$. Investigation of the valence x group interaction showed that both groups rated positive memories as significantly happier than negative memories (HSA group $t(29) = 30.37, p < .001$; LSA group $t(29) = 16.33, p < .001$). Individuals in the LSA group rated negative memories as significantly happier than their HSA counterparts, $t(44.51) = -2.12, p < .05$, whereas there were no significant differences in positive memories.

Analysis of the memory type x valence interaction revealed that both positive memories were rated as significantly happier than negative memories (Social memories, $t(57) = 20.36, p < .001$; Non-social memories, $t(57) = 25.29, p < .001$). However, negative social memories were rated as being significantly happier than negative non-social memories, $t(57) = 3.59, p = .001$, whereas positive memories did not differ significantly.

Emotionality

There were main effects of memory type, $F(1, 54) = 19.68, p < .001$ and valence, $F(1, 54) = 12.25, p = .001$ but no other significant main effects or interactions. Non-social memories were rated as significantly more emotional than social memories (Non-social memories $M = 72.41, SD = 23.83$; Social memories $M = 59.29, SD = 26.87$). Negative memories were rated as significantly more emotional than positive memories (Negative memories $M = 71.61, SD = 24.73$; Positive memories $M = 60.09, SD = 26.42$).

Self-Awareness

There was a main effect of valence, $F(1, 54) = 6.01, p < .05$ but no other significant main effects of interactions. Negative memories were associated with significantly higher levels of self-awareness than positive memories (Negative memories $M = 64.38, SD = 25.03$; Positive memories $M = 58.57, SD = 25.99$).

Self-Confidence

There was a significant main effect of valence, $F(1, 54) = 115.16, p < .001$, which was modified by a memory type x valence x group interaction, $F(1, 54) = 8.46, p < .01$. Analysis of the interaction showed that for negative social memories, the LSA group reported feeling significantly more self-confident than the HSA group, $t(37.03) = 3.30, p < .01$, whereas there were no significant differences between the groups for negative non-social memories. Individuals in the HSA group reported feeling significantly more self-confident in relation to negative non-social memories than negative social memories, $t(28) = 3.43, p < .01$, whereas their LSA counterparts did not differ significantly.

Appearing Confident to Others

There was a main effect of valence, $F(1, 54) = 106.00, p < .001$, which was modified by a memory type x valence interaction, $F(1, 54) = 14.07, p < .001$. Post-hoc investigation of the interaction demonstrated that participants believed that they appeared more confident to others when recalling positive, rather than negative memories (Social memories $t(55) = -11.44, p < .001$; Non-social memories $t(55) = -5.93, p < .001$). However, individuals believed they appeared more confident to others in positive social memories rather than positive non-social memories, $t(55) = -3.56, p < .001$, whereas negative memories did not differ.

Self-Reflection and Coping Strategies

Table 4 shows the means and standard deviations for the seriousness of the implications of the event, how strong the individual felt, personal meaning, the extent to which the individual had talked and thought about the experience, how positive the person thought the experience was, how well the individual thought they handled the situation, the extent to which the event could be handled again and how much was learned from the experience. All nine memory characteristics were investigated using separate 2 (group) x 2 (memory type) x 2 (valence) analysis of variance.

Table 4.

Means and Standard Deviations of "Self-Reflection and Coping Strategies" Phenomenology

Characteristic	High Social Anxiety Group (<i>n</i> = 29)				Low Social Anxiety Group (<i>n</i> = 27)			
	Social Memories		Non-Social Memories		Social Memories		Non-Social Memories	
	Positive <i>M</i> (<i>SD</i>)	Negative <i>M</i> (<i>SD</i>)	Positive <i>M</i> (<i>SD</i>)	Negative <i>M</i> (<i>SD</i>)	Positive <i>M</i> (<i>SD</i>)	Negative <i>M</i> (<i>SD</i>)	Positive <i>M</i> (<i>SD</i>)	Negative <i>M</i> (<i>SD</i>)
Implications	3.10 (2.16)	3.62 (1.61)	3.66 (1.74)	4.86 (1.81)	3.07 (2.27)	3.33 (2.00)	2.89 (2.12)	5.07 (1.71)
How strong person felt	3.07 (1.22)	4.34 (1.26)	2.93 (.92)	4.07 (1.22)	3.04 (1.09)	0.15 (1.49)	2.67 (1.11)	3.30 (1.66)
Personal meaning	4.59 (1.40)	4.72 (1.60)	4.86 (1.46)	4.38 (1.47)	4.89 (1.63)	4.33 (1.54)	5.15 (1.51)	4.44 (1.95)
Talked about memory	4.34 (1.76)	3.00 (1.71)	3.79 (1.86)	4.17 (1.77)	4.30 (1.88)	2.70 (1.81)	4.07 (2.02)	4.33 (1.94)
Type of experience	2.34 (0.72)	-0.28 (1.56)	2.59 (0.73)	-1.21 (1.72)	2.41 (0.93)	0.15 (1.49)	2.11 (1.01)	-0.19 (2.08)
Thought about memory	4.76 (1.60)	4.59 (1.82)	4.76 (1.70)	5.07 (1.60)	4.60 (1.85)	3.78 (2.04)	4.85 (1.63)	5.19 (1.82)
Situation (how handled)	1.79 (1.11)	-0.97 (1.43)	1.45 (1.02)	-0.41 (1.40)	2.04 (0.94)	-0.37 (1.78)	1.63 (1.04)	0.26 (1.81)
Situation (handle again)	2.07 (1.33)	5.52 (1.43)	2.62 (1.76)	5.66 (1.65)	2.26 (1.68)	3.59 (1.95)	2.00 (1.49)	4.96 (2.01)
What was learned	3.14 (1.51)	2.72 (1.46)	3.10 (1.72)	3.14 (1.73)	2.63 (1.92)	2.78 (1.89)	2.96 (1.85)	2.37 (1.80)

Implications of the Event

There was a significant main effect of memory type, $F(1, 54) = 33.73, p < .001$ but no other significant main effects or interactions. Non-social memories were rated as having significantly more serious implications than social memories (Non-social memories $M = 4.64, SD = 2.15$; Social memories $M = 3.29, SD = 2.01$).

How Strong the Person Felt

There were main effects of valence, $F(1, 54) = 22.64, p < .001$ and group, $F(1, 54) = 6.98, p < .05$ but no other significant main effects or interactions. Positive memories were associated with being a significantly stronger person than negative memories (Positive memories $M = 2.93, SD = 1.09$; Negative memories $M = 3.83, SD = 1.41$). Individuals in the LSA group associated their memories with indicating that they were significantly stronger than HSA individuals (LSA individuals $M = 3.14, SD = 1.33$; HSA individuals $M = 3.60, SD = 1.30$).

Personal Meaning

There were no significant main effects or interactions.

How Much the Individual had Talked About the Memory

There were significant main effects of memory type, $F(1, 54) = 5.65, p < .05$ and valence, $F(1, 54) = 5.10, p < .05$, which were modified by a memory type x valence interaction, $F(1, 54) = 15.01, p < .001$. Investigation of the interaction showed that positive social memories were talked about significantly more than negative social memories, $t(55) = 4.21, p < .001$, whereas non-social memories did not differ

significantly. However, negative non-social memories were talked about significantly more than negative social memories, $t(55) = -4.44, p < .001$, whereas there were no significant differences in the extent to which different types of positive memory were talked about.

How Much the Individual had Thought About the Experience

There was a main effect of memory type, $F(1, 54) = 5.37, p < .05$ but there were no other significant main effects or interactions. Non-social memories were thought about more often than social memories (Non-social memories $M = 4.96, SD = 1.68$; Social memories $M = 4.44, SD = 1.84$).

How Positively the Person Perceived the Memory

There was a significant main effect of valence, $F(1, 54) = 183.28, p < .001$, which was modified by a valence x group interaction, $F(1, 54) = 5.26, p < .05$. The interaction showed that in both groups, positive memories were rated as significantly more positive experiences than negative memories (HSA group $t(28) = 12.24, p < .001$; LSA group $t(26) = 7.31, p < .001$). However, individuals in the LSA group rated negative memories as a significantly more positive experience than their HSA counterparts, $t(54) = -2.17, p < .05$.

How Well the Individual Thought s/he Handled the Situation

There was a main effect of group $F(1, 54) = 5.03, p < .05$, which showed that LSA participants thought they had handled the experience significantly better than their HSA counterparts (LSA group $M = .89, SD = 1.74$; HSA group $M = .47, SD = 1.71$).

There was also a main effect of valence, $F(1, 54) = 89.43, p < .001$, which was modified by a memory type x valence interaction, $F(1, 54) = 8.94, p < .01$.

Investigation of the interaction revealed that both positive memories were perceived as being handled significantly better than their negative counterparts (Positive social memories $t(55) = 9.10, p < .001$; Positive non-social memories $t(55) = 6.21, p < .001$).

Positive social memories were rated as being handled significantly better than positive non-social memories, $t(55) = 2.31, p < .05$. However, negative non-social memories were rated as being handled significantly better than negative social memories, $t(55) = -2.34, p < .05$.

Extent to Which the Experience Could be Handled Again

There were main effects of valence, $F(1, 54) = 153.13, p < .001$ and group, $F(1, 54) = 11.39, p = .001$, which were modified by a social x valence x group interaction, $F(1, 54) = 5.91, p < .05$. Analysis of the interaction revealed that for negative social memories, individuals in the LSA group felt that they would be able to handle the same experience again significantly better than individuals in the HSA group, $t(54) = 4.24, p < .001$, whereas there were no significant differences between the groups for negative non-social memories. Individuals in the LSA group felt that they would be able to handle the same experience again better for negative social, rather than negative non-social memories, $t(26) = -2.44, p < .05$, whereas there was no difference between the two memory types in the HSA group.

What was Learned From the Experience

There were no significant main effects or interactions.

Perspective

Table 5 shows the number of memories recalled from different perspectives in both groups for positive social, negative social, positive non-social and negative non-social memories. Each of the different memories was analysed using a separate chi-square.

Table 5.

Frequency of Field and Observer Perspectives in Different Memory Types

Perspective	Social Memories		Non-Social Memories	
	Positive	Negative	Positive	Negative
High Social Anxiety Group ($n = 29$)				
Field	23	17	23	24
Observer	6	12	6	5
Low Social Anxiety Group ($n = 27$)				
Field	15	14	22	21
Observer	12	13	5	6

Although there were no significant group differences in perspective for positive social memories, the results indicated a non-significant trend, $\chi^2(1, N = 56) = 3.62, p = .057$. The HSA group recalled more field than observer perspective memories, whereas, recall in the LSA group was more balanced between the two perspectives. There was some indication that the LSA group used the observer perspective more than individuals in the HSA group.

There were no significant differences in the use of perspective for negative social, positive non-social or negative non-social types of memory.

Switching Perspective

There were two questions of interest with respect to perspective switching; how easily participants were able to switch perspective for the different memories and the effect of switching perspective on selected phenomenological characteristics.

How Easily Individuals Were Able to Switch Perspective

The ease with which individuals were able to switch perspective was investigated using a 2 (group) x 2 (memory type) x 2 (valence) analysis of variance. There was a significant memory type x group interaction, $F(1, 54) = 4.39, p < .05$, which revealed that HSA individuals found it significantly easier to switch perspective when recalling social memories (Positive $M = 2.66, SD = 1.72$; Negative $M = 2.66, SD = 1.45$) compared to non-social memories (Positive $M = 3.38, SD = 1.80$; Negative $M = 3.59, SD = 1.59$), whereas their LSA counterparts did not differ significantly for social (Positive $M = 3.11, SD = 1.67$; Negative $M = 3.41, SD = 1.95$) and non-social (Positive $M = 3.33, SD = 1.52$; Negative $M = 3.11, SD = 1.65$).

Effect of Switching Memory Perspective

Table 6 shows the means and standard deviations for anxiety, happiness, self-awareness, self-confidence, how strong the person felt, how well the individual thought s/he handled the situation, and the extent to which the same situation could be handled again with respect to memory perspective adopted for HSA and LSA groups. These characteristics were selected on the basis that that they had shown

either a significant main or interaction effect of group during the initial phase of the analysis, with the exception of self-awareness. Self-awareness was included because of its theoretical relevance to Clark and Wells (1995) model of social anxiety. All memory characteristics were investigated using a 2 (group) x 2 (memory type) x 2 (valence) x 2 (perspective) analysis of variance. The purpose of this analysis was to investigate the effect of switching memory perspective on these characteristics, and a hypothesis driven approach was adopted (as recommended by Tabachnik & Fidell, 1989). Therefore, only main effects of perspective or interactions between perspective and other factors have been reported here (full results are reported in Appendix H).

Table 6.

Means and Standard Deviations of Memory Phenomenology Associated With Field and Observer Perspective

Memory Type		Anxiety <i>M(SD)</i>	Happy <i>M(SD)</i>	Self-awareness <i>M(SD)</i>	Self-confidence <i>M(SD)</i>	How strong person felt <i>M(SD)</i>	Situation (how handled) <i>M(SD)</i>	Situation (handle again) <i>M(SD)</i>
High Social Anxiety Group (<i>n</i> = 29)								
Social								
Positive	Field	38.62 (32.26)	87.24 (13.34)	61.38 (27.09)	36.90 (25.79)	3.03 (1.21)	1.72 (1.13)	2.14 (1.38)
	Observer	31.03 (30.28)	83.79 (14.98)	51.03 (24.83)	28.28 (23.77)	3.38 (1.29)	1.41 (1.15)	2.52 (1.70)
Negative	Field	81.38 (19.41)	18.28 (13.91)	67.93 (26.37)	83.45 (16.32)	4.28 (1.39)	-0.72 (1.44)	5.48 (1.38)
	Observer	75.17 (23.39)	16.90 (18.54)	61.38 (24.16)	81.72 (21.72)	4.17 (1.10)	-0.76 (1.50)	5.24 (1.62)
Non-Social								
Positive	Field	41.03 (33.95)	87.59 (13.27)	62.76 (24.77)	33.79 (27.31)	3.00 (0.96)	1.45 (1.09)	2.76 (1.81)
	Observer	44.48 (33.44)	83.79 (17.20)	52.41 (23.40)	33.10 (21.40)	3.07 (0.84)	1.48 (1.06)	2.62 (1.47)
Negative	Field	75.86 (18.81)	9.31 (9.23)	66.21 (22.27)	71.72 (25.92)	4.17 (1.28)	-0.45 (1.40)	5.79 (1.54)
	Observer	68.97 (27.69)	19.66 (23.53)	56.21 (23.52)	68.62 (22.00)	4.03 (1.12)	-0.48 (1.12)	5.48 (1.55)

Memory Type		Anxiety <i>M(SD)</i>	Happy <i>M(SD)</i>	Self-awareness <i>M(SD)</i>	Self-confidence <i>M(SD)</i>	How strong person felt <i>M(SD)</i>	Situation (how handled) <i>M(SD)</i>	Situation (handle again) <i>M(SD)</i>
Low Social Anxiety Group (<i>n</i> = 27)								
Social								
Positive	Field	30.37 (29.28)	80.37 (17.65)	61.11 (26.07)	33.33 (26.31)	3.11 (1.05)	1.93 (1.11)	2.30 (1.59)
	Observer	32.96 (30.99)	74.07 (17.82)	43.33 (23.20)	32.96 (25.39)	2.96 (0.81)	1.89 (0.97)	2.15 (1.49)
Negative	Field	57.41 (27.82)	26.30 (18.22)	65.19 (25.92)	64.44 (28.33)	3.48 (1.19)	-0.33 (1.82)	3.48 (1.83)
	Observer	64.07 (24.85)	28.15 (19.62)	55.56 (25.77)	69.26 (25.26)	3.67 (1.33)	-0.41 (1.39)	3.81 (1.71)
Non-Social								
Positive	Field	27.78 (28.33)	83.70 (19.25)	57.78 (26.79)	28.52 (25.53)	2.74 (1.13)	1.63 (1.04)	2.00 (1.52)
	Observer	34.07 (28.99)	79.63 (15.31)	53.33 (25.72)	33.70 (26.62)	2.81 (1.04)	1.63 (1.08)	2.56 (1.48)
Negative	Field	67.78 (24.70)	13.33 (13.59)	64.07 (28.86)	70.37 (26.38)	3.33 (1.62)	0.19 (1.84)	4.96 (2.01)
	Observer	67.78 (19.48)	17.41 (15.34)	65.19 (24.08)	67.04 (24.93)	3.19 (1.33)	0.26 (1.75)	4.85 (1.85)

There were no main effects or interactions involving perspective for three of the variables: self-confidence, how strong the person felt, or how well the individual thought that s/he had handled the situation.

Anxiety. There was a significant perspective x group interaction, $F(1, 54) = 4.47, p < .05$. HSA participants rated their field perspective memories as significantly more anxious than LSA individuals, $t(54) = 3.53, p < .001$, whereas there were no differences between the groups in their anxiety while recalling observer memories.

Happiness. There was a significant valence x perspective interaction, $F(1, 54) = 10.03, p < .01$, which revealed that for both field and observer perspectives, positive memories were rated as significantly happier than negative memories (Field memories, $t(55) = 27.59, p < .001$; Observer memories, $t(55) = 20.36, p < .001$). Furthermore, positive field memories were rated as significantly happier than positive observer memories, $t(55) = 3.02, p < .01$, whereas negative memories did not differ significantly.

Self-awareness. There was a significant main effect of perspective, $F(1, 54) = 19.61, p < .001$, which revealed that field memories were associated with a significantly greater degree of self-awareness than observer memories (Field memories $M = 63.35, SD = 25.81$; Observer memories $M = 54.82, SD = 24.73$).

Extent to which the same situation could be handled again. There were significant main effects of valence, $F(1, 54) = 153.13, p < .001$ and group, $F(1, 54) = 11.39, p = .001$, which were modified by a memory type x valence x perspective x group interaction, $F(1, 54) = 4.07, p < .05$. In order to explore this four-way

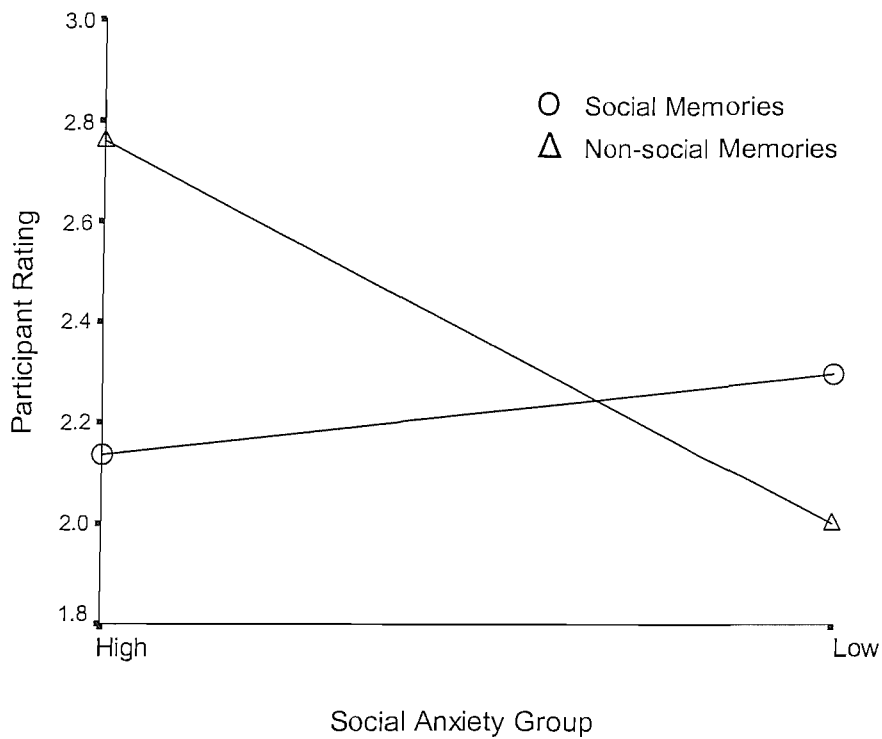
interaction further, positive and negative memories were examined separately using a 2 (group) x 2 (memory type) x 2 (perspective) analyses of variance.

For positive memories, there was a significant memory type x perspective x group interaction, $F(1, 54) = 4.60, p < .05$. However, none of the post-hoc tests were significant suggesting that these differences may be trends (see Figure 1).

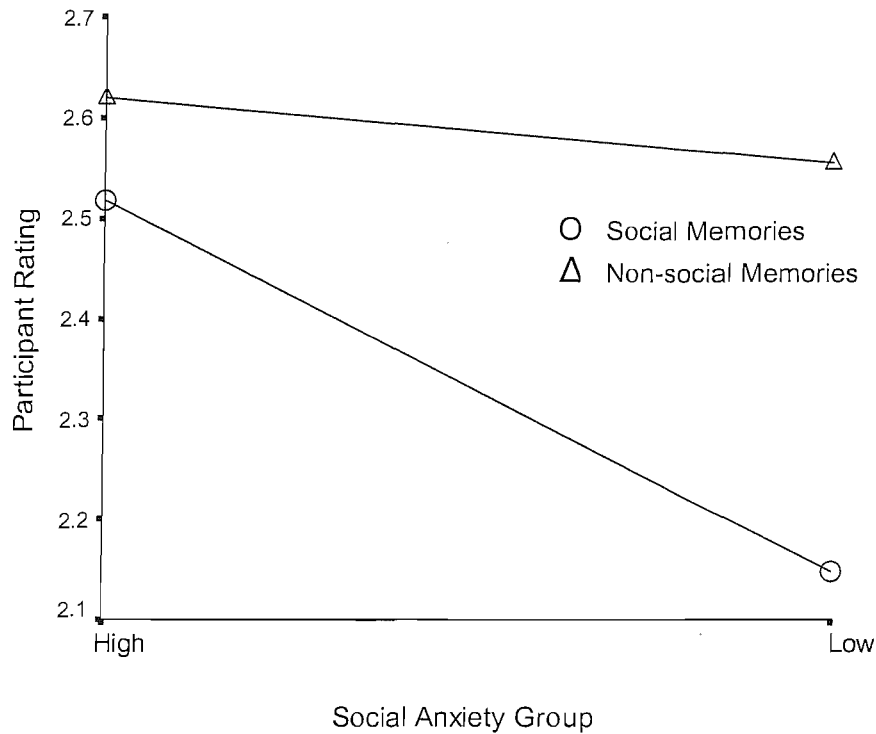
Figure 1.

Extent to Which the Situation Could be Handled Again

Field perspective.



Observer perspective.



Inspection of Figure 1 suggested that for field memories, HSA individuals felt that they could handle social memories better than non-social memories and that they would be less able to handle non-social memories in comparison to their LSA counterparts. However, with observer memories, HSA individuals did not appear to differ from the LSA group in how well they thought they could handle non-social memories, but rated their ability to handle social memories as lower than LSA individuals.

For negative memories there were no significant main effects or interactions involving perspective.

Discussion

The present study had three main aims. Firstly, to explore phenomenological differences between various categories of memory (positive social/non-social and negative social/non-social) in HSA and LSA individuals. Secondly, to investigate use of the observer perspective by HSA and LSA individuals in the recollection of different types of memory. Thirdly, to investigate the effect of switching perspective on selected phenomenological characteristics.

The first memories recalled by both HSA and LSA individuals were rated as significantly more accurate and detailed (and vivid for HSA individuals) than second memories. This finding may have implications for the validity of paradigms, which ask participants to generate numerous memories. Pronounced AM biases may only be a feature of initial spontaneous recollections, rather than being a general characteristic of all memories.

There were a number of similarities and differences in AM phenomenology between the two groups in this study. All participants rated negative memories as significantly more anxiety-provoking and less happy than positive memories, which supported the validity of the current experimental methodology and suggested that these self-generated recollections were indeed representative of a divide in memory valence. Furthermore, both groups perceived non-social memories as significantly more emotional than social memories. A possible explanation for this finding relates to differences in the types of events recalled in each category. Non-social memories typically reflected major life events, such as the death of a relative or achievement of a notable goal, whereas social memories consisted largely of more routine activities,

such as going to a party with friends. Additionally, both groups reported a higher degree of self-awareness in all negative memories compared to positive memories, suggesting that increased levels of introspection may be a general characteristic of negative memories.

With respect to between-group differences, a clear pattern was not evident. Individuals in the HSA group demonstrated a number of general negative biases in AM, for instance rating all memories as significantly more anxiety-provoking than their LSA counterparts. Furthermore HSA individuals perceived themselves as significantly weaker people than the LSA group and felt that they had handled the situation significantly worse across all memory types. This suggests that HSA individuals have an elevated level of global anxiety and negative self-appraisal, which was independent of memory type. This is consistent with recent research suggesting that social anxiety may be characterised by the absence of a positive bias in addition to pronounced negative biases (Hirsch & Matthews, 2000). Thus, HSA individuals may not only interpret negative situations as more negative than LSA participants but they may also perceive positive information less favourably.

When asked to rate how positive the experience was and associated levels of happiness, the HSA group indicated that their negative memories were significantly unhappier and more negative than those of their LSA counterparts. This may reflect LSA individuals' greater ability to perceive the positive aspects of a negative event, in contrast to a tendency exhibited by HSA participants to dwell upon the negative factors. On the other hand, there was no significant difference between the groups for positive memories, which is inconsistent with the notion of an absent positive bias. However, LSA individuals' ability to see positive aspects of a negative experience

may indicate greater cognitive flexibility that is protective in negative situations. One key component of cognitive behavioural therapy is increasing cognitive flexibility, and may account for its efficacy in treating social phobia (e.g. Gould, Buckminster, Pollack, Otto, & Yap, 1997).

HSA and LSA groups did not differ in terms of the perceived implications of the experience and the personal meaning of the memory. The latter finding is interesting as it suggests that while HSA individuals make more negative self-appraisals about their positive and negative memories compared to LSA people, they do not adopt these at the level of self-concept. If this were the case, potential clinical implications for social phobia suggest that it might be more therapeutically effective to focus upon the manner in which an individual appraises a situation rather than intervention at the level of core beliefs. This might be an interesting area for future research.

In contrast, a specific negative bias was demonstrated by HSA individuals in negative social memories with respect to self-confidence and the extent to which they felt able to handle the same situation again. These individuals reported significantly more negative ratings on these characteristics for social negative memories, whereas they did not differ significantly from their LSA counterparts for other memories. This suggested that HSA individuals lacked self-confidence and self-efficacy but only in socially threatening situations.

There were no between-group differences in terms of how much individuals had talked or thought about their memories. On the basis of Clark and Wells' (1995) model, it might be expected that HSA individuals would think about negative social memories significantly more frequently than the LSA group, due to anticipatory and

post-event processing. Whilst the present findings appear to be inconsistent with this model, the results fit with recent research reporting that while socially anxious individuals experienced an almost identical number of negative and positive thoughts to non-anxious controls, this was offset by the fact that controls made more positive interpretations (Constans, Penn, Ihen, & Hope, 1999).

In summary, whilst this exploratory analysis of phenomenological differences in AM between HSA and LSA individuals did not reveal a clear pattern, it did indicate that HSA individuals exhibited a variety of negative biases. These findings provide some support for Clark and Wells' (1995) model, as HSA individuals indicated reduced self-confidence specifically for negative social memories and reported feeling less able to handle the same negative social situation again, which may be linked to negative anticipatory processing. However, the findings also suggested the presence of increased levels of anxiety and negative self-appraisal across all memory types. Furthermore, HSA individuals were unable to perceive positive aspects in both social and negative non-social negative memories. Consequently, the HSA group exhibited more global negative biases in AM than would be expected on the basis of Clark and Wells' (1995) model. This suggests that negative information processing biases operate at a variety of levels and further investigation is necessary.

This study indicated that there were no significant differences between HSA and LSA individuals in their use of perspective in any of the four memory categories. However, visual examination of the data revealed some interesting trends. Consistent with previous research (e.g. Wells et al., 1998), both groups demonstrated a greater tendency to report a field perspective in the recall of non-social compared to social

memories. Furthermore, there was a trend in both groups to use the observer perspective more for negative social compared to other memories. Consequently, the current findings did not support predictions derived from Clark and Wells' (1995) model.

Methodological difficulties might account for the failure to show an increased use of the observer perspective in HSA participants in this study. Previous studies (e.g. Wells & Papageorgiou, 1999) have used a -3 (field) to +3 (observer) scale to measure perspective, whereas this investigation used a categorical distinction, as employed by Nigro and Neisser (1983). The use of a dimensional scale may conflate measurement of perspective with the time spent using the perspective because it suggests that participants are switching perspective. For example, a score of 0 on this scale might imply that the individual is using both the field and observer perspectives. Current models of social anxiety do not account for this possible switching of perspective.

HSA individuals found it easier to switch perspective with social, compared to non-social memories. Whilst this is unexpected, it supports the idea that HSA individuals may not exclusively adopt an observer perspective in the recollection of memories but may switch between perspectives. Furthermore, the finding that HSA individuals found it easier to switch perspective for social memories suggests that the current understanding of the role of the observer perspective in maintaining social phobia may need to be developed further.

The effect of switching perspective led to some interesting differences in the associated phenomenological characteristics. HSA anxious individuals reported field memories as significantly more anxiety provoking than observer memories.

Furthermore, both HSA and LSA groups reported positive field memories as significantly happier than observer perspective memories. Field memories in general were also associated with a significantly greater degree of self-awareness than observer memories.

Although switching memory perspective led to differences in levels of affect and self-awareness, no significant differences were evident on characteristics relating to self-appraisal. Thus, whilst switching perspective led to changes in affect and self-awareness, these were not mirrored by cognitive appraisal. This raises the possibility that memory perspective may modulate the relationship between appraisal and affect.

In summary, the findings on switching perspective are consistent with Nigro and Neisser's (1988) and Robinson and Swanson's (1993) work rather than with Clark and Wells' (1995) model. The finding that HSA individuals reported field memories as significantly more anxiety-provoking than observer memories suggests that the observer perspective does not maintain social phobia through increasing levels of anxiety. Rather, the results suggest that the observer perspective might maintain social anxiety through emotional avoidance. This finding raises an interesting possibility regarding the use of the observer perspective over time, which could account for the discrepancy between the present findings and the work of Clark and Wells (1995). It is conceivable that the observer perspective might initially serve as an emotional avoidance strategy, which over time becomes increasingly associated with negative affect. Future research could consider the use and function of the observer perspective using longitudinal designs.

Several methodological limitations of the present study must be acknowledged. The current study employed an analogue sample and there might be

qualitative differences in information processing between analogue and clinical samples. However, this is the first study to provide general information about the phenomenological characteristics of different types of memory in HSA individuals and future research could explore the areas identified in this study in clinical populations. Secondly, the present study was concerned with investigating memories that were spontaneously recalled by individuals in order to enhance ecological validity. Consequently, it was assumed that the memories spontaneously generated by participants represented their most salient recollections for that particular memory type. However, it is possible that individuals did not recall their most emotional memories and consequently, the effect of any information biases may have been limited. This could explain why HSA individuals did not use the observer perspective significantly more than the LSA group in the recall of negative social memories, as the observer perspective has been associated with highly anxious but not moderate or low anxiety provoking situations (Coles et al., 2001).

A further limitation concerned the use of multiple ANOVAs, which may have inflated the possibility of a type 1 error occurring. However, due to the fact that this was an exploratory analysis, no statistical corrections were made to account for this, so as not to lose any experimental effect. Future studies should consider focussing on specific areas of the present work in order to control for this factor. Finally, the present investigation was only concerned with the effect of switching perspective but not the direction of the switch (i.e. field to observer or vice versa). However, Robinson and Swanson (1993) found that whilst levels of affect decreased when individuals shifted from a field to an observer perspective, no change was associated

with the converse shift. Consequently, it might be important for future studies to consider the direction of the perspective shift as an additional factor.

Despite these limitations, the present study provides some interesting findings and raises a number of questions for future research. For example, some of the methodological limitations could be overcome by conducting qualitative analyses of the participants' memory descriptions. In the present study, memory content might have varied significantly within each category. For instance, for a negative non-social memory, one individual may have recalled stubbing their toe, whilst another person may have recollected the death of a loved one. Future studies could employ a more systemic methodological procedure to help individuals identify their most salient memories by constructing a hierarchy of emotionally intense recollections.

The current investigation did not include a mood manipulation to enhance state levels of anxiety. Mathews and MacLeod (1994) have proposed that cognitive biases towards threat in non-clinical samples are more likely to manifest when there is a congruent mood state. It would be interesting to ascertain whether a mood manipulation condition would result in HSA individuals recalling more socially threatening memories, with more pronounced biases.

In conclusion, the present study is the first to provide information about the differences in the phenomenology of different types of memory in HSA and LSA individuals. Although the findings demonstrated no clear pattern, they suggested that HSA individuals exhibited a number of negative information processing biases that appeared to operate at a variety of levels. Two interesting findings emerged that were not consistent with predictions made on the basis of Clark and Wells' (1995) model of social phobia, and therefore warrant further investigation. Firstly, there were no

significant differences in the use of the observer perspective in different memory types and, secondly, the effect of switching memory perspective revealed that the field perspective was associated with significantly higher levels of affect than the observer perspective. In summary, this study contributes to the small evidence base regarding the role of AM in social anxiety and further research is required to inform our understanding of this potentially important area.

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Appendix A:

Guide for Authors: Literature Review

Guide for Authors

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ABSTRACT: An abstract should be submitted that does not exceed 200 words in length. This should be typed on a separate page following the title page.

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Appendix B:

Guide for Authors: Empirical Paper

Guide for Authors

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Provide the following data on the title page (in the order given).

Title. Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.

Author names and affiliations. Where the family name may be ambiguous (e.g., a double name), please indicate this clearly. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name, and, if available, the e-mail address of each author.

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Appendix C:

Memory Questionnaire (MCQ-SA): Part One

PHASE I

We are interested in your responses to questions about some of your memories for events from the past. We are going to ask you to remember two different types of memories, those which are ***SOCIAL*** and those which are ***NON-SOCIAL***.

Social memories refer to events and situations from the past where the opinions and views of others were important and may have included an element of social evaluation. Examples of this type of situation include giving a presentation and having a conversation with other people.

Non-social memories refer to events and situations where the opinions and views of other people were not important to the situation, even though other people may have been present. Examples of this type of situation include flying a kite in the park and being involved in an accident.

We are going to ask you to remember two positive and two negative memories for each of these two memory categories (i.e. social and non-social memories). Please choose memories for events or situations that occurred at least one year ago. Choose specific situations (e.g. a friend's birthday) rather than general or routine events (e.g. getting on a bus).

Positive social memories

Firstly, we would like you to remember two memories about **social** situations (i.e. when the opinions and views of others were important to the situation) that were positive experiences for you. This may include events that led you to feel happy and confident around others.

Please write a brief description of each memory and then write a cue word at the end that will help you to identify the memory later on in the booklet.

Write the first memory down here:

The cue word for this memory is _____

Write the second memory down here:

The cue word for this memory is _____

Negative social memories

We would now like you to remember two memories about **social** situations (i.e. when the opinions and views of others were important to the situation) that were negative experiences for you. This may include events that led you to feel embarrassed and unconfident around others.

Please write a brief description of each memory and then write a cue word at the end that will help you to identify the memory later on in the booklet.

Write the first memory down here:

The cue word for this memory is _____

Write the second memory down here:

The cue word for this memory is _____

Positive non-social memories

We would now like you to remember two memories about **non-social** situations (i.e. when the opinions and views of others were not important to the situation) that were positive experiences for you.

Write the first memory down here:

The cue word for this memory is _____

Write the second memory down here:

The cue word for this memory is _____

Negative non-social memories

We would now like you to remember two memories about **non-social** situations (i.e. when the opinions and views of others were not important to the situation) that were negative experiences for you.

Write the first memory down here:

The cue word for this memory is _____

Write the second memory down here:

The cue word for this memory is _____

Now we are going to ask you some questions about each of the memories. Now please consider your memory associated with the cue word _____ and complete the questions below.

1. How vivid was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all vivid						Extremely vivid

2. How detailed was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Very sketchy						Extremely detailed

3. Sometimes when we remember an event, we see it from a **first-person** perspective. This means that you see the memory from the same visual perspective as you originally did, that is, you are looking out at the surroundings through your own eyes.

However, at other times we remember events in a **third-person** or “**observer**” perspective. This means that you see the event from the visual perspective of an observer, that is, you can see yourself as well as your surroundings.

Which perspective did you recall this memory from? Please circle the one that applies to this memory.

First-person

Observer

Neither

4. How aware of yourself were you whilst you were **remembering** the event (i.e. in the present). Please circle a number on the scale below.

“Aware of yourself” means your attention is focussed on your self and on what you are thinking and feeling and on any bodily sensations.

0	10	20	30	40	50	60	70	80	90	100
Not at all aware of myself										Extremely aware of myself

5. Please provide an approximate date for this memory _____

6. Do you have any doubts about the accuracy of your memory for this event?
Please circle a number on the scale below.

1	2	3	4	5	6	7
A great deal of doubt						No doubt whatsoever

Please use the following rating scales to describe the associations that you have with the memory.

7. Mood and self-confidence

0	10	20	30	40	50	60	70	80	90	100
Not at all emotional										Extremely emotional

0	10	20	30	40	50	60	70	80	90	100
Not at all happy										Extremely happy

0	10	20	30	40	50	60	70	80	90	100
Not at all anxious										Extremely anxious

0	10	20	30	40	50	60	70	80	90	100
I felt very self-confident										I felt extremely unconfident

8. What this says about me and what I have learnt

1	2	3	4	5	6	7
This says little about me						This says a lot about me

1	2	3	4	5	6	7
I could easily handle the same situation again						I could not stand to be in the same situation again

1	2	3	4	5	6	7
I have learnt from the situation						I learnt nothing from the situation

3	2	1	0	-1	-2	-3
This was a really positive experience in the long-term			Neutral	This was a negative experience in the long-term		

9. Qualities

1	2	3	4	5	6	7
This shows I'm a strong person						This shows I'm a weak person

1	2	3	4	5	6	7
I appeared confident to others						I appeared extremely unconfident to others

10. Since this event happened, how often have you thought about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

11. Since this event happened, how much have you talked to others about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

12. How well do you think you handled this situation?

3	2	1	0	-1	-2	-3
Extremely well			Neither well or badly	Extremely badly		

13. Looking back, did this event have serious implications? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Definitely

Thank you. You have now finished the questions to do with this memory. Now please turn the page and continue.

Thank you. Now please consider your memory associated with the cue word _____ and complete the questions below.

1. How vivid was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all vivid						Extremely vivid

2. How detailed was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Very sketchy						Extremely detailed

3. Which perspective did you recall this memory from? Please circle the one that applies to this memory.

First-person

Observer

Neither

4. How aware of yourself were you whilst you were **remembering** the event (i.e. in the present). Please circle a number on the scale below.

“Aware of yourself” means your attention is focussed on your self and on what you are thinking and feeling and on any bodily sensations.

0	10	20	30	40	50	60	70	80	90	100
Not at all aware of myself										Extremely aware of myself

5. Please provide an approximate date for this memory _____

6. Do you have any doubts about the accuracy of your memory for this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
A great deal of doubt						No doubt whatsoever

Please use the following rating scales to describe the associations that you have with the memory.

7. Mood and self-confidence

0	10	20	30	40	50	60	70	80	90	100
Not at all emotional										Extremely emotional

0	10	20	30	40	50	60	70	80	90	100
Not at all happy										Extremely happy

0	10	20	30	40	50	60	70	80	90	100
Not at all anxious										Extremely anxious

0	10	20	30	40	50	60	70	80	90	100
I felt very self-confident										I felt extremely unconfident

8. What this says about me and what I have learnt

1	2	3	4	5	6	7
This says little about me						This says a lot about me

1	2	3	4	5	6	7
I could easily handle the same situation again						I could not stand to be in the same situation again

1	2	3	4	5	6	7
I have learnt from the situation						I learnt nothing from the situation

3	2	1	0	-1	-2	-3
This was a really positive experience in the long-term						This was a negative experience in the long-term
Neutral						

9. Qualities

1	2	3	4	5	6	7
This shows I'm a strong person						This shows I'm a weak person

1	2	3	4	5	6	7
I appeared confident to others						I appeared extremely unconfident to others

10. Since this event happened, how often have you thought about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

11. Since this event happened, how much have you talked to others about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

12. How well do you think you handled this situation?

3	2	1	0	-1	-2	-3
Extremely well			Neither well or badly			Extremely badly

13. Looking back, did this event have serious implications? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Definitely

Thank you. You have now finished the questions to do with this memory. Now please turn the page and continue.

Thank you. Now please consider your memory associated with the cue word _____ and complete the questions below.

1. How vivid was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all vivid						Extremely vivid

2. How detailed was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Very sketchy						Extremely detailed

3. Which perspective did you recall this memory from? Please circle the one that applies to this memory.

First-person

Observer

Neither

4. How aware of yourself were you whilst you were **remembering** the event (i.e. in the present). Please circle a number on the scale below.

“Aware of yourself” means your attention is focussed on your self and on what you are thinking and feeling and on any bodily sensations.

0	10	20	30	40	50	60	70	80	90	100
Not at all aware of myself										Extremely aware of myself

5. Please provide an approximate date for this memory _____

6. Do you have any doubts about the accuracy of your memory for this event?
Please circle a number on the scale below.

1	2	3	4	5	6	7
A great deal of doubt						No doubt whatsoever

Please use the following rating scales to describe the associations that you have with the memory.

7. Mood and self-confidence

0	10	20	30	40	50	60	70	80	90	100
<hr/>										
Not at all emotional										Extremely emotional

0	10	20	30	40	50	60	70	80	90	100
<hr/>										
Not at all happy										Extremely happy

0	10	20	30	40	50	60	70	80	90	100
<hr/>										
Not at all anxious										Extremely anxious

0	10	20	30	40	50	60	70	80	90	100
<hr/>										
I felt very self-confident										I felt extremely unconfident

8. What this says about me and what I have learnt

1	2	3	4	5	6	7
<hr/>						
This says little about me						This says a lot about me

1	2	3	4	5	6	7
<hr/>						
I could easily handle the same situation again						I could not stand to be in the same situation again

1	2	3	4	5	6	7
<hr/>						
I have learnt from the situation						I learnt nothing from the situation

3	2	1	0	-1	-2	-3
<hr/>						
This was a really positive experience in the long-term			Neutral	This was a negative experience in the long-term		

9. Qualities

1	2	3	4	5	6	7
This shows I'm a strong person						This shows I'm a weak person

1	2	3	4	5	6	7
I appeared confident to others						I appeared extremely unconfident to others

10. Since this event happened, how often have you thought about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

11. Since this event happened, how much have you talked to others about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

12. How well do you think you handled this situation?

3	2	1	0	-1	-2	-3
Extremely well			Neither well or badly	Extremely badly		

13. Looking back, did this event have serious implications? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Definitely

Thank you. You have now finished the questions to do with this memory. Now please turn the page and continue.

Please use the following rating scales to describe the associations that you have with the memory.

7. Mood and self-confidence

0	10	20	30	40	50	60	70	80	90	100
Not at all emotional										Extremely emotional
0	10	20	30	40	50	60	70	80	90	100
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0	10	20	30	40	50	60	70	80	90	100
Not at all anxious										Extremely anxious
0	10	20	30	40	50	60	70	80	90	100
I felt very self-confident										I felt extremely unconfident

8. What this says about me and what I have learnt

1	2	3	4	5	6	7
This says little about me						This says a lot about me
1	2	3	4	5	6	7
I could easily handle the same situation again						I could not stand to be in the same situation again
1	2	3	4	5	6	7
I have learnt from the situation						I learnt nothing from the situation
3	2	1	0	-1	-2	-3
This was a really positive experience in the long-term						This was a negative experience in the long-term

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1	2	3	4	5	6	7
I appeared confident to others						I appeared extremely unconfident to others

10. Since this event happened, how often have you thought about this event? Please circle a number on the scale below.

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Not at all						Many times

11. Since this event happened, how much have you talked to others about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

12. How well do you think you handled this situation?

3	2	1	0	-1	-2	-3
Extremely well			Neither well or badly	Extremely badly		

13. Looking back, did this event have serious implications? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Definitely

Thank you. You have now finished the questions to do with this memory. Now please turn the page and continue.

Please use the following rating scales to describe the associations that you have with the memory.

7. Mood and self-confidence

	0	10	20	30	40	50	60	70	80	90	
	<hr/>										
Not at all emotional											100
											Extremely emotional
	0	10	20	30	40	50	60	70	80	90	
	<hr/>										
Not at all happy											100
											Extremely happy
	0	10	20	30	40	50	60	70	80	90	
	<hr/>										
Not at all anxious											100
											Extremely anxious
	0	10	20	30	40	50	60	70	80	90	
	<hr/>										
I felt very self-confident											100
											I felt extremely unconfident

8. What this says about me and what I have learnt

	1	2	3	4	5	6	7
	<hr/>						
This says little about me							This says a lot about me
	1	2	3	4	5	6	7
	<hr/>						
I could easily handle the same situation again							I could not stand to be in the same situation again
	1	2	3	4	5	6	7
	<hr/>						
I have learnt from the situation							I learnt nothing from the situation
	3	2	1	0	-1	-2	-3
	<hr/>						
This was a really positive experience in the long-term							This was a negative experience in the long-term

9. Qualities

1	2	3	4	5	6	7
This shows I'm a strong person						This shows I'm a weak person

1	2	3	4	5	6	7
I appeared confident to others						I appeared extremely unconfident to others

10. Since this event happened, how often have you thought about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

11. Since this event happened, how much have you talked to others about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

12. How well do you think you handled this situation?

3	2	1	0	-1	-2	-3
Extremely well			Neither well or badly			Extremely badly

13. Looking back, did this event have serious implications? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Definitely

Thank you. You have now finished the questions to do with this memory. Now please turn the page and continue.

Please use the following rating scales to describe the associations that you have with the memory.

7. Mood and self-confidence

0	10	20	30	40	50	60	70	80	90	100
Not at all emotional										Extremely emotional

0	10	20	30	40	50	60	70	80	90	100
Not at all happy										Extremely happy

0	10	20	30	40	50	60	70	80	90	100
Not at all anxious										Extremely anxious

0	10	20	30	40	50	60	70	80	90	100
I felt very self-confident										I felt extremely unconfident

8. What this says about me and what I have learnt

1	2	3	4	5	6	7
This says little about me						This says a lot about me

1	2	3	4	5	6	7
I could easily handle the same situation again						I could not stand to be in the same situation again

1	2	3	4	5	6	7
I have learnt from the situation						I learnt nothing from the situation

3	2	1	0	-1	-2	-3
This was a really positive experience in the long-term			Neutral	This was a negative experience in the long-term		

9. Qualities

1	2	3	4	5	6	7
This shows I'm a strong person						This shows I'm a weak person

1	2	3	4	5	6	7
I appeared confident to others						I appeared extremely unconfident to others

10. Since this event happened, how often have you thought about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

11. Since this event happened, how much have you talked to others about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

12. How well do you think you handled this situation?

3	2	1	0	-1	-2	-3
Extremely well			Neither well or badly			Extremely badly

13. Looking back, did this event have serious implications? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Definitely

Thank you. You have now finished the questions to do with this memory. Now please turn the page and continue.

Please use the following rating scales to describe the associations that you have with the memory.

7. Mood and self-confidence

0	10	20	30	40	50	60	70	80	90	100
<hr/>										
Not at all emotional										Extremely emotional
0	10	20	30	40	50	60	70	80	90	100
<hr/>										
Not at all happy										Extremely happy
0	10	20	30	40	50	60	70	80	90	100
<hr/>										
Not at all anxious										Extremely anxious
0	10	20	30	40	50	60	70	80	90	100
<hr/>										
I felt very self-confident										I felt extremely unconfident

8. What this says about me and what I have learnt

1	2	3	4	5	6	7
<hr/>						
This says little about me						This says a lot about me
1	2	3	4	5	6	7
<hr/>						
I could easily handle the same situation again						I could not stand to be in the same situation again
1	2	3	4	5	6	7
<hr/>						
I have learnt from the situation						I learnt nothing from the situation
3	2	1	0	-1	-2	-3
<hr/>						
This was a really positive experience in the long-term						This was a negative experience in the long-term

9. Qualities

1	2	3	4	5	6	7
This shows I'm a strong person						This shows I'm a weak person

1	2	3	4	5	6	7
I appeared confident to others						I appeared extremely unconfident to others

10. Since this event happened, how often have you thought about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

11. Since this event happened, how much have you talked to others about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

12. How well do you think you handled this situation?

3	2	1	0	-1	-2	-3
Extremely well			Neither well or badly			Extremely badly

13. Looking back, did this event have serious implications? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Definitely

Thank you. You have now finished the questions to do with this memory. Now please turn the page and continue.

Please use the following rating scales to describe the associations that you have with the memory.

7. Mood and self-confidence

0	10	20	30	40	50	60	70	80	90	100
<hr/>										
Not at all emotional										Extremely emotional
0	10	20	30	40	50	60	70	80	90	100
<hr/>										
Not at all happy										Extremely happy
0	10	20	30	40	50	60	70	80	90	100
<hr/>										
Not at all anxious										Extremely anxious
0	10	20	30	40	50	60	70	80	90	100
<hr/>										
I felt very self-confident										I felt extremely unconfident

8. What this says about me and what I have learnt

1	2	3	4	5	6	7
<hr/>						
This says little about me						This says a lot about me
1	2	3	4	5	6	7
<hr/>						
I could easily handle the same situation again						I could not stand to be in the same situation again
1	2	3	4	5	6	7
<hr/>						
I have learnt from the situation						I learnt nothing from the situation
3	2	1	0	-1	-2	-3
<hr/>						
This was a really positive experience in the long-term						This was a negative experience in the long-term

9. Qualities

1	2	3	4	5	6	7
This shows I'm a strong person						This shows I'm a weak person

1	2	3	4	5	6	7
I appeared confident to others						I appeared extremely unconfident to others

10. Since this event happened, how often have you thought about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

11. Since this event happened, how much have you talked to others about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

12. How well do you think you handled this situation?

3	2	1	0	-1	-2	-3
Extremely well			Neither well or badly	Extremely badly		

13. Looking back, did this event have serious implications? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Definitely

Thank you. You have now finished.

Appendix D:

Memory Questionnaire (MCQ-SA): Part Two

PHASE II

It is possible for people to choose to recall memories from either an observer or first-person perspective. In this section, we would like you to recall the memory that is related to the cue word from the perspective next to the cue word.

Observer perspective – In the observer perspective, you are on the outside looking in as if you were watching yourself. You might be able to see yourself in the memory as if you were an observer, watching the event or the experience.

First-person perspective – In the first-person perspective, you are remembering the event or situation “from the inside looking out”. In other words, you are seeing the memory from behind your own eyes and not from the viewpoint of an observer.

Please ask the experimenter if you are not clear about observer or first-person perspectives.

Please turn over...

Cue word _____

Perspective _____

How easy did you find it to switch the perspective for this memory?

1	2	3	4	5	6	7
Very easy						I was unable to do it

Please complete the following questions:

1. How vivid was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all vivid						Extremely vivid

2. How detailed was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Very sketchy						Extremely detailed

3. How aware of yourself were you whilst you were **remembering** the event (i.e. in the present). Please circle a number on the scale below.

“Aware of yourself” means your attention is focussed on your self and on what you are thinking and feeling and on any bodily sensations.

0	10	20	30	40	50	60	70	80	90	100
Not at all aware of myself										Extremely aware of myself

4. Do you have any doubts about the accuracy of your memory for this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
A great deal of doubt						No doubt whatsoever

Please use the following rating scales to describe the associations that you have with the memory.

5. Mood and self-confidence

	0	10	20	30	40	50	60	70	80	90	100
Not at all emotional											Extremely emotional
	0	10	20	30	40	50	60	70	80	90	100
Not at all happy											Extremely happy
	0	10	20	30	40	50	60	70	80	90	100
Not at all anxious											Extremely anxious
	0	10	20	30	40	50	60	70	80	90	100
I felt very self-confident											I felt extremely unconfident

6. What this says about me and what I have learnt

	1	2	3	4	5	6	7
This says little about me							This says a lot about me
	1	2	3	4	5	6	7
I could easily handle the same situation again							I could not stand to be in the same situation again
	1	2	3	4	5	6	7
I have learnt from the situation							I learnt nothing from the situation
	3	2	1	0	-1	-2	-3
This was a really positive experience in the long-term				Neutral			This was a negative experience in the long-term

7. Qualities

1	2	3	4	5	6	7
This shows I'm a strong person						This shows I'm a weak person

1	2	3	4	5	6	7
I appeared confident to others						I appeared extremely unconfident to others

8. Since this event happened, how often have you thought about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

9. Since this event happened, how much have you talked to others about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

10. How well do you think you handled this situation?

3	2	1	0	-1	-2	-3
Extremely well			Neither well or badly			Extremely badly

11. Looking back, did this event have serious implications? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Definitely

Thank you. You have now finished the questions to do with this memory. Now please turn the page and continue.

Cue word _____

Perspective _____

How easy did you find it to switch the perspective for this memory?

1	2	3	4	5	6	7
Very easy						I was unable to do it

Please complete the following questions:

1. How vivid was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all vivid						Extremely vivid

2. How detailed was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Very sketchy						Extremely detailed

3. How aware of yourself were you whilst you were **remembering** the event (i.e. in the present). Please circle a number on the scale below.

"Aware of yourself" means your attention is focussed on your self and on what you are thinking and feeling and on any bodily sensations.

0	10	20	30	40	50	60	70	80	90	100
Not at all aware of myself										Extremely aware of myself

4. Do you have any doubts about the accuracy of your memory for this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
A great deal of doubt						No doubt whatsoever

Please use the following rating scales to describe the associations that you have with the memory.

5. Mood and self-confidence

0	10	20	30	40	50	60	70	80	90	100
Not at all emotional										Extremely emotional

0	10	20	30	40	50	60	70	80	90	100
Not at all happy										Extremely happy

0	10	20	30	40	50	60	70	80	90	100
Not at all anxious										Extremely anxious

0	10	20	30	40	50	60	70	80	90	100
I felt very self-confident										I felt extremely unconfident

6. What this says about me and what I have learnt

1	2	3	4	5	6	7
This says little about me						This says a lot about me

1	2	3	4	5	6	7
I could easily handle the same situation again						I could not stand to be in the same situation again

1	2	3	4	5	6	7
I have learnt from the situation						I learnt nothing from the situation

3	2	1	0	-1	-2	-3
This was a really positive experience in the long-term						This was a negative experience in the long-term
Neutral						

7. Qualities

1	2	3	4	5	6	7
This shows I'm a strong person						This shows I'm a weak person

1	2	3	4	5	6	7
I appeared confident to others						I appeared extremely unconfident to others

8. Since this event happened, how often have you thought about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

9. Since this event happened, how much have you talked to others about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

10. How well do you think you handled this situation?

3	2	1	0	-1	-2	-3
Extremely well			Neither well or badly	Extremely badly		

11. Looking back, did this event have serious implications? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Definitely

Thank you. You have now finished the questions to do with this memory. Now please turn the page and continue.

Cue word _____

Perspective _____

How easy did you find it to switch the perspective for this memory?

1	2	3	4	5	6	7
Very easy						I was unable to do it

Please complete the following questions:

1. How vivid was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all vivid						Extremely vivid

2. How detailed was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Very sketchy						Extremely detailed

3. How aware of yourself were you whilst you were **remembering** the event (i.e. in the present). Please circle a number on the scale below.

“Aware of yourself” means your attention is focussed on your self and on what you are thinking and feeling and on any bodily sensations.

0	10	20	30	40	50	60	70	80	90	100
Not at all aware of myself										Extremely aware of myself

4. Do you have any doubts about the accuracy of your memory for this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
A great deal of doubt						No doubt whatsoever

Please use the following rating scales to describe the associations that you have with the memory.

5. Mood and self-confidence

0	10	20	30	40	50	60	70	80	90	100
Not at all emotional										Extremely emotional

0	10	20	30	40	50	60	70	80	90	100
Not at all happy										Extremely happy

0	10	20	30	40	50	60	70	80	90	100
Not at all anxious										Extremely anxious

0	10	20	30	40	50	60	70	80	90	100
I felt very self-confident										I felt extremely unconfident

6. What this says about me and what I have learnt

1	2	3	4	5	6	7
This says little about me						This says a lot about me

1	2	3	4	5	6	7
I could easily handle the same situation again						I could not stand to be in the same situation again

1	2	3	4	5	6	7
I have learnt from the situation						I learnt nothing from the situation

3	2	1	0	-1	-2	-3
This was a really positive experience in the long-term						This was a negative experience in the long-term
Neutral						

7. Qualities

1	2	3	4	5	6	7
This shows I'm a strong person						This shows I'm a weak person

1	2	3	4	5	6	7
I appeared confident to others						I appeared extremely unconfident to others

8. Since this event happened, how often have you thought about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

9. Since this event happened, how much have you talked to others about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

10. How well do you think you handled this situation?

3	2	1	0	-1	-2	-3
Extremely well			Neither well or badly		Extremely badly	

11. Looking back, did this event have serious implications? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Definitely

Thank you. You have now finished the questions to do with this memory. Now please turn the page and continue.

Cue word _____

Perspective _____

How easy did you find it to switch the perspective for this memory?

1	2	3	4	5	6	7
Very easy						I was unable to do it

Please complete the following questions:

1. How vivid was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all vivid						Extremely vivid

2. How detailed was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Very sketchy						Extremely detailed

3. How aware of yourself were you whilst you were **remembering** the event (i.e. in the present). Please circle a number on the scale below.

“Aware of yourself” means your attention is focussed on your self and on what you are thinking and feeling and on any bodily sensations.

0	10	20	30	40	50	60	70	80	90	100
Not at all aware of myself										Extremely aware of myself

4. Do you have any doubts about the accuracy of your memory for this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
A great deal of doubt						No doubt whatsoever

Please use the following rating scales to describe the associations that you have with the memory.

5. Mood and self-confidence

0	10	20	30	40	50	60	70	80	90	100
Not at all emotional										Extremely emotional
0	10	20	30	40	50	60	70	80	90	100
Not at all happy										Extremely happy
0	10	20	30	40	50	60	70	80	90	100
Not at all anxious										Extremely anxious
0	10	20	30	40	50	60	70	80	90	100
I felt very self-confident										I felt extremely unconfident

6. What this says about me and what I have learnt

1	2	3	4	5	6	7
This says little about me						This says a lot about me
1	2	3	4	5	6	7
I could easily handle the same situation again						I could not stand to be in the same situation again
1	2	3	4	5	6	7
I have learnt from the situation						I learnt nothing from the situation
3	2	1	0	-1	-2	-3
This was a really positive experience in the long-term						This was a negative experience in the long-term

7. Qualities

1	2	3	4	5	6	7
This shows I'm a strong person						This shows I'm a weak person

1	2	3	4	5	6	7
I appeared confident to others						I appeared extremely unconfident to others

8. Since this event happened, how often have you thought about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

9. Since this event happened, how much have you talked to others about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

10. How well do you think you handled this situation?

3	2	1	0	-1	-2	-3
Extremely well			Neither well or badly			Extremely badly

11. Looking back, did this event have serious implications? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Definitely

Thank you. You have now finished the questions to do with this memory. Now please turn the page and continue.

Cue word _____

Perspective _____

How easy did you find it to switch the perspective for this memory?

1	2	3	4	5	6	7
Very easy						I was unable to do it

Please complete the following questions:

1. How vivid was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all vivid						Extremely vivid

2. How detailed was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Very sketchy						Extremely detailed

3. How aware of yourself were you whilst you were **remembering** the event (i.e. in the present). Please circle a number on the scale below.

“Aware of yourself” means your attention is focussed on your self and on what you are thinking and feeling and on any bodily sensations.

0	10	20	30	40	50	60	70	80	90	100
Not at all aware of myself										Extremely aware of myself

4. Do you have any doubts about the accuracy of your memory for this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
A great deal of doubt						No doubt whatsoever

Please use the following rating scales to describe the associations that you have with the memory.

5. Mood and self-confidence

	0	10	20	30	40	50	60	70	80	90	
Not at all emotional											100 Extremely emotional

	0	10	20	30	40	50	60	70	80	90	
Not at all happy											100 Extremely happy

	0	10	20	30	40	50	60	70	80	90	
Not at all anxious											100 Extremely anxious

	0	10	20	30	40	50	60	70	80	90	
I felt very self-confident											100 I felt extremely unconfident

6. What this says about me and what I have learnt

	1	2	3	4	5	6		
This says little about me							7 This says a lot about me	

	1	2	3	4	5	6		
I could easily handle the same situation again							7 I could not stand to be in the same situation again	

	1	2	3	4	5	6		
I have learnt from the situation							7 I learnt nothing from the situation	

	3	2	1	0	-1	-2		
This was a really positive experience in the long-term				Neutral			-3 This was a negative experience in the long-term	

7. Qualities

1	2	3	4	5	6	7
This shows I'm a strong person						This shows I'm a weak person

1	2	3	4	5	6	7
I appeared confident to others						I appeared extremely unconfident to others

8. Since this event happened, how often have you thought about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

9. Since this event happened, how much have you talked to others about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

10. How well do you think you handled this situation?

3	2	1	0	-1	-2	-3
Extremely well			Neither well or badly	Extremely badly		

11. Looking back, did this event have serious implications? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Definitely

Thank you. You have now finished the questions to do with this memory. Now please turn the page and continue.

Cue word _____

Perspective _____

How easy did you find it to switch the perspective for this memory?

1	2	3	4	5	6	7
Very easy						I was unable to do it

Please complete the following questions:

- How vivid was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all vivid						Extremely vivid

- How detailed was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Very sketchy						Extremely detailed

- How aware of yourself were you whilst you were **remembering** the event (i.e. in the present). Please circle a number on the scale below.

“Aware of yourself” means your attention is focussed on your self and on what you are thinking and feeling and on any bodily sensations.

0	10	20	30	40	50	60	70	80	90	100
Not at all aware of myself										Extremely aware of myself

- Do you have any doubts about the accuracy of your memory for this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
A great deal of doubt						No doubt whatsoever

Please use the following rating scales to describe the associations that you have with the memory.

5. Mood and self-confidence

0	10	20	30	40	50	60	70	80	90	100
<hr/>										
Not at all emotional										Extremely emotional
0	10	20	30	40	50	60	70	80	90	100
<hr/>										
Not at all happy										Extremely happy
0	10	20	30	40	50	60	70	80	90	100
<hr/>										
Not at all anxious										Extremely anxious
0	10	20	30	40	50	60	70	80	90	100
<hr/>										
I felt very self-confident										I felt extremely unconfident

6. What this says about me and what I have learnt

1	2	3	4	5	6	7
<hr/>						
This says little about me						This says a lot about me
1	2	3	4	5	6	7
<hr/>						
I could easily handle the same situation again						I could not stand to be in the same situation again
1	2	3	4	5	6	7
<hr/>						
I have learnt from the situation						I learnt nothing from the situation
3	2	1	0	-1	-2	-3
<hr/>						
This was a really positive experience in the long-term						This was a negative experience in the long-term

7. Qualities

1	2	3	4	5	6	7
This shows I'm a strong person						This shows I'm a weak person

1	2	3	4	5	6	7
I appeared confident to others						I appeared extremely unconfident to others

8. Since this event happened, how often have you thought about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

9. Since this event happened, how much have you talked to others about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

10. How well do you think you handled this situation?

3	2	1	0	-1	-2	-3
Extremely well			Neither well or badly			Extremely badly

11. Looking back, did this event have serious implications? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Definitely

*Thank you. You have now finished the questions to do with this memory.
Now please turn the page and continue.*

Cue word _____

Perspective _____

How easy did you find it to switch the perspective for this memory?

1	2	3	4	5	6	7
Very easy						I was unable to do it

Please complete the following questions:

1. How vivid was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all vivid						Extremely vivid

2. How detailed was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Very sketchy						Extremely detailed

3. How aware of yourself were you whilst you were **remembering** the event (i.e. in the present). Please circle a number on the scale below.

“Aware of yourself” means your attention is focussed on your self and on what you are thinking and feeling and on any bodily sensations.

0	10	20	30	40	50	60	70	80	90	100
Not at all aware of myself										Extremely aware of myself

4. Do you have any doubts about the accuracy of your memory for this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
A great deal of doubt						No doubt whatsoever

Please use the following rating scales to describe the associations that you have with the memory.

5. Mood and self-confidence

0	10	20	30	40	50	60	70	80	90	100
Not at all emotional										Extremely emotional
<hr/>										
0	10	20	30	40	50	60	70	80	90	100
Not at all happy										Extremely happy
<hr/>										
0	10	20	30	40	50	60	70	80	90	100
Not at all anxious										Extremely anxious
<hr/>										
0	10	20	30	40	50	60	70	80	90	100
I felt very self-confident										I felt extremely unconfident

6. What this says about me and what I have learnt

1	2	3	4	5	6	7
This says little about me						This says a lot about me
<hr/>						
1	2	3	4	5	6	7
I could easily handle the same situation again						I could not stand to be in the same situation again
<hr/>						
1	2	3	4	5	6	7
I have learnt from the situation						I learnt nothing from the situation
<hr/>						
3	2	1	0	-1	-2	-3
This was a really positive experience in the long-term						This was a negative experience in the long-term

7. Qualities

1	2	3	4	5	6	7
This shows I'm a strong person						This shows I'm a weak person

1	2	3	4	5	6	7
I appeared confident to others						I appeared extremely unconfident to others

8. Since this event happened, how often have you thought about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

9. Since this event happened, how much have you talked to others about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

10. How well do you think you handled this situation?

3	2	1	0	-1	-2	-3
Extremely well			Neither well or badly	Extremely badly		

11. Looking back, did this event have serious implications? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Definitely

Thank you. You have now finished the questions to do with this memory. Now please turn the page and continue.

Cue word _____

Perspective _____

How easy did you find it to switch the perspective for this memory?

1	2	3	4	5	6	7
Very easy						I was unable to do it

Please complete the following questions:

1. How vivid was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all vivid						Extremely vivid

2. How detailed was this memory when you recalled it? Please circle a number on the scale below.

1	2	3	4	5	6	7
Very sketchy						Extremely detailed

3. How aware of yourself were you whilst you were **remembering** the event (i.e. in the present). Please circle a number on the scale below.

“Aware of yourself” means your attention is focussed on your self and on what you are thinking and feeling and on any bodily sensations.

0	10	20	30	40	50	60	70	80	90	100
Not at all aware of myself										Extremely aware of myself

4. Do you have any doubts about the accuracy of your memory for this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
A great deal of doubt						No doubt whatsoever

Please use the following rating scales to describe the associations that you have with the memory.

5. Mood and self-confidence

0	10	20	30	40	50	60	70	80	90	100
<hr/>										
Not at all emotional										Extremely emotional

0	10	20	30	40	50	60	70	80	90	100
<hr/>										
Not at all happy										Extremely happy

0	10	20	30	40	50	60	70	80	90	100
<hr/>										
Not at all anxious										Extremely anxious

0	10	20	30	40	50	60	70	80	90	100
<hr/>										
I felt very self-confident										I felt extremely unconfident

6. What this says about me and what I have learnt

1	2	3	4	5	6	7
<hr/>						
This says little about me						This says a lot about me

1	2	3	4	5	6	7
<hr/>						
I could easily handle the same situation again						I could not stand to be in the same situation again

1	2	3	4	5	6	7
<hr/>						
I have learnt from the situation						I learnt nothing from the situation

3	2	1	0	-1	-2	-3
<hr/>						
This was a really positive experience in the long-term						This was a negative experience in the long-term
Neutral						

7. Qualities

1	2	3	4	5	6	7
This shows I'm a strong person						This shows I'm a weak person

1	2	3	4	5	6	7
I appeared confident to others						I appeared extremely unconfident to others

8. Since this event happened, how often have you thought about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

9. Since this event happened, how much have you talked to others about this event? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Many times

10. How well do you think you handled this situation?

3	2	1	0	-1	-2	-3
Extremely well			Neither well or badly			Extremely badly

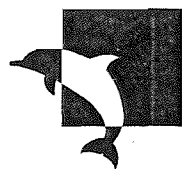
11. Looking back, did this event have serious implications? Please circle a number on the scale below.

1	2	3	4	5	6	7
Not at all						Definitely

Thank you. You have now finished

Appendix E:

University Ethics Approval



**University
of Southampton**

School of Psychology

University of Southampton Tel +44 (0)23 8059 3995
Highfield Southampton Fax +44 (0)23 8059 4597
SO17 1BJ United Kingdom

5 August 2004

Ross Crowther-Green
School of Psychology
University of Southampton
Highfield
Southampton SO17 1BJ

Dear Ross,

Re: The Role of Autobiographical Memory in Social Anxiety

I am writing to confirm that the above titled ethics application was approved by the School of Psychology Ethical Committee on 9 October 2003.

Should you require any further information, please do not hesitate in contacting me on 023 8059 3995.

Please quote approval reference number CLIN/03/21.

Yours sincerely,

A handwritten signature in black ink that reads "Kathryn Lucas".

Kathryn Lucas
Secretary to the Ethics Committee

Appendix F:

Information Sheet and Consent Form

CONSENT FORMResearcher

Ross Crowther-Green, Trainee Clinical Psychologist.

Information sheet

I am Ross Crowther-Green, a Trainee Clinical Psychologist at the University of Southampton. I am requesting your participation in a study that is looking at the effect of recalling memories from different perspectives. This will involve you attending on two separate occasions, approximately one week apart, with each session lasting approximately one hour. You will be asked to recall a number of memories for some given categories and to answer some questions related to these. At the second session, you will be prompted to recall the same memories but from a different perspective and then to answer the same questions again. Personal information will not be released to or viewed by anyone other than the researchers involved in this project and the results of this study will not include your name or other identifying characteristics.

Your participation is voluntary and you may withdraw your participation at any time. If you choose not to participate there will be no consequences to your grade or to your treatment as a student in the Psychology Department. If you have any questions, please ask them now, or contact me, Ross Crowther-Green at the Clinical Psychology Office (tel. 02380 595321).

Statement of consent

I _____ have read the above informed consent form.

I understand that I may withdraw my consent and discontinue participation at any time without penalty or loss of benefit to myself. I understand that data collected as part of this research project will be treated confidentially and that published results of this research project will maintain my confidentiality. In signing this consent letter, I am not waiving my legal claims, rights or remedies. A copy of this consent letter will be offered to me.

(Please circle YES or NO)

I give consent to participate in the above study. YES NO

Signature _____ Date _____

Name _____

I understand that if I have questions about my rights as a participant in this research, or if I feel that I have been placed at risk, I can contact the Chair of the Ethics Committee, Department of Psychology, University of Southampton, Southampton, SO17 1BJ. Phone: (023) 80593995.

Appendix G:

Written Debrief Information Sheet

DEBRIEFING STATEMENT

Title:

Effect of memory perspective on thoughts and feelings in individuals with high and low social anxiety.

Researcher:

Ross Crowther-Green (Trainee Clinical Psychologist).

Research has shown that individuals typically recall events from either an Observer Perspective (OP) or Field Perspective (FP). The OP refers to memories recalled from a third-person perspective, in which individuals can see themselves and their surroundings, like that of an observer. The FP refers to memories that are recalled from a first-person perspective, in which individuals see the memory from the same visual perspective as they originally did, that is, they are looking out at the surroundings through their own eyes. It is now widely accepted that the memory perspective adopted for an event is determined at the point of recall, rather than at the time of storage. There are currently contrasting predictions as to the effect of memory perspective recall. For instance, the cognitive model of social phobia (Clark & Wells, 1995) suggests that the recall of social memories from an OP is common in individuals with high social anxiety and should be associated with increased negative thoughts and feelings in comparison to the same event recalled from an FP. However, research in the Memory literature (e.g. Libby & Eibach, 2000) suggests that memories recalled from an OP are associated with decreased levels of negative thoughts and feelings.

Therefore, the aim of the present study was to address this discrepancy by investigating the effect of switching memory perspective on thoughts and feelings in individuals with high and low levels of social anxiety. This was broadly an exploratory study and therefore pre-experiment predictions were very limited. However, on the basis of existing research, it was predicted that individuals with higher levels of social anxiety would be more likely to spontaneously recall negative social memories from an OP.

Your data is extremely useful and it will help to further our understanding of the effect of how memories are recalled. This is especially important in the field of Clinical Cognitive Therapy, as it is often the recall of distressing events that leads to the onset of psychological difficulties in individuals. Once again, the results of this study will not include your name or other identifying characteristics. The experiment did not use deception. You may have a copy of this summary if you wish and a concise summary of the results will be available once the data is analysed. Please indicate to the experimenter if you wish to receive a copy of this.

Please note that very occasionally the recall of some memories can lead to feelings of distress. If you should experience any distress following the present study, please contact either your General Practitioner or the University Counselling Service which can be contacted at:

Please turn over:

Main Office Highfield Campus
University of Southampton Counselling Service
11/12 University Crescent
Highfield
Southampton
Hampshire
SO171HE

Tel: +44 (0)23 80593719 (internal 23719)
Email: counser@soton.ac.uk

If you have any further questions, please contact me [Ross Crowther-Green] at the Clinical Psychology Office [tel. 02380 595321].

Thank you for your participation in this research.

Signature _____ Date _____

Name _____

If you have any questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee, Department of Psychology, University of Southampton, Southampton, SO17 1BJ.
Phone: (023) 80593995.

Appendix H:

Full Results: Switching Perspective

Anxiety

There was a significant main effect of valence, $F(1, 54) = 106.51, p < .001$, which showed that negative memories were rated as significantly more anxiety provoking than positive memories (Negative memories $M = 70.00, SD = 24.16$; Positive memories $M = 35.18, SD = 22.09$).

There was also a significant main effect of group, $F(1, 54) = 6.46, p < .05$, which was modified by a perspective x group interaction, $F(1, 54) = 4.47, p < .05$. Investigation of this showed that HSA participants rated their field perspective memories as significantly more anxious than LSA individuals, $t(54) = 3.53, p < .001$, whereas there were no differences between the groups in their anxiety while recalling observer memories.

Happiness

There was a significant main effect of valence, $F(1, 54) = 771.15, p < .001$, which was modified by a valence x group, $F(1, 54) = 6.17, p < .05$, memory type x valence, $F(1, 54) = 7.86, p < .05$ and valence x perspective, $F(1, 54) = 10.03, p < .01$ interactions.

Investigation of the valence x group interaction revealed that both HSA and LSA groups rated positive memories as significantly happier than negative memories (HSA group, $t(28) = 23.86, p < .001$; LSA group, $t(26) = 16.18, p < .001$). Individuals in the HSA group rated positive memories as significantly happier than the LSA group, $t(54) = 2.09, p < .05$, whilst the groups did not differ significantly on negative memories.

Analysis of the memory type x valence interaction showed that both positive social and positive non-social memories were rated as significantly happier than their negative counterparts (Social memories, $t(55) = 17.85, p < .001$; Non-social memories, $t(55) = 26.24, p < .001$). However, negative social memories were rated as significantly happier than negative non-social memories, $t(55) = 2.72, p < .01$, whilst scores on the positive memories did not differ significantly.

Investigation of the valence x perspective interaction found that for both field and observer perspectives, positive memories were rated as significantly happier than negative memories (Field memories, $t(55) = 27.59, p < .001$; Observer memories, $t(55) = 20.36, p < .001$). Furthermore, positive field memories were rated as significantly happier than positive observer memories, $t(55) = 3.02, p < .01$, whereas negative memories did not differ significantly.

Self-Awareness

There was a significant main effect of perspective, $F(1, 54) = 19.61, p < .001$, which revealed that field memories were associated with a significantly greater degree of self-awareness than observer memories (Field memories $M = 63.35, SD = 25.81$; Observer memories $M = 54.82, SD = 24.73$).

There was also a significant main effect of valence, $F(1, 54) = 16.20, p < .001$, which showed that negative memories were associated with significantly higher levels of self-awareness than positive memories (Positive memories $M = 55.45, SD = 25.62$; Negative memories $M = 62.72, SD = 25.13$).

Self-Confidence

There was a significant main effect of valence, $F(1, 54) = 143.65, p < .001$, which revealed that positive memories were associated with significantly higher ratings of self-confidence than negative memories (Positive memories $M = 32.59, SD = 25.05$; Negative memories $M = 72.23, SD = 24.52$).

How Strong the Person Felt

There were a significant main effect of memory type, $F(1, 54) = 4.40, p < .05$, which showed that non-social memories were associated with feeling like a significantly stronger person than social memories (Non-social memories $M = 3.30, SD = 1.27$; Social memories $M = 3.52, SD = 1.26$).

There was a significant main effect of valence, $F(1, 54) = 22.58, p < .001$. Positive memories were associated with feeling like a significantly stronger person than negative memories (Positive memories $M = 3.02, SD = 1.05$; Negative memories $M = 3.80, SD = 1.34$).

There was also a significant main effect of group, $F(1, 54) = 8.25, p < .01$, which showed that LSA participants reported feeling significantly stronger people than their HSA counterparts (LSA group $M = 3.20, SD = 1.25$; HSA group $M = 3.62, SD = 1.25$).

How Well the Individual Thought They Handled the Situation

There was a significant main effect of group, $F(1, 54) = 8.25, p < .01$. Individuals in the LSA group perceived that they handled the situation significantly

better than individuals in the HSA group (LSA group $M = .82$, $SD = 1.71$; HSA group $M = .48$, $SD = 1.62$).

There was also a main effect of valence, $F(1, 54) = 101.61$, $p < .001$, which was modified by a memory type x valence interaction, $F(1, 54) = 5.30$, $p < .05$.

Investigation of this interaction revealed that both positive social and non-social memories were rated as having been handled significantly better than their negative counterparts (Social memories, $t(55) = 9.25$, $p < .001$; Non-social memories, $t(55) = 7.38$, $p < .001$). Negative non-social memories were rated as having been handled significantly better than negative social memories, $t(55) = -2.17$, $p < .05$, whereas positive social and non-social memories did not differ significantly.

Extent to Which the Same Situation Could be Handled Again

There were main effects of memory type, $F(1, 54) = 6.62$, $p < .05$, valence, $F(1, 54) = 188.14$, $p < .001$ and group, $F(1, 54) = 12.93$, $p = .001$, which were modified by a memory type x valence x perspective x group interaction, $F(1, 54) = 4.07$, $p < .05$.

In order to explore this four-way interaction further, positive and negative memories were examined separately using a 2 (group) x 2 (memory type) x 2 (perspective) analyses of variance.

For positive memories (please see pp. 92-93).

For negative memories there were significant main effects of memory type, $F(1, 54) = 7.67$, $p < .01$ and group, $F(1, 54) = 17.58$, $p < .01$. Investigation of the significant main effect of memory type revealed that participants thought that they

could handle social memories again significantly better than non-social memories (Social memories $M = 4.54$, $SD = 1.66$; Non-social memories $M = 5.29$, $SD = 1.60$).

Post-hoc analysis of the main effect of group showed that LSA individuals perceived being able to handle the same situation again significantly better than their HSA counterparts (LSA group $M = 3.96$, $SD = 2.04$; HSA group $M = 4.84$, $SD = 1.96$).