

**‘It’s Just Your Imagination’:
Fantasy Proneness and Social Anxiety**

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Abstract

Self-imagery plays a significant role in the development and maintenance of social anxiety (Hirsch, Clark and Mathews, 2006a). As a feared social event is anticipated, negative self-images become activated and this increases the experience of anxiety (Hirsch & Holmes, 2007). These continue to be present during the social event and become reinforced by negative interpretations of self-performance as well as by the responses of others (Hirsch, Clark, Mathews & Williams, 2003). Mental imagery is a key characteristic of fantasy proneness where the ability to generate vivid imagery forms part of imaginal ability (Sanchez-Bernados & Avia, 2004). This study investigated the relationship between fantasy proneness and social anxiety. As anticipation of a feared event plays a pivotal role in social anxiety; the establishment of a positive relationship between fantasy proneness (imaginal ability) and social anxiety may shed light on the role that imagination and fantasy play in how a socially anxious person imagines a feared event, which then contributes to the experience of social anxiety. The implications of a relationship between these constructs may indicate the role which imaginal ability (fantasy proneness) could play in underlying and maintaining social anxiety. Two self-report measures (the Creative Experiences Questionnaire and the self-report version of the Liebowitz Social Anxiety Scale) were administered to a sample of 50 non-clinical participants; 38 females and 12 males, within the age range of 19 to 52 years old. Both scales have been found to have adequate psychometric properties internationally (Fresco, Coles, Heimberg, Liebowitz, Hami, Stein and Goetz, 2001; Merckelbach, Horselenberg & Muris, 2001). Whilst no psychometric information on the use of these scales in the

South African context could be found, the results of this study will contribute to the use of these scales in South Africa. The results of these scales were statistically correlated revealing that, within the research design and methodology parameters of this study, a weak, but significant, positive, relationship was found between the constructs of fantasy proneness and social anxiety. The implication of this finding is that imagination, as a cognitive process, plays a role in social anxiety. Clinically this suggests that whilst imaginative processes play a role in underlying social anxiety, they can also be utilised adaptively in cognitively countering social anxiety in a treatment context.

Declaration

I declare that this research report is my own, unaided work. It is being submitted for the Degree of Masters of Arts (Clinical Psychology) at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other university.

Zureida Garda

Date

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“You are a ring-bearer Frodo, to bear a ring of power is to be alone.”

“Then I know what it is that I must do, it’s just, that I am afraid...”

“Even the smallest person can change the course of the future.”

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Chapter 1

Introduction

Imagination may be described as an ability to engage cognitively in processes of visualisation and fantasy, to create an image or sense within the mind's eye. The construct of imagination has been linked to that of fantasy, and an individual's ability to fantasise, day-dream and engage in visualisation (Sanchez-Bernados & Avia, 2004; Wilson & Barber, 1983). Imagination, which includes the ability to fantasise, can further be seen as an ability to create images, ideas or senses within the mind. Individuals with significant abilities in fantasising, and having active imaginal lives, have been defined by Wilson and Barber (1983) as 'fantasy prone' (Lynn & Rhue, 1988; Sanchez-Bernados & Avia, 2004).

Imagination and mental imagery can lead to physiological responsiveness, for example, when a person visualises that they are running, they can activate the muscles which they would use when actually running; this responsiveness can be measured by electromyography (Sadock & Sadock, 2003). Visualisation techniques and the use of imagination are also used in cognitive therapy as the role of imagination in countering negative schemas has been demonstrated (Wells, 2000). Imagery and visualisation techniques are also utilised in other treatment modalities such as clinical hypnotherapy, Gestalt therapy, Rational Emotional Behaviour Therapy and Neuro-Linguistic Programming (Joseph, 2004).

From a cognitive theoretical perspective, Wells (2000) sketches the operation of imagination where the imagining of a situation or scenario creates a cognitive and behavioural relationship with that situation, such that an individual is able to manipulate both how they think about, and how they may chose to behave, in a situation. This addresses the role of mental imagery in recognising potential outcomes for behaviour. He refers to the ability in early humans to plan the handling of threatening situations, without repeated exposure to real life threats, in order to survive. It is a capacity for imagining a situation, and its potential outcomes, that allows for planning and strategising on how to deal with the situation, and for considering the range of possible outcomes. It is the contention of this study that these mechanisms of imaginal processing play a role in the anticipation of an event, anticipation being a defining characteristic of social anxiety. Social anxiety is characterised by physiological fear responses, or a subjective feeling of anxiety, to social situations and encounters. Social anxiety is also referred to as social phobia (particularly once clinically diagnosed) and is characterised by intense and persistent fear of potential embarrassment, and evaluation by others, in social situations (Sadock & Sadock, 2003). The anticipation of feared social situations plays a particular role for individuals with social anxiety, where the cognitive processes involved in the anticipation serve to manifest and maintain the experience of anxiety (Hinrichsen & Clark, 2003).

Taking into consideration the link between imaginal ability and fantasy in fantasy prone individuals, as well as the potential association between imagination and

visualisation in the anticipation of events in social anxiety, within the framework of a cognitive theoretical model, it is the hypothesis of this study that a relationship may exist between fantasy proneness and social anxiety.

Chapter 2 examines the literature and theoretical explanations of fantasy proneness and social anxiety, in order to establish a theoretical framework within which to understand the operation and workings of the constructs of fantasy proneness and social anxiety. Outlining the link between imagination and fantasy proneness, this chapter reviews the literature in the field to explain the construct of fantasy proneness. Similarly, social anxiety is discussed from within a cognitive theoretical paradigm, looking particularly at the cognitive biases which have been found to play a role in the development and maintenance of social anxiety.

Chapter 3 presents the research question and then outlines the methodology employed by the study. The research design and its parameters are presented, as well as a discussion of the instruments and their psychometric properties utilised in the study, namely the Creative Experiences Questionnaire (CEQ) and the Liebowitz Social Anxiety Scale (self-report version; LSAS-SR).

Chapter 4 presents the results of the correlation of the scores from the CEQ and the LSAS-SR, Pearson product-moment correlations are presented, as well as the Cronbach's Alphas calculated to determine the reliability and internal consistency of the scales.

Chapter 5 presents the discussion which explicates the findings of the study. A comparison between this study and the findings of other studies, using the CEQ and LSAS-SR, is presented, as well as a discussion of the limitations of this study. The implications of a relationship between fantasy proneness and social anxiety would demonstrate that imaginative processes play a role in the development and maintenance of social anxiety. If such a role were to be found, it would mean that the use and operation of imagination, in the theoretical understanding, and treatment of social anxiety, would need to be further investigated and explored.

The aim of this research report is to examine whether a relationship exists between fantasy proneness and social anxiety. As anticipation of a feared event plays a pivotal role in social anxiety, the establishment of a relationship between fantasy proneness and social anxiety may shed light on the role which imagination and fantasy play in the experience of social anxiety. If such a role were to be found, the implications of the findings would impact on both the understanding of, and clinical approach to, treating social anxiety disorders.

Chapter 2

Literature Review

Wells (2000) highlights the role of imagery in cognitive processing in terms of the regulation of behaviour and action, such that an individual is cognitively able to plan how to deal with a potential threat, without having to encounter the actual threat. According to Wells (2000), “Imagery provides a ‘virtual world’ for programming procedural knowledge that avoids the dangers of on-line behavioural practice during exposure to actual danger” (p. 30). He asserts that by engaging in the imagining of an event or situation, a cognitive-behavioural association is made with that imagined event or situation (Wells, 2000). In other words, the act of imagining creates a cognitive and behavioural relationship with that which is imagined.

In social anxiety, socially anxious individuals are thought to engage in biased cognitive processes which contribute to the experience of social anxiety (Hirsch, Clark & Mathews, 2006a). It is the hypothesis of this study that imagination may play a role as part of biased cognitive processes, in the way in which an anticipated event is thought about, or imagined, in social anxiety. It is possible that the fantasy proneness constructs of vivid mental imagery (Wilson & Barber, 1983), heightened sensory awareness and experience, and the difficulty in distinguishing between fantasy and reality (Sanchez-Bernados & Avia, 2004), which will be discussed in more detail later in this chapter, could play a role in the cognitive processing involved in social anxiety.

This study is located within the cognitive theoretical realm, examining the role of cognition within social anxiety, particularly in terms of the cognitive biases which operate in the development, and maintenance, of social anxiety. Imagination is also considered within the cognitive domain, looking particularly at fantasy proneness as a facet of imagination, and its possible role in social anxiety.

The construct of fantasy proneness will now be explored to elucidate how it is conceptualised in this study. Social anxiety will then be discussed within the context of anxiety disorders, with emphasis on cognitive processes. The cognitive biases operational in social anxiety will be outlined with specific focus on the role of negative self-imagery, as well as the role of anticipatory processing, in maintaining social anxiety.

1. Fantasy and Imagination

Fantasy is linked to an active imaginal life, which is characterised by vivid mental imagery, day-dreaming and an ability to create rich sensory experiences within the mind (Sanchez-Bernados & Avia, 2004; Wilson & Barber, 1983). Fantasy can be seen to incorporate daydreaming, dreams of the future, reveries, imagery, imagined scripts and scenarios, which draw from the emotional, psychological and cultural experiences of the individual (Hirsch, Clark & Andrews, 2006a; Sanchez-Bernados & Avia, 2004).

“Fantasy is situated within the context of imagination. Imagination, which depends on ability to create and manipulate symbols, is the mental capacity to think of

possibilities beyond the evidence of immediate sense perceptions” (Person, 1995, p.31). Joseph (2004) asserts that fantasising can be regarded as a particular form of imaginative thinking which centres around emotional and psychological purposes, as opposed to practical purposes such as problem-solving. In other words, whilst imaginative thinking can be seen as a broader category which includes fantasy thinking, as well as problem-solving, or goal-orientated thinking or planning, fantasy thinking in itself is affectively charged (Hirsch et al., 2006a; Hirsch & Holmes, 2007).

Person (1995) argues that fantasy can be seen as an adaptive characteristic in that it allows for the substitute gratification for those wishes or desires that can not be gratified in reality. It can also assist individuals in visualising desired outcomes, or in rehearsing or replaying past or present conflicts or scenarios. Person (1995) also outlines the role of fantasy in emotional regulation, where it facilitates self-soothing and provides an imaginal space for the gratification of emotion and wish-fulfilment. Whilst some fantasies may be linked to a desire to feel good or happy, in order to maintain or underpin self-esteem, others may include fears or anxieties (Hirsch & Holmes, 2007).

Whilst researchers (Wells, 2000; Wilson and Barber, 1983) assert the adaptive nature of the use of imaginative thinking and fantasy, the role of negative self-imagery in maintaining psychological disorders such as social anxiety is well-documented and will be discussed in more detail later in this chapter (Clark & McManus, 2004; Hirsch et al., 2006a; Rauschenberger & Lynn, 2003; Wells, Clark & Ahmad, 1998). It is the contention of this study, that in the development/maintenance of social anxiety, the use of imagery in fantasy becomes maladaptive and centres around negative views of

the self and self-performance, and this becomes activated and reinforced with each social situation that is encountered (Rauschenberger & Lynn, 2003). If this is the case, is it possible to assert that individuals who experience social anxiety have a more active fantasy/imaginational life than those who do not? Could there consequently be a link between an increased tendency to fantasise (fantasy proneness) and the negative self-imagery characteristic of social anxiety?

1.1. Fantasy Proneness

Fantasy proneness is defined as a propensity towards an active internal fantasy life within an individual. The concept of fantasy proneness emerged from the work of Hilgard in relation to imaginative involvement with regard to hypnotisability (1965, cited in Lynn & Rhue, 1988). Hilgard (1965, cited in Lynn & Rhue, 1988) found that subjects who were more susceptible to hypnosis described imaginative engagement in terms of creative, spiritual and sensory experiences. Similarly, Wilson and Barber (1983) identified the concept of fantasy proneness during their research into hypnotic susceptibility.

Fantasy prone individuals are found to have high levels of daily fantasising and day-dreaming, vivid mental imagery, active fantasising (these sometimes border on hallucinatory experiences), clear memories of personal experiences, absorption (Tellegen & Atkinson, 1974, cited in Lynn & Rhue, 1988) as well as reported paranormal experiences (Lynn & Rhue, 1988; Sanchez-Bernados & Avia, 2004; Wilson & Barber, 1983). Sanchez-Bernados and Avia (2004) highlight that some fantasisers are unable to distinguish between their fantasies and reality, and also

describe somatic sensitivity towards external stimuli. The example that Sanchez-Bernados and Avia (2004) cite is of nausea or anxiety responses in fantasisers towards stimuli such as violent films.

A further aspect of fantasy proneness includes the concept of absorption, which relates to an intensive ability to focus attention to the exclusion of other stimuli (Tellegen & Atkinson, 1974, cited in Lynn & Rhue, 1988). Wilson and Barber (1983) contended that fantasy proneness can be seen as a trait which is normally distributed in a population, and that fantasisers can be placed on the upper end of a continuum for this trait. Lynn and Rhue (1988) found that fantasy prone students displayed particular characteristics consistent with Wilson and Barber's findings, such as hypnotisability, creativity, imagination, childhood experiences, hallucinations and psychopathology.

The findings of Lynn and Rhue (1988) suggest that sufficient diversity exists within the population of fantasisers as to exclude a singular fantasy prone personality type. Their findings demonstrate that those who operate at the upper end of the continuum for fantasy proneness do not conform to a singular personality type, and that affective, cognitive and behavioural diversity exists within the group of fantasy prone individuals. Understanding the heterogeneous nature of this grouping will assist in expanding understandings of the potential adaptability of fantasy prone individuals.

Within the context of their research on hypnotic susceptibility, Wilson and Barber (1983) originally identified fantasy proneness as an adaptive response, allowing the individual to cope more effectively. However, subsequent studies have found links between fantasy proneness and psychopathology. Rauschenberger and Lynn (2003)

outline the possible relationship between fantasy and psychopathology, indicating the impact of emotional, psychological and behavioural problems on an individual's imaginational processes. They also discuss an individual's possible inability to control what is imagined in disorders such as Post-traumatic Stress Disorder, Obsessive-Compulsive Disorder and other phobias, such as social phobia (Rauschenberger & Lynn, 2003).

In their study, Rauschenberger and Lynn (1995) found links between DSM-III Axis I disorders and fantasy proneness, where fantasisers reported significantly high previous diagnoses of Axis I disorders (67%), compared with 31% of non-fantasisers. Fifty percent of fantasisers were found to report major depressive disorders compared to 12% of non-fantasisers, as well as more reported dissociative experiences. In a follow-up study they found that 76% of fantasisers met the criteria for past or present clinical diagnoses. Rauschenberger and Lynn's (2003) hypothesis is that fantasy proneness can become dysfunctional when it is linked to maladaptive cognitions or affect, or when fantasy content is dysphoric or negative. They argue that individuals with negative emotional states, or affect, tend to have higher levels of distress and negative views of themselves. Negative affectivity has been linked to higher occurrences of psychopathology (Rauschenberger & Lynn, 2003). Rauschenberger and Lynn (2003) demonstrate that fantasy proneness can be linked to the incidence of anxiety and depression, when fantasy prone individuals experience difficulties in controlling or managing their thoughts, fantasies and their emotions. This suggests that fantasy proneness may be a risk factor for the development of psychopathology.

Rauschenberger and Lynn (2003), particularly, found that when the effects of negative affectivity (which they define including negative self-views and a tendency towards becoming distressed and upset) were removed, the relationship between fantasy proneness and existing psychopathology was reduced in significance. Their study therefore lends support to the hypothesis of the current study which asserts that negative self-views play a role in the experience of social anxiety. The link presented here by Rauschenberger and Lynn (2003) between psychopathology and fantasy proneness, which is mediated by negative affectivity, thus providing support for the hypothesis of the current study. It must be noted, however, that Rauschenberger and Lynn's (2003) study was limited to psychology students who, as a sample, may represent aspects of negative affectivity which could have been influenced by their field of study (i.e. psychology), and which focuses on learning and understanding psychopathology. The findings of the study must, therefore, be considered with caution when attempting to extrapolate to the broader population.

Wilson and Barber (1983) suggested that fantasy proneness may be associated with non-pathological correlates such as adaptive coping and creativity. In this light, Lynn and Rhue (1986) found that fantasisers scored higher than non-fantasisers on measures of fantasy, imagination and creativity. In a later study, examining fantasy proneness and psychopathology, Rhue and Lynn (1987) found that whilst between 20-35% of fantasy prone individuals manifest maladjustment or clinical psychopathology, fantasy proneness does not necessarily operate as a precursor to the development of pathology.

In a study on fantasy proneness and personality in adolescents, Sanchez-Bernados and Avia (2004), in contrast, found that fantasy proneness is linked to Neuroticism on the NEO-PI-R. Neuroticism has been linked in adult studies to susceptibility towards pathology such as anxiety and depression (Sanchez-Bernados & Avia, 2004). These findings tie into the connections found between fantasy proneness and depression, as discussed earlier, by Rauschenberger and Lynn (2003).

Sanchez-Bernados and Avia (2004) identified three aspects of fantasy proneness in their study on fantasy proneness and personality in adolescents; namely, fantasy vividness, fantasy to escape and make believe. The use of fantasy to escape is identified as maladaptive by the authors, particularly as it has been associated with low Conscientiousness on the NEO-PI-R, and thus found to correlate with problematic behaviour patterns (Lawrence, Edwards, Barraclough, Church, & Hetherington, 1995; Sanchez-Bernados & Avia, 2004). Fantasy vividness and make believe were found to be linked to Agreeableness, which in other studies was associated with self-control of affect in interpersonal contexts (Jensen-Campbell, Adams, Perry, Wokman, Furdella, & Egan, 2002; Jensen-Campbell, Graziano, & Hair, 1996). Sanchez-Bernados and Avia (2004) were unable to assert conclusively whether fantasy proneness can be seen as a maladaptive or an adaptive psychological construct and, therefore, emphasize the need for further research. If fantasy proneness was found to play a role in social anxiety, it would reinforce the uses of imagination so as to assist in therapeutic intervention.

Lynn and Rhue (1988) track the developmental antecedents of fantasisers, identifying isolation and loneliness, as well as reported levels of abuse, amongst the group.

Wilson and Barber (1983) suggested that fantasizing developed as an adaptive mechanism to escape from the childhood difficulties of fantasy prone individuals. Lynn and Rhue's (1988) findings supported this hypothesis, revealing the use of fantasy in fantasy prone individuals for channelling anger and hostility, and to allow for management of their inner psychic experiences. However, Lynn and Rhue's (1988) study is based on a sample of college students who may represent a well-adapted group due to variables not addressed in their study. For example, factors such as intelligence or cognitive processing sophistication may play a role in a tertiary educated sample and which would not be generalisable to a broader population. This needs to be taken into account when interpreting their findings.

Aleman and de Haan (2004) tested the hypothesis that fantasy proneness and vividness of mental imagery are associated with source memory confusion, resulting in faulty reality monitoring. Their findings revealed that whilst fantasy prone individuals displayed imagery vividness, this did not necessarily result in faulty reality monitoring. Aleman and de Haan's (2004) study was limited to university students, which may have resulted in a range restriction on reality monitoring error scores in the study. However, the increased self-report imagery vividness, found in individuals with high scores of fantasy proneness in Aleman and de Haan's (2004) study, has important implications in terms of the current study, as imagery vividness may also be linked to the self-imagery operating in social anxiety (this will be discussed in more detail later in this chapter).

Similar to Aleman and de Haan (2004), Rhue and Lynn (1987) found that fantasisers were able to effectively monitor reality, were cognitively and emotionally effective,

and able to engage with social norms. Therefore, whilst fantasisers report themselves as being unique and non-conformist, within the parameters of the studies discussed, they appear to be able to function successfully.

Fantasy proneness is clearly located within the cognitive and imaginal realm of human functioning (Lynn & Rhue, 1988; Rauschenberger & Lynn, 2003; Wilson & Barber, 1983). Anticipation involves the foreseeing or pre-empting of a future event, which links to the appraisal of the event and colours the cognitive perception of that which will occur (Hinrichsen & Clark, 2003; Mellings & Alden, 2000). A rich fantasy and imaginal life may therefore contribute to the content and impact of anticipation, resulting in manifesting and maintaining social anxiety.

As discussed, Wells (2000) asserted that mental imagery plays an adaptational role in acting as a cognitive mechanism for planning how to deal with a potential threat. The ability to use mental imagery, to think through strategy to avoid or deal with a threat, allows for a survival advantage for the individual. Mental imagery and simulation involves the use of temporal and consequential information to simulate a real event within the imagination. Placed within this, the individual can assess possible outcomes based on different behaviour choices. As mentioned earlier, the use of imagination in the mental simulation of an event therefore creates a cognitive-behavioural relationship with the situation that is imagined. Wells (2000) also discusses the role of mental simulations in the intrusive images experienced as a symptom of post-traumatic stress disorder (PTSD). Wells (2000) asserts that these images result in mental simulations of the traumatic event which allow for revising knowledge and developing coping mechanisms to avoid the event occurring in the

future. The use of mental simulation thus facilitates adaptive coping in traumatic situations. In social anxiety, this system is applied to social situations which are interpreted as threatening due to cognitive distortions. It is therefore possible that the mental simulations and use of imagination, which can work adaptively, to plan and prepare for a real threat, are used maladaptively to manifest and maintain social anxiety.

2. Anxiety

Cognitive behaviour theorists emphasise the role of cognition in anxiety disorders (Sue, Sue & Sue, 2003). The link between cognitive interpretations and beliefs about the body sensations experienced during anxiety attacks (such as increased heart rate, sweating, dizziness, disorientation; Rachman, 1998), and the perceived threat inducing the fear of social situations, combine to reinforce the anxiety response. Anxiety disorders are thought to be characterised by deeply entrenched beliefs and assumptions that form part of a cognitive schema (Wells, 2000). Schemas are embedded in long-term memory and contain unconditional core beliefs which act as a lens through which experiences are assessed (Clark & Wells, 1995; Wells, 2000). Schemas are also linked to emotional learning where the emotions linked to core beliefs are triggered, once the belief becomes activated (Bennett-Goleman, 2001).

Anxiety schemas are thought to be linked to core beliefs about danger to the individual, and this results in the triggering of the fear response. Wells (2000) asserts that upon activation, an anxiety schema results in biased cognitive processing which

reinforces the anxiety response. This biased cognitive processing works to maintain an anxiety disorder, as all experiences are perceived and interpreted through this lens. In panic disorder, the anticipation of experiencing a panic attack (which is compositely similar to an anxiety attack) may lead an individual to begin avoiding situations where they have experienced the symptoms of panic (Rachman, 1998). In social anxiety, the anticipated fear of social embarrassment, or appraisal, may result in the avoidance of social situations (Sadock & Sadock, 2003). Avoidant behaviour, therefore, becomes a consequence of the anticipation aspect of anxiety disorders: such as panic disorder and social anxiety disorder. In social anxiety particularly, the anticipation of the social situation plays a pivotal role in maintaining and being reinforced by the biased schema. Social scenarios are perceived as a threat and anxiety responses can be raised through the imagined engagement with the anticipated event (Hinrichsen & Clark, 2003). The role of imagination in social anxiety, therefore, bears investigation in terms of determining its function in maintaining, and/or supporting, the disorder.

2.1 Social Anxiety

Social anxiety or social phobia as defined in the DSM-IV-TR (American Psychological Association, 2000), is characterised by “marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others” (Sadock & Sadock, 2003, p.613). Exposure to, or anticipation of, the feared context will result in an anxiety response, and possibly a panic attack. The person also fears that they may behave in an embarrassing or socially unacceptable manner (Rachman, 1998). Whilst they

recognise that their fear may be disproportionate or unreasonable, their behaviour is often characterised by avoidance of the feared situation (Sadock & Sadock, 2003).

The fear, anticipatory anxiety and avoidance characteristic of the disorder, impairs the social and occupational functioning of the individual. A key feature of the disorder is its social dimension, as it is experienced by the individual in actual or anticipated social situations (Rachman, 1998; Wells, 2000). Social anxiety can be generalised across several or all social situations (hetero-social), or can be specific to particular events, such as public speaking (Rachman, 1998).

2.1.1. Cognitive Biases

Within a cognitive theoretical framework, several cognitive processes have been found to play a role in the development and maintenance of social anxiety. Hirsch et al. (2006a) elucidate that, in social anxiety, the cognitive biases in operation include self-focused attention, biased interpretations and negative self-imagery (Clark & McManus, 2004; Hirsch et al., 2006a). Anticipatory processing incorporates several of these biased cognitive processes. Whilst all these cognitive processes play an important role in the maintenance of social anxiety, anticipatory processing and negative self-imagery are particularly significant to the hypothesis of this study, in which the role of negative self-images in anticipatory processes, may be influenced by fantasy proneness, which is defined in this study as a facet of imagination.

During a social interaction socially anxious individuals shift their attention away from the social situation towards themselves, and towards their physiological responses, negative thought patterns and images which occur during the interaction (Clark &

McManus, 2002). Using the internal information obtained from this self-monitoring, they then make inferences about how others perceive them, determining that their anxiety is clearly evident and interpreting the responses of other people as negative, thus reinforcing their distorted assumptions (Clark & McManus, 2002). Socially anxious individuals also demonstrate a tendency to selectively attend to, and recall, negative social cues over positive ones in social interactions (Clark & McManus, 2002; Mellings & Alden, 2000). For example, in a study investigating the detecting of audience reactions during a speech, socially anxious individuals identified negative audience behaviours, such as yawning or checking the time, over and above positive audience behaviours such as nodding or smiling (Veljaca & Rapee 1998, cited in Clark & McManus, 2002). It may be possible that the fantasy proneness aspect of absorption, where the fantasy prone individual is able to focus her/his attention to the exclusion of other stimuli, could be linked to the selective attention characteristic in social anxiety.

Socially anxious individuals also demonstrate biased interpretation of ambiguous social events, tending to interpret these negatively, as well as interpreting mildly negative occurrences catastrophically (Clark & McManus, 2002; Hirsch, Mathews & Clark, 2006b). As with the above example, socially anxious individuals interpret audience behaviours such as yawning or time-checking as negative and therefore that they are being negatively assessed. Several studies have shown a tendency for socially anxious individuals to interpret ambiguous situations negatively. Amir, Foa and Coles (1998, cited in Hirsch et al., 2006b) found that when clients with social phobia were asked to evaluate ambiguous scenarios, they were more likely than the controls, or obsessive-compulsive clients, to interpret the scenarios negatively. Socially anxious

individuals also interpret self-performance negatively during social interactions, and are more likely to interpret their performance negatively in retrospect (Hirsch et al., 2006a). Hirsch et al. (2006b) assert that socially anxious individuals rely on the negative interpretations of both their performance, and the responses of others, to reinforce their perception of the risks of being involved in social situations (Wells, Clark & Ahmad, 1998). This serves to perpetuate and maintain the working of their anxiety. Cognitive biases can be seen as processes which influence an individual's ability to manage or control their thought patterns, emotions and behaviour. A link may therefore exist between these biased processes and Rauschenberger and Lynn's (2003) assertion that fantasy prone individuals experience difficulties in controlling or managing their thoughts, fantasies and emotions.

In terms of how they appear to others, the highly anxious subjects were found to see themselves from an observer-perspective, which was negative. These subjects were also found to perceive their bodily sensations, negative thoughts and images, as making them feel more anxious, as well as less confident in coping within the anticipated situation. The selectively accessed memories of past perceived social failures, images of how others may observe them, as well as the hyper-awareness of internal sensations, combined to reinforce and perpetuate the anxiety response (Hirsch et al., 2006a).

Spontaneously occurring images have been associated with social anxiety, particularly as negative representations of the self and observer-perspective appraisals of self-performance in social situations. Hirsch et al. (2006a) report that these images, "often appear to embody clients' distorted beliefs about the dangerousness of feared

situations” (p. 224). This underpins and maintains the fear of social interaction. The operation of negative self-imagery will be discussed in more detail later.

Memory also plays a role in the laying down of the initial memories which may have catalysed the experience of social anxiety, and which continue to be accessed with successive social interactions, as well as in terms of the individual having poorer memory of the details of their current social interactions (Clark & McManus, 2002).

Hirsch et al. (2006a) assert that the cognitive biases in operation in social anxiety influence and interact with each other, such that their combined interactions impact on the maintenance of the disorder. They argue that the combined interaction of these cognitive biases has more extensive consequences than if the biases occurred in isolation (Hirsch et al., 2006a).

2.1.2. Anticipatory Processing

Anticipatory processing has been found to play a particular role in social anxiety to the extent that the anticipation of the feared event generates levels of anxiety which can be as high as those experienced during the event itself (Hinrichsen & Clark, 2003). Clark and Wells (1995) outline the biased cognitive processes which occur during anticipatory processing, asserting that socially anxious individuals will retrieve from memory negative and biased images and information about how they performed in previous social situations, and how they appeared to others. As a consequence they experience anxiety symptoms which result in them turning their attention to the self-monitoring of their physiological responses to the anxiety. This process elicits

negative self-images with regard to how they believe they look to others, and how they will be perceived. This information, through the self-images, inferential biases and physiological reactivity reinforces their belief that they will perform poorly in the anticipated situation.

Mellings and Alden (2000) highlight these cognitive aspects of the Clark and Wells model, namely self-focused attention, anticipatory processing and post-event processing. Whilst self-focused attention occurs during the event, post-event processing occurs between events where negative interpretations are encoded in memory. Anticipatory processing involves the activation of the memories which then begin the cycle of anxiety again. Post-event processing was found to contribute to negative self-imagery in socially anxious subjects.

Hinrichsen and Clark (2003) conducted a study to investigate the anticipatory processes presented by Clark and Wells (1995). They found that according to Clark and Wells' hypothesis on anticipatory processing, highly anxious subjects thought about their perceived social failures in anticipation of a future event. Highly anxious subjects reported an elevated number of bodily sensations, which they perceived as negative, as well as thoughts about escaping the anxiety-provoking situation or thoughts about avoiding it completely. Hinrichsen and Clark (2003) also found catastrophising of anticipated events occurred in highly anxious subjects, where catastrophising was defined as, "interpreting the things the person anticipated might happen as having 'global and negative implications for his or her view of himself/herself and his or her future'" (Hinrichsen & Clark, 2003, p. 208).

Clark and Wells (1995) identified post-event or post-mortem processing in socially anxious people after a social event. This process involves the re-living and detailed analysis of the past social experience, focusing on the anxiety and negative perceptions experienced during the event, resulting in a negative memory of the event. This memory is re-activated during the anticipation of the next social event, thereby perpetuating the cognitive distortions and biases that reinforce the social anxiety.

A study by Rachman, Gruter-Andrew and Shafran (2000) confirmed that post-event processing occurs in subjects after an anxiety-provoking event, and that it was correlated with social anxiety. The nature of post-event processing was characterised by persistent and intrusive thoughts about the event and was associated with avoidance behaviour of future social events.

Kocovski, Endler, Rector, and Flett (2004) link post-event processing to the construct of rumination, which similarly involves the reflection on, and deliberation of, past experiences. They highlight the association between anticipatory processing, and post-event processing/rumination, in terms of the cognitive similarity between these constructs. Their study focused on hypothetical social situations, however, thus an examination of the actual experiences of socially anxious individuals in terms of pre- and post-event processing would be necessary to investigate further.

Post-event processing results in the reinforcing of negative memories and negative self-images which become activated during the anticipation of a future social event. Anxiety symptoms become activated during this anticipatory period which underlines

the cognitive biases that are in operation, reinforcing the individual's subjective experience of the anxiety.

2.1.3. Imagery in Social Anxiety

As mentioned earlier, imagery has been found to play a role in social anxiety, particularly in terms of negative self-imagery and observer-perspective visual images which the client has of themselves (Wells et al., 1998). Hirsch et al. (2006a) define mental images as, “cognitive representations of perceptual information that are not the product of current external sensory input” (p. 224). In other words, mental images encapsulate sensory perceptions which incorporate previous experiences and which can be projected into imagined events. These images can include all of the sensory modalities, although visual imagery is most often reported (Hirsch et al., 2006a). Images are also thought to be specifically linked to the experience of emotion (Hirsch et al., 2006a). Holmes and Mathews (2005) found that when participants were asked to imagine unpleasant events described to them, as opposed to focusing on the verbal meaning of the events, those in the former group reported increased anxiety.

Wells et al. (1998) conducted a study to investigate whether socially anxious patients see themselves from an external perspective when constructing mental images of themselves in social situations. The findings of the study suggest that compared to non-patient controls, socially anxious patients were more likely to take an observer-perspective of themselves when recalling previous social experiences. However, the small sample size ($n = 24$) accessed in this study needs to be taken into account when interpreting their study; the sample was divided into 12 outpatients and 12 non-

patients. The content of the recollections of the patient participants was also not formally assessed and would need to be investigated in more detail to draw more significant conclusions.

Several studies have investigated the experience of negative self-images in those with social anxiety. Hirsch, Mathews, Clark, Williams and Morrison (2006c) outline that in people with social phobia, self-images represent exaggerated images of themselves performing poorly or displaying obvious anxiety symptoms (e.g. blushing or sweating). These images may arise from memories of events at the onset of the disorder, and tend to re-emerge when the person is faced with social situations. The meaning of the images to the individual is usually in line with their fears in terms of social situations (Hirsch & Holmes, 2007).

Hirsch and Holmes (2007) assert that similarities can be drawn between social anxiety imagery and the flashbacks experienced in Post-traumatic Stress Disorder. They suggest that both can be triggered by thoughts, physiological sensations, or external cues and that both are experienced as if they are occurring in the immediate present (Hirsch & Holmes, 2007). Prior to a social situation, clients with social anxiety will think about, or anticipate, the impending event which triggers their negative self-imagery and which results in an increase in anxiety. Once in the social situation, the negative self-images are perpetuated by physical anxiety symptoms, such as perspiring or blushing, and these they interpret as being observably severe and obvious to others (Rachman, 1998). Negative interpretations of their behaviour/performance are then made on the basis of the negative self-images which they hold in mind, throughout the social interaction. After the event, clients will

reflect on, or ruminate about, the experience: thereby re-activating the negative self-images (Hirsch et al., 2006a). This convinces the client that they have behaved poorly in the social situation and reinforces the distorted belief that they will continue to do so in future situations. This information will be re-accessed in anticipation of a future social event, thus perpetuating the cycle which will maintain the anxiety (Hirsch & Holmes, 2007).

In order to determine whether negative images play a causal role in social anxiety Hirsch, Clark, Mathews and Williams (2003) experimentally manipulated imagery by asking clinically diagnosed patients, with social anxiety, to hold a conversation with a stranger, first whilst holding their usual negative self-image (from an observer-perspective) in mind, and secondly whilst holding a control image in mind. The findings of the study revealed that when socially anxious patients held their negative self-image in mind, it influenced both their levels of anxiety and their performance. Whilst holding negative self-images in mind participants reported feeling greater levels of anxiety, that their anxiety symptoms were more visible and that their performance was poorer. In the study, an independent assessor evaluated video recordings of the participant's performances and found that the participants' performance were less positive, and their anxiety more evident, when the negative self-images were being held in mind. It is important to note that in this study, and others which utilise the 'holding in mind' of self-images (Hirsch et al., 2003; Hirsch et al., 2006c; Wells et al., 1998), that it is difficult to ascertain or quantify the extent to which individuals were able to consistently hold negative, positive or control images in mind throughout the experimental conversations held during the studies, and this needs to be considered when examining the findings of these studies.

Hirsch, Meynan and Clark (2004, cited in Hirsch et al., 2006c) and Hirsch et al. (2006c) replicated this study and revealed similar findings. The populations tested included non-clinical participants with high social anxiety in the former study, and low-public speaking anxious volunteers in the latter study. In both studies, the findings revealed that when asked to hold negative self-images in mind, participants rated themselves as experiencing higher anxiety and as feeling that they had behaved poorly compared to when they held a control/benign image in mind. Bearing in mind the concern noted with regard to the methods used in these studies, the findings of the studies on clinical, non-clinical highly anxious participants and normally confident individuals do, however, suggest that negative self-images play a significant role in the occurrence and maintenance of social anxiety.

As suggested by Rauschenberger and Lynn (2003), when the content of fantasies in fantasy prone individuals is negative or dysphoric, this can impact on the levels of negative affect, distress and negative self-views experienced by the individual, as discussed earlier in the chapter. This suggests a possible link between negative views of the self and the negative affectivity associated with social anxiety, and the tendency toward psychopathology in fantasy proneness.

The cognitive biases of self-focused attention, inferential biases and negative self-images feed into the anticipatory processing preceding a social event. As postulated by Hirsch et al. (2006a), these cognitive processes work together to underline and reinforce the cycle of the anxiety response. During anticipatory processing, negative self-images play a pivotal role in maintaining negative perceptions and consequently negative interpretations in the experience of social anxiety. The role of mental

imagery is, therefore, a key characteristic in the experience and maintenance of social anxiety.

3. Summary

The literature reviewed locates the concept of fantasy proneness within the realm of cognition and imagination. It outlines the role that mental imagery and imagination play in being a fantasy prone individual. Conceptualizations of anxiety disorders, such as social anxiety, have identified the link between cognition and emotional and behavioural responses. Focusing on the imaginative aspect of cognition within social anxiety, the study will attempt to determine whether a relationship exists between fantasy proneness and social anxiety - attempting to determine whether a link exists between the vivid mental imagery characteristic of fantasy proneness, and the mental imagery which operates in social anxiety.

The implications of a relationship between these constructs may indicate the role which imaginal ability (fantasy proneness) may play in underlying and maintaining social anxiety. If a relationship between social anxiety and fantasy proneness is found, the same element which plays a role in underlying social anxiety may be utilised to play an adaptive role, particularly if it is used in a treatment context, as for example, through the use of imaginal ability in cognitively countering social anxiety.

Research Aims

The aim of this research report is to examine whether a positive relationship exists between fantasy proneness and social anxiety. As anticipation of a feared event plays a pivotal role in social anxiety, the establishment of a relationship between fantasy proneness (imaginational ability) and social anxiety may shed light on the role which imagination and fantasy play in the way a socially anxious person imagines a feared event and the way in which it then contributes to the experience of social anxiety.

A measure of fantasy proneness, the Creative Experiences Questionnaire (CEQ) (Merckelbach, Horselenberg & Muris, 2001), and a social anxiety scale, the Liebowitz Social Anxiety Scale (LSAS-SR) (Liebowitz, 1987), were administered. The results of these scales were statistically correlated to determine whether a significant relationship existed between fantasy proneness and social anxiety.

Rationale

The reason for the study is to explore the role of fantasy/imaginational ability in social anxiety, which results in an anxiety response. If such a role were to be found, the implications of the findings would impact on both the understanding of, and clinical approach to, treating social anxiety disorders. It is the contention of this study that imagination plays a role in the imagining of an anticipated and feared event, and the subsequent anxiety response to the contents of the imagined outcomes of the event. Research studies internationally have investigated the role of imagery in the development/maintenance of social anxiety, as well as the possible link between

fantasy proneness and psychopathology; however, no published research (including South Africa) could be found which attempts to determine whether a link exists between the ability to imagine (fantasy proneness) and social anxiety. If no relationship is found to exist between fantasy proneness and social anxiety, it may indicate that imaginal ability does not play a role in maintaining social anxiety.

Chapter 3

Research Question

Is there a positive relationship between fantasy proneness and social anxiety?

This research question will be operationalised by correlating the results of the measures of fantasy proneness and social anxiety to determine whether a significant positive relationship exists between these constructs, or not.

Hypothesis

H₁ There is a positive relationship between fantasy proneness and social anxiety.

H₀ There is no relationship between fantasy proneness and social anxiety.

Methodology

Research Design

The research has an *ex- post facto*, non-experimental, within-subject's correlational design (Breakwell, Hammond & Fife-Schaw, 1997). As an *ex-post facto* research design, no randomisation of the sample or control over an independent variable was carried out (Kerlinger, 1986). As a non-experimental study, no variables were manipulated or

controlled, no independent variable was manipulated and no random assignment occurred (Kerlinger, 1986). The study was correlational so as to describe and quantify the degree of relationship between the variables of fantasy proneness and social anxiety (Howell, 1995).

Volunteers who agreed to participate in the study were tested once off and the variables obtained were then correlated with each other, using a one-tailed correlations derived from the research question. The results were correlated between the scores obtained within the sample, and no comparison with other samples was made (Breakwell, Hammond & Fife-Schaw, 1997).

Sample

A non-probability convenience and snowball sampling procedure was used to achieve the necessary sample size, and to allow for a cross-sectional sample to be obtained.

Convenience sampling involves the selection of an unrepresentative sample that is selected on the basis of availability of participants (Neuman, 1997). Snowball sampling facilitates the expansion of the sample as the initially identified group is asked to suggest further participants (Neuman, 1997).

The sample consisted of a non-clinical volunteer sample of 50 participants, 38 females and 12 males, within the age range of 19 to 52 years old.

Demographic Profile of Sample

Total	Gender	Mean Age	Age Range	Area of Study
38	Female	24.7	19 - 52	Science = 17 Humanities = 21
12	Male	26.5	21 - 35	Science = 3 Engineering = 3 Commerce = 1 Humanities = 5

Instruments

The fantasy proneness (CEQ) and anxiety (LSAS-SR) instruments are both self-report measures that were administered to the sample consecutively (see Appendix C). Each measure took approximately 10 minutes to administer. They were administered individually or in groups of up to 4 participants simultaneously. The LSAS-SR was administered first, followed by the CEQ. Whilst there is no information on the reliability and validity of these instruments in the South African context, this study will contribute to the field of knowledge, and use, of these instruments in South Africa.

Creative Experiences Questionnaire:

The Creative Experiences Questionnaire (CEQ) is a 25 item self-report measure of fantasy proneness; containing forced choice yes/no categories in order to establish the

capacity for fantasy proneness (Merckelbach, Horselenberg & Muris, 2001). The questions contained in the CEQ incorporate aspects of the developmental precursors of fantasy proneness, intense involvement in fantasy and daydreaming, as well as the associated elements and consequences of fantasising (Merckelbach et al., 2001).

Test re-test reliability of the CEQ was found by Merckelbach et al. (2001) to be good ($r = 0.95$) in a sample of 17 undergraduate students (14 women; mean age: 22.6 years) who were re-tested after a six week period. The mean CEQ scores on both occasions was 7.7 (standard deviation = 4.7) and 7.1 (standard deviation = 4.5), respectively. Although these results were good, the small size of the sample must be noted. Internal consistency was found to be good (Cronbach's Alpha = 0.72). This was measured in a separate sample of 99 undergraduate students (79 women; mean age: 21.2 years) (Merckelbach et al., 2001).

Strong correlations with Wilson and Barber's (1981) measure of fantasy proneness, the Inventory of Childhood Memories and Imaginings or ICMI (0.77), was found in Merckelbach, Horselenberg and Muris's study (2001). Validity information on the scale was obtained from two studies: the first demonstrated that students ($n = 99$) who had high scores on reported paranormal experiences ($n = 28$) also received higher scores on the CEQ than those who did not ($n = 71$). Within the sub-sample of those who reported paranormal experiences, participants were asked to write a description of their experience. This group ($n = 18$) received CEQ scores that were positively related ($r = 0.37, p < 0.07$) to the peculiarity of the experiences, as rated by an independent judge on a

10-point scale (anchors: 0 = quite normal; 10 = extremely bizarre) (Merckelbach et al., 2001).

Findings from another study on the effects of retrieval on meta-memory judgements (Merckelbach, Wiers, Horselenberg & Wessel, 2001a) compared CEQ scores, and the 44-item ICMI, on a sample of 52 undergraduate women (mean age 20.7 years), and found a Pearson product-moment correlation of 0.77 ($p < 0.001$) between the two measures.

A further study looked at the connection between CEQ scores and scores on the ICMI compared four groups of individuals, namely undergraduate students ($n = 116$), amateur actors ($n = 18$), regular visitors to paranormal exhibitions ($n = 19$), and people who re-enact historical events ($n = 13$). A one-way analysis of variance revealed a significant result $F(3,161) = 7.3$, $p < 0.05$. T-tests showed that amateur actors, paranormal exhibition visitors and fantasy role players did not differ from each other in terms of average CEQ scores with means from 10.8 ($SD = 3.9$), 11.1 ($SD = 4.4$) and 13.2 ($SD = 4.4$) respectively (all p 's > 0.14). The students group however differed significantly from the other groups in terms of CEQ results, where their mean score was 8.3 ($S.D. = 3.9$, all p 's < 0.01) (Merckelbach et al., 2001).

Correlates with memory illusion, dissociation and schizotypy were also found (Merckelbach et al., 2001). In terms of memory illusion CEQ scores were correlated with scores on the Tellegen Absorption Scale in a sample of 39 students. A Pearson product-

moment correlation of 0.70 ($p < 0.01$) was found between the two measures, demonstrating the link between fantasy proneness and absorption.

In terms of schizotypy, CEQ scores from 152 undergraduate students were correlated with the 37-item Claridge Schizotypal Personality Scale (CSPS) which revealed a Pearson product-moment correlation of 0.61 was found. Several studies on dissociation correlated CEQ scores with scores on the Dissociative Experiences Scale (DES) on student samples ranging from $n = 42$ to $n = 77$. Pearson product-moment correlations were relatively significant, ranging from 0.47 to 0.63 (Merckelbach et al., 2001).

The findings of these studies, underline the possible links between fantasy proneness and psychopathology which are relevant to the findings of this study in either confirming, or disconfirming, the link between fantasy proneness and social anxiety.

The CEQ thus demonstrates adequate test-retest reliability and internal consistency, as well as predictive validity, in that groups of individuals with known fantasy proneness characteristics (e.g. those who experience paranormal phenomena) are found to have higher scores on this scale than controls do (Merckelbach et al., 2001). The CEQ also demonstrates concurrent validity as it correlates with the ICMI and other measures of schizotypy (CSPS) and dissociation (DES). The psychometric properties of the CEQ, therefore, are adequate for its application in this study.

The CEQ as a measure establishes the extent to which an individual can be considered to be fantasy prone. In other words, it demonstrates whether an individual is found to have high levels of daily fantasising and day-dreaming, vivid mental imagery, active fantasising, sometimes bordering on hallucinatory experiences, clear memories of personal experiences, absorption (Tellegen & Atkinson, 1974, cited in Lynn & Rhue, 1988) as well as reported paranormal experiences (Lynn & Rhue, 1988; Sanchez-Bernados & Avia, 2004; Wilson & Barber, 1983). The higher the number of ‘yes’ answers on the questionnaire, the more fantasy prone an individual is thought to be. Administering this measure will therefore provide an indication of fantasy proneness in participants.

Liebowitz Social Anxiety Scale:

The Liebowitz Social Anxiety Scale (LSAS-SR) was originally established as a clinician administered scale developed to measure anxiety experienced by individuals in social and performance situations, which may result in fear and/or avoidance of these situations (Heimberg, Horner, Juster, Safren, Brown, Schneier & Liebowitz, 1999; Safren, Heimberg, Horner, Juster, Schneier & Liebowitz, 1999). The highest possible total score on the LSAS-SR is 144, with scores of 55-60 indicating moderate social anxiety, 65-80 indicating marked social anxiety, 80-95 indicating severe social anxiety, and a score greater than 95 indicating very severe social anxiety (Liebowitz, 1987).

Heimberg et al. (1999) evaluated patients from several studies on social phobia ($n = 382$); across all the studies the LSAS-SR was found to be normally distributed. Internal

consistency was found to be excellent (Cronbach's Alpha = 0.96 of total scores).

Correlations between the subscales of the LSAS-SR (total fear, fear of social interaction, fear of performance, total avoidance, avoidance of social interaction, avoidance of performance) were uniformly high, with a range from 0.68 – 0.98 (all p 's < 0.0001).

Convergent validity was determined by comparing the scale with other clinician-rated and self-report social phobia scales (Social Interaction Anxiety Scale, Social Phobia Scale, Social Avoidance and Distress Scale, Fear of Negative Evaluation Scale and the social phobia subscale of the Fear Questionnaire) and was conducted on a group of well functioning out-patients who completed the entire battery ($n = 178$). All correlations were found to be highly significant ($p < 0.001$). Discriminant validity was determined through correlations with a generalised scale of anxiety (Hamilton Anxiety Scale), the Beck Depression Inventory (BDI) and the Hamilton Rating Scale for Depression (HRSD), revealing lower correlations (0.48, 0.52 and 0.39 respectively) than with the anxiety scales measuring social anxiety and avoidance, which ranged from 0.45 to 0.82 in this sample ($n = 83$) with a median of 0.76. Fear and avoidance measures on the subscales of the test were found to be highly correlated, whether total ($r = 0.91$), social interaction ($r = 0.92$), or performance scores ($r = 0.88$) were measured.

Fresco, Coles, Heimberg, Liebowitz, Hami, Stein and Goetz (2001) compared the psychometric properties of the clinician administered (LSAS-CA) and self-report formats (LSAS-SR) of the LSAS. The sample consisted of individuals with a primary diagnosis of social anxiety ($n = 99$) and those with no psychiatric diagnosis ($n = 53$). Internal

consistency for the total and subscale scores for both measures was evaluated with Cronbach's Alpha. For individuals with social anxiety, Cronbach's Alpha for total scores was found to be 0.95 for both the LSAS-CA and the LSAS-SR. For the subscales, alphas ranged from 0.82 to 0.91. For non-anxious participants, total alphas were also high at 0.92 (LSAS-CA) and 0.94 (LSAS-SR). Alphas for the subscales ranged from 0.71 to 0.91. The means and standard deviations for both instruments were calculated, both on the total and the subscale scores. No significant differences were found between the two instruments for both clinical and non-anxious participants.

Convergent validity was assessed by investigating the correlations of the LSAS-CA and the LSAS-SR with other measures of social anxiety, such as the Social Interaction Anxiety Scale (SIAS), the Social Phobia Scale (SPS) and the Fear Questionnaire-Social Phobia subscale (FQ-S). For social anxiety patients correlations were found to be relatively strong; SIAS 0.70 (LSAS-CA) and 0.71 (LSAS-SR), SPS 0.64 (LSAS-CA) and 0.61 (LSAS-SR), and FQ-S 0.64 (LSAS-CA) and 0.62 (LSAS-SR). For both convergent and discriminant validity, correlations >0.5 were significant at $p < 0.01$; correlations >0.35 were significant at $p < 0.05$. With non-anxious participants, the LSAS-SR total was more highly correlated with the SPS (0.60) than was the LSAS-CA total score (0.46) (Fresco et al., 2001).

In terms of discriminant validity, the LSAS-CA and LSAS-SR were measured against depression scales, namely the Beck Depression Inventory (BDI) and the Hamilton Rating Scale for Depression (HRSD). In the patient sample, the correlations with the BDI

revealed 0.39 (LSAS-CA) and 0.33 (LSAS-SR), and correlations with the HRSD revealed 0.22 (LSAS-CA) and 0.21 (LSAS-SR). In the non-anxious sample, the LSAS-SR (0.43) was more highly correlated with the BDI than was LSAS-CA (0.27).

Discriminant validity was determined by examining the magnitude of differences in the total score correlations of the LSAS-CA and LSAS-SR, compared with other measures of social anxiety, and compared with the magnitude of correlations with the measures of depression. In the patient sample, all measures of social anxiety were higher than those of depression, whilst in the non-anxious group, the LSAS-CA was more strongly related to the SIAS (0.62) than to the BDI (0.27), this was, however, not the case for LSAS-SR (Fresco et al., 2001)

The findings of this study revealed few differences between the CA and SR versions of the LSAS, with psychometric properties of both scales being similar. The sound psychometric properties were demonstrated for both patient and non-clinical groupings, indicating that the scales were not limited to clinical populations (Fresco et al., 2001). As the LSAS-SR has thus been demonstrated to show adequate psychometric properties on non-clinical groupings, it has been found to be appropriate for use in this study.

The LSAS-SR as a measure of social anxiety provides an indication of the levels of fear or anxiety experienced by an individual and whether that anxiety results in the avoidance of social situations. The scale also provides information on whether fear/anxiety, or avoidance, occurs more frequently in social interaction or social performance situations. Utilising this measure in the study will provide information about the levels of social

anxiety experienced by participants and also locate the extent to which this anxiety is experienced in social interaction situations or in social performance situations.

Procedure

In line with snowball sampling, the initial target group of MSc Genetic Counselling students were approached and asked to be volunteers for the study. They then referred the researcher to the Honours Genetic Counselling class who also agreed to participate. Permission was obtained from a third year psychology lecturer on the Wits Plus part-time programme to approach class members who were prepared to participate. The remainder of the sample was then obtained by approaching students on the University of the Witwatersrand campus. Participation in the study was voluntary and participants were required to give informed consent of participation (see Appendix A).

The participants were given a clear and detailed outline of the aims and purpose of the research (see Appendix B). They were also informed that they had the right to withdraw from the research at any stage. Participants were thereafter required to fill in the two self-report instruments (see Appendix C) which were administered consecutively. This took approximately 20 minutes. The LSAS-SR was administered first followed by the CEQ. The instruments were administered individually or in groups of up to 4 participants simultaneously. The confidentiality of participants was maintained.

The data collection procedure spanned over three months.

This research was approved by the Committee for Research on Human Subjects (Humanities), University of the Witwatersrand, Johannesburg, 2006.

Analysis of Data

The study was correlational, based on one-tailed correlations as evidenced in the literature (Aleman & de Haan, 2004; Baker, Heinrichs, Kim and Hofmann, 2002; Fresco, Coles, Heimberg, Liebowitz, Hami, Stein & Goetz, 2001; Iancu, Levin, Hermesh, Dannon, Poreh, Ben-Yehuda, Kaplan, Marom & Kotler, 2006; Merckelbach, Horselenberg & Muris, 2001). Scores on the two scales were correlated in order to determine the nature and extent of association between the two variables. The LSAS-SR includes subscales focusing firstly on the fear/anxiety experienced by an individual in a social situation, and, secondly, on their possible avoidance of social situations. As part of each of these subscales the scale further delineates whether the fear/anxiety or avoidance is specific to social performance situations or to the social interaction component of the social situation. Scores on these subscales were correlated with scores on the CEQ. The CEQ scores were determined from the number of 'yes' answers on each questionnaire. Cronbach's Alpha was calculated for the purpose of estimating the reliability of the scales.

Statistical Analysis System (SAS) version 8 was used to compute statistical analyses. The data was analysed using descriptive statistics, showing the mean and standard deviation

for the total and subtotal scores on the CEQ and LSAS-SR. Correlation coefficients were then generated; correlating the CEQ scores against each of the subtotal scores on the LSAS-SR as well as with the total score for each participant.

Ethical Considerations

Subjects signed informed consent forms for participation in the study, and completed a demographic information form which included age, gender, and area of study (see Appendix A). As the administration of the instruments used was face-to-face, anonymity could not be insured. Confidentiality was, however, preserved during the use of, and publication of, the data.

Whilst no adverse effects due to the administration of the questionnaires was anticipated, the telephone numbers for the Depression and Anxiety Support group and Life Line were made available to participants before the questionnaires were completed, if counselling or support were found to be necessary (see Appendix D).

Participation in the research was on a voluntary basis. No financial or other incentives were available to participants. Participants also maintained the right to withdraw from the research at any time. The results of this study will be made available in the published research report, on completion of the study (see Appendix B).

Chapter 4

Results

The Creative Experiences Questionnaire (CEQ) and the Liebowitz Social Anxiety Scale (LSAS-SR) were administered concurrently to the sample. The total scores of each scale as well as the subtotals from the LSAS-SR were calculated and inputted into a database. The LSAS-SR includes subscales focusing firstly on the fear/anxiety experienced by an individual in a social situation, and secondly, on their possible avoidance of social situations. As part of each of these subscales, the scale further delineates whether the fear/anxiety or avoidance is specific to social performance situations or to the social interaction component of the social situation. Scores on these subscales were correlated with scores on the CEQ. The CEQ scores were determined from the number of ‘yes’ answers on each questionnaire.

Statistical Analysis System (SAS) version 8 was used to compute statistical analyses. The Kolmogorov-Smirnov test of goodness of fit was conducted to examine the distribution of scores for the CEQ and LSAS-SR (including its subscales). No significant Kolmogorov-Smirnov statistics were found, except one, (refer to Appendix D) therefore, parametric statistics were employed. Cronbach’s Alpha was calculated for the purpose of estimating the reliability of the scales.

Data was collected on 50 individuals; 38 females and 12 males, within the age range of 19 to 52 years old.

Descriptive Statistics

Descriptive statistics were generated to show the mean and standard deviation for the total scores on the CEQ and LSAS-SR and the subtotal scores on the LSAS-SR for the total sample.

Table 1: Descriptive Statistics

Variable	N	Possible Total Scores	Mean	Std Dev
CEQ (TOTAL)	50	25	11.56	4.2
LSAS-SR (TOTAL)	50	144	46.02	17.9
LSAS-SR Subscales:				
LSAS-SR (Fear Total)	50	72	23.64	10.2
Fear Subscale (Performance)	50	39	12.64	5.6
Fear Subscale (Social Interactions)	50	33	11	5.6
LSAS-SR (Avoidance Total)	50	72	22.44	10.2
Avoidance Subscale (Performance)	50	39	11.7	5.6
Avoidance Subscale (Social Interactions)	50	33	10.54	5.8

As indicated in Table 1, the mean score obtained on the CEQ was 11.56, out of a possible maximum score of 25, with a standard deviation of 4.2. Similarly, the mean score for the LSAS-SR Total score was 46.02, out of a possible maximum score of 144, with a

standard deviation of 17.9. Analysis of the LSAS-SR subscale scores showed mean scores ranging from 10.54 (standard deviation of 5.8) to 23.64 (standard deviation of 10.2). The standard deviation on the LSAS-SR total score (17.9) indicated greater variance about the mean, in this sample. The total mean score of 46.02 was lower than the 55-65 minimum score stipulation of moderate social anxiety indicated on the LSAS-SR (Liebowitz, 1987).

Cronbach's Alpha

Cronbach's Alpha measures the extent to which set of variables assesses a single uni-dimensional construct. Although there is no consensus regarding the cut-off score for the alpha coefficient, 0.7 and above is usually the acceptable level (Nunnally, 1978). Alpha coefficients ranging from 0.88 to 0.91 were found for all the variables, as demonstrated in Table 2 below. This indicated that reliability and internal consistency of the scales used was adequate and demonstrated the reliability of using them in the South African context.

Table 2: Cronbach Coefficient Alphas

	Standardized Variables	
	Correlation with Total	Alpha
CEQ (TOTAL)	0.27*	0.93
LSAS-SR (TOTAL)	0.98**	0.88
LSAS-SR Subscales:		
LSAS-SR (Fear Total)	0.82**	0.89
Fear Subscale(Performance)	0.66*	0.9
Fear Subscale (Social Interactions)	0.78**	0.89
LSAS-SR (Avoidance Total)	0.81**	0.89
Avoidance Subscale (Performance)	0.60*	0.91
Avoidance Subscale (Social Interactions)	0.79**	0.89

Note: * p < .05; ** p < .01

Pearson Product-Moment Coefficients

Pearson product-moment coefficients were calculated, correlating the total CEQ scores against each of the subtotal scores on the LSAS-SR, as well as with the total LSAS-SR score for each participant.

Table 3: Pearson Correlation Coefficients

N = 50								
	CEQ (TOTAL)	LSAS-SR (Fear Total)	Fear Subscale (Perf.)	Fear Subscale (Soc. Interact.)	LSAS-SR (Avoidance Total)	Avoidance Subscale (Perf.)	Avoidance Subscale (Soc. Interact.)	LSAS- SR (TOTAL)
LSAS-SR (Fear Total)	0.26*							
Fear Subscale (Perf.)	0.27*	0.92***						
Fear Subscale (Soc. Interact.)	0.20	0.91***	0.68***					
LSAS-SR (Avoidance Total)	0.22	0.54**	0.41**	0.59***				
Avoidance Subscale (Perf.)	0.17	0.34**	0.31*	0.32**	0.91***			
Avoidance Subscale (Soc. Interact.)	0.22	0.61***	0.40*	0.73***	0.89***	0.63***		
LSAS-SR (TOTAL)	0.28*	0.88***	0.75***	0.86***	0.88***	0.71***	0.85***	

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

The correlation coefficients (displayed in Table 3) calculated, revealed weak but significant positive relationships between the CEQ and the LSAS-SR total and LSAS-SR subscale scores. The correlation coefficient for the CEQ and the LSAS-SR total scores was $r = 0.28$ ($p < .05$).

Correlations calculated between the subscales of the LSAS-SR revealed significant, high, positive inter-correlations between total of the fear subscale and the performance ($r = 0.92$) and social interaction ($r = 0.91$) components of this subscale (all at $p < .001$). Similarly, inter-correlations between the total of the avoidance subscale and the performance ($r = 0.91$) and social interaction ($r = 0.89$) components of this subscale were significant and high correlations (all at $p < .001$). Correlations between the fear and avoidance subscale components were weak to high, ranging from $r = 0.31$ ($p < .05$) to $r = 0.73$ ($p < .001$). Inter-correlations between the total of the LSAS-SR score and the fear and avoidance subscales ranged from $r = 0.71$ ($p < .001$) to $r = 0.88$ ($p < .001$).

Chapter 5

Discussion

The objective of this research report was to examine whether a positive relationship existed between the constructs of fantasy proneness and social anxiety through the administration of the Creative Experiences Questionnaire (CEQ) and the Liebowitz Social Anxiety Scale (LSAS-SR). The results of the study revealed weak but significant correlations between the CEQ and LSAS-SR (total and subscale scores (see Table 3 in Chapter 4)), indicating that a positive relationship exists between these constructs.

Previous studies have consistently found a positive relationship between fantasy proneness and psychopathology (Rauschenberger & Lynn, 1995 & 2003; Sanchez-Bernados & Avia, 2004). The findings of the present study support the hypothesis that a positive relationship exists between fantasy proneness and social anxiety. This finding will impact upon the clinical understanding, and use, of imagery and imaginative processes, for social anxiety in a treatment context.

The weak but significant positive relationship found between the constructs of fantasy proneness and social anxiety in the present study, suggest that further research is necessary to explore this relationship more extensively. The findings of studies outlined in the literature reviewed demonstrate the possible links between fantasy proneness and psychopathology (Rauschenberger & Lynn, 1995 & 2003; Sanchez-Bernados & Avia, 2004). Rauschenberger and Lynn (1995 & 2003) found high incidences of Diagnostic and

Statistical Manual III and IV-TR Axis I disorders amongst fantasisers (67% and 76% in respective studies). Rauschenberger and Lynn (2003) particularly hypothesise that fantasy proneness can become dysfunctional when linked to maladaptive cognitions or when fantasy content is dysphoric, which may possibly lead to the development of psychopathology.

The present study thus provides support to the hypothesised links between fantasy proneness and psychopathology as found in previous studies. Further, it extends previous research by sampling from the general population which expands an understanding of the link between psychopathology and fantasy proneness from clinical populations to the general population.

Comparisons with Other Studies

The mean score of the student sample on the CEQ in the present study was 11.56, which was not more than 1 standard deviation ($SD = 4.2$) higher than the mean of 8.3 ($SD = 3.9$) obtained in the study by Merckelbach, Horselenberg and Muris (2001), which looked at the connection between CEQ scores and scores on the Inventory of Childhood Memories and Imaginings or ICMI. The sample in that study comprised undergraduate students ($n = 116$), amateur actors ($n = 18$), regular visitors to paranormal exhibitions ($n = 19$), and people who re-enact historical events ($n = 13$). The mean score in the present study was in line with the mean scores in the Merckelbach et al. (2001) study, namely students 8.3 ($SD = 3.9$), amateur actors (10.8, $SD = 3.9$), paranormal exhibition visitors (11.1, $SD =$

4.4) and fantasy role players (13.2, SD = 4.4) respectively (all p 's > 0.14), suggesting that comparable levels of fantasy proneness are evident in a similar non-clinical sample.

Aleman and de Haan (2004) in their study on fantasy proneness, mental imagery and reality monitoring, identified low and high fantasy prone groups, from a population of 231 psychology students. High scorers were identified as those with CEQ scores of >12 ($n = 19$) and low scorers with scores <5 ($n = 20$; $p < 0.001$). Mean scores were 13.7 (SD = 0.8) for the high group and 3 (SD = 1.3) for the low group. In the Aleman and de Haan (2004) study, the initial total sample was 231 psychology students, with the high and low scoring groups being drawn from the upper and lower quartiles of CEQ scores (>12, $n = 19$ and <5, $n = 20$ respectively). In the present study the sample was not divided into quartiles as this would have neglected a large majority of the sample, and would therefore have resulted in superficial comparisons. The mean score in the present study (11.56, SD = 4.2), was comparable to the mean of the high scoring group in the Aleman and de Haan (2004) study. However, the mean in the present study is representative of the entire sample, indicating higher levels of fantasy proneness in the sample accessed, when compared to the Aleman and de Haan (2004) study.

Baker, Heinrichs, Kim and Hofmann (2002) in their analysis of the LSAS-SR as a self-report measure, on a sample of participants diagnosed with social phobia, found the mean for the total score on the LSAS-SR was 69.1 (SD = 25.5), whilst the means for the subscale scores ranged from 16.6 to 37.2 (SD's = 6.1 to 14.4). In the present study, the mean score on the LSAS-SR total was 46.02 (SD = 17.9). The LSAS-SR subscale scores

showed mean scores ranging from 10.54 (SD = 5.8) to 23.64 (SD = 10.2). It is important to note that the Baker et al. (2002) study was conducted on a clinical population, hence the findings of the present study were lower than this clinical sample, which is predictable for a general population. The findings of the Baker et al. (2002) study, with a total mean score of 69.1 is consistent with marked social anxiety (65-80) as stipulated by Liebowitz (1987). The mean score of 46.02 from the present study falls below the stipulation by Liebowitz (1987) for moderate social anxiety (55-65), which is consistent with a non-clinical population.

Iancu, Levin, Hermesh, Dannon, Poreh, Ben-Yehuda, Kaplan, Marom and Kotler (2006) conducted a study on 850 soldiers from the Israeli Defence Force to assess the prevalence of social anxiety in a non-clinical population, utilising the LSAS-SR as a measure. The mean of the total LSAS-SR scores was 29 (SD = 23.79) in this sample, with mean scores on the fear and avoidance subscales being 13.8 (SD = 12.7), and 15.2 (SD = 12.4) respectively. The mean on the total LSAS-SR scores in the present study were significantly higher at 46.02 (SD = 17.9), including on the totals for the fear and avoidance subscales at 23.64 (SD = 10.2) and 22.44 (SD = 10.2) respectively. This indicates that the student population accessed in the present study may experience higher levels of social anxiety, although they score below the moderate social anxiety score (55-65) stipulated by Liebowitz (1987).

Fresco, Coles, Heimberg, Liebowitz, Hami, Stein and Goetz (2001) in their study comparing the psychometric properties of the clinician administered (LSAS-CA) and

self-report format (LSAS-SR) of the LSAS, compared the results from a patient sample ($n = 99$) with a non-clinical sample ($n = 53$). The results from the non-clinical sample are relevant in comparison to the sample in the present study. The mean on the total score of the LSAS-SR on the non-clinical sample was 13.49 ($SD = 12.70$), whilst the subscale means ranged from 2.86 ($SD = 3.39$) to 7.49 ($SD = 7.21$). The findings from the Fresco et al. (2001) study reveal significantly lower results when compared to the current study (mean = 46.02; $SD = 17.9$). This again seems to suggest that the student population accessed in the present study experienced higher (though not necessarily clinically significant) levels of social anxiety. The reasons for the differences in mean scores between South African students, Israeli Defence Force soldiers and in the Fresco et al. (2001) study bears further investigation which is outside of the scope of the current study.

Significant Correlations

Scores from the CEQ were correlated with the total and subtotal scores of the LSAS-SR. The Pearson product-moment coefficient calculated for the CEQ score correlated with the LSAS-SR total score was $r = 0.28$ ($p < .05$) indicating that a weak but significant positive relationship was found between fantasy proneness and social anxiety, as measured by the CEQ and LSAS-SR respectively. Although the relationship in the present study was found to be weak, the implication of this finding is that a positive relationship between these constructs is present, thus supporting the need for further investigation to explore the nature and extent of this relationship. This investigation would be particularly relevant in relation to clinical samples, for example, with individuals diagnosed with

social anxiety and other anxiety disorders such as Panic Disorder and Obsessive Compulsive Disorder. The nature of this relationship with regards to other mental illnesses such as depression also bears further investigation.

The correlations calculated between the CEQ and the fear subscale of the LSAS-SR was $r = 0.26$ ($p < .05$) indicating that a weak but significant positive relationship was found between the CEQ and the fear/anxiety aspect of the LSAS-SR. This subscale measures levels of fear/anxiety experienced by an individual measured as on a scale of 0-3 with '0' indicating no fear/anxiety, and '3' indicating severe fear/anxiety in the social situation specified. This indicates, therefore, that a link was found between fantasy proneness and higher levels of fear/anxiety in social situations. By comparison the correlations calculated between the CEQ and the avoidance subscale of the LSAS-SR was slightly weaker, at $r = 0.22$ ($p < .05$). This subscale measures the extent to which an individual will avoid a social situation based on the levels of fear/anxiety they experience in the situation. This subscale is also measured on a scale with '0' indicating that a situation is never avoided, and '3' indicating that a situation is usually avoided (67-100% of the time).

This indicates that whilst both relationships were found to be statistically weak, a more significant link between fantasy proneness and fear/anxiety in social situations exists. In the sample accessed, therefore, individuals were less likely to avoid social situations based on the fear/anxiety they experienced. This is also consistent for the non-clinical

sample accessed as avoidance behaviour based on anxiety would be less prevalent in non-anxious individuals (Hirsch et al., 2006c; Sue, Sue & Sue, 2003).

Similarly, correlations calculated between the CEQ and the two components (social interactions and performance) of the avoidance subscale were correspondingly low. As part of the fear and avoidance subscales of the LSAS-SR, the scale also measures whether fear or avoidance is experienced more in performance situations (i.e. giving a talk in front of an audience) or social interaction situations (i.e. going to a party). The correlations between the CEQ and the social interaction and performance components of the avoidance subscale were not significant, indicating that avoidance behaviour as a result of fear/anxiety in the sample accessed, was not linked to fantasy proneness.

The social interaction and performance components of the fear subscale reveal correlations with the CEQ of $r = 0.2$ and $r = 0.27$ respectively (all at $p < .05$). The link between fear/anxiety and fantasy proneness reveals a weak but significant relationship, particularly in terms of the fear/anxiety experienced in performance situations in the sample accessed.

The findings of the present study, therefore, indicate that a weak but significant positive relationship exists between the constructs of fantasy proneness and social anxiety, particularly in terms of fear/anxiety experienced in performance situations. This is possibly due to the often evaluative nature of performance situations (such as giving a talk to an audience or giving a report to a group), where the possibility of feeling high

levels of embarrassment or making assumptions about the negative appraisal of others, is enhanced. In performance situations the attention of others' is often exclusively on the individual who may be experiencing anxiety. The anticipation and concomitant anxiety related to such an event may therefore be exacerbated by the knowledge of the individual being the focus of attention. As a result fear/anxiety might, therefore, be higher in the anticipation, and during, a performance situation. Further investigation into the fear/anxiety experienced as well as the possible anticipation of such situations will be valuable for additional exploration, and understanding of, this relationship.

Clinical Implications of a Relationship between Fantasy Proneness and Social Anxiety

Cognitive treatment interventions for social anxiety typically include processes which address the cognitive biases which operate in social anxiety (Burns, 1999; Wells, 2000). For example, the automatic thoughts which are triggered in the anticipation or during a social event are identified and techniques such as thought-stopping (where the client continuously tries to stop negative thoughts as they occur) and reality-testing (where the therapist assists the client in challenging negative automatic thoughts with factual information about the situation) are applied to counter the anxiety (Burns, 1999; Dryden, 2002; Wells, 2000;). These techniques are predominantly within the verbal, language domain, as they refer to language-based internal dialogues which occur in social anxiety (Dryden, 2002).

Recent research has explored the role of negative self-images in the development and maintenance of social anxiety (Hirsch, Clark, Mathews and Williams, 2003; Hirsch, Mathews, Clark, Williams & Morrison, 2006c; Wells, Clark & Ahmad, 1998). The role of imagery has thus begun to be incorporated into understandings of the working of the cognitive processes involved on social anxiety. Hirsch et al. (2003) and Hirsch et al. (2006c) discuss, as outlined in the literature review, the impact of holding in mind negative and/or positive images whilst engaging in social interaction. The findings of these studies underline the significance of imagery in social anxiety. The findings of the present study support the impact of imagery in social anxiety, as well as the clinical implications of utilising imagery in cognitive treatment paradigms.

Treatment modalities such as Gestalt, Rational Emotive Behaviour Therapy and Neuro-Linguistic Programming (Joseph, 2004) incorporate imagery in treatment interventions, for example, in the form of guided imagery for relaxation, mental rehearsal or visualisation (Joseph, 2004). The efficacy of the use of imagery in various therapeutic interventions has therefore been established (Burns, 1999; Dryden, 2002).

The findings of the present study, that a weak but significant positive relationship exists between fantasy proneness and social anxiety, lends support to the role which imaginative processes and imagery play in social anxiety, especially in relation to performance situations, as well as the value of incorporating imagery in the cognitive treatment of social anxiety.

The incorporation of imagery and imaginative processing into the understanding of the cognitive operations which are involved in social anxiety, into clinical interventions, would, therefore, enhance the efficacy of these interventions. In other words, by including the visual imagery aspect, a clinician would be able to access the way in which a client imagines themselves and their behaviour in social situations, as well as the images which come to mind during the anticipation of a social event. Developing techniques to challenge or adapt these negative self-images and related imagery, in conjunction with the verbal/language-based interventions (discussed earlier), will increase the efficacy of therapeutic interventions.

Limitations of the Study

There are several possible research methodology reasons for the weak but significant correlations obtained in the present study:

- a) Firstly, it can be asserted that the sample size was insufficient to generate a more significant statistical result. A larger sample may, therefore, have facilitated a more strongly significant result. As asserted by Neuman (1997), utilising a larger sample to represent a small population will increase levels of accuracy and reduce the probability of errors or biases occurring.

Whilst formulating the research design, it was conceptualised that a sample size of fifty would be sufficient to produce a significant result. Although a weak but

significant result was obtained, when regarded as a pilot, the sample and findings were sufficient in providing reason for future studies which utilise an expanded sample size.

- b) The sample population was obtained utilising a convenience, snowball sample (Neuman, 1997). This sampling method, however, resulted in a non-representative sample emerging as participants approached were, in the case of this study, from similar areas of study. This sampling method increased levels of bias as well as systematic errors. The sample could also not be said to be a representative cross-section of the population being studied, and which results were inferred upon (Neuman, 1997).

The sample in the present study consisted predominantly of postgraduate genetic counselling students and students from the humanities faculty, particularly psychology students. The limited pool of individuals accessed thus may have resulted in a bias in the results of the study. However, some diversity was evident in terms of race, gender and socio-economic background, which would facilitate some variability in the group.

Conducting a similar study on a clinical population of individuals diagnosed with social anxiety might also yield a more significant result. The student population accessed, as a non-clinical population, yielded on average low anxiety scores which therefore may have excluded them from the cognitive biases, anticipatory

processing and negative self-imagery which has been found to be characteristic of social anxiety in individuals with high social anxiety, or in clinical populations. A similar study conducted with a clinical population with higher social anxiety scores on the LSAS-SR might produce more significant results when their scores are correlated with CEQ scores. This is the next step for future studies.

It is important to note, however, that when compared to other non-clinical populations (as discussed earlier in this Chapter), the sample in the present study had higher mean scores for social anxiety. The reasons for this could be linked to higher anxiety levels when engaged in tertiary education, or to social stressors peculiar to a South African population, for example in relation to crime. This finding bears further investigation.

- c) The self-report format of the CEQ and LSAS-SR questionnaires facilitated parsimonious sample administration, as well as allowing for the maintenance of confidentiality and the removal of interviewer bias (Neuman, 1997). However, with self-report measures a demand or reactivity effect needs to be taken into account (Hirsch, Clark and Mathews, 2006a; Neuman, 1997). In the present study, it was possible that this effect occurred in that the students might not have wanted to appear anxious or unable to cope in anxious situations. This might have accounted for the relatively low LSAS-SR scores (as rated below the moderate social anxiety stipulation of 55-65; Liebowitz, 1987). Similarly, this effect might

have impacted on individual's answers on the CEQ, either positively or negatively, thus influencing the scores obtained.

- d) The instruments (CEQ and LSAS-SR) utilised in the study provided a valuable overview of fantasy proneness elements and social anxiety aspects respectively. The LSAS-SR particularly incorporated an indication of where social anxiety may be experienced (in performance or social interaction situations), as well as whether the experience of anxiety results in avoidance of these social situations (Heimberg, Horner, Juster, Safren, Brown, Schneier & Liebowitz, 1999; Safren, Heimberg, Horner, Juster, Schneier & Liebowitz, 1999). However, the questionnaire was limited in its assessment of the anticipatory aspects of social anxiety, as well as in the possible images which may be generated during the anticipation or situational experiences of social anxiety, these being central to the hypothesis of this study. Whilst an investigation into other social anxiety measurement instruments was completed (the Social Phobia Anxiety Inventory, Social Phobia Inventory, Beck Anxiety Inventory, Brief Social Phobia Scale) the LSAS-SR was found to provide a sufficient representation of the experience of social anxiety in a non-clinical population, and to have adequate psychometric properties (Fresco, Coles, Heimberg, Liebowitz, Hami, Stein & Goetz, 2001).

The utilisation of an alternative methodology which assesses more specifically anticipatory processing and self-imagery in terms of cognitive biases, as demonstrated in other studies reviewed, may provide more significant results. As

discussed in Chapter 2, biased cognitive processes including anticipatory processing and more specifically biased interpretations and negative self-imagery, have been found to play a role in social anxiety (Clark & Ahmad, 1998; Clark, Mathews & Williams, 2003; Clark & McManus, 2004; Clark & Wells, 1995; Hinrichsen & Clark, 2003; Hirsch et al., 2006a; Hirsch & Holmes, 2007).

Expanding the study to include a clinical population might also further allow for examining the positive relationship between fantasy proneness and social anxiety.

The CEQ highlights the developmental antecedents, intensity and associated elements and consequences of fantasising, which gives an indication of levels of fantasy proneness (Merckelbach, Horselenberg & Muris, 2001). It is, however, limited in assessing the content of fantasies and whether these are linked to maladaptive cognitions or emotions, or negative self images or views, as asserted by Rauschenberger and Lynn (2003). A methodology which facilitates accessing fantasy content, images and cognitions, may yield more significant findings in terms of the link between fantasy proneness and psychopathology, in the form of social anxiety.

Strengths of the Study

An important strength of this study is the high Cronbach's Alpha scores obtained for the CEQ (0.93) and LSAS-SR total (0.88) and subscales (alphas ranging from 0.89 to 0.91). Baker et al. (2002) found a 0.95 Cronbach's alpha coefficient on the total score of the

LSAS-SR, in their study of the psychometric properties of the LSAS-SR. The alphas for the subscales ranged from 0.79 to 0.92, which are comparable to the alpha coefficients in the present study. Alphas calculated in studies on the psychometric properties of the CEQ ranged from 0.72 to 0.76, whereas this study revealed an alpha coefficient of 0.93 (Merckelbach et al., 2001). These findings demonstrated the internal consistency of the scales and the reliability of using them in the South African context (Nunnally, 1978). These findings are relevant for future studies which may chose to utilise the scales, as well as the reliability of the use of these scales on a non-clinical South African population.

The findings of the present study revealed weak but significant correlations between fantasy proneness and social anxiety, which supports the hypothesis of the study. The findings therefore support the assertion that imagination, in the form of fantasy proneness, as a cognitive process, plays a role in social anxiety. Further investigation will be relevant for exploring the nature and extent of this relationship in more depth, particularly in relation to clinical populations.

The clinical implications of a positive relationship between fantasy proneness and social anxiety would be that imagination, as a cognitive process, can be utilised both to understand the experience of social anxiety in a clinical context, as well as in terms of formulating treatment interventions which draw on imagery and the self-images which might be present for clients with social anxiety.

Chapter 6

Conclusion

The present study attempted to establish whether a relationship exists between fantasy proneness and social anxiety: in order to determine whether being fantasy prone, or having a high imaginational ability, could play a role in social anxiety. Self-imagery has been found to play a role in the development and maintenance of social anxiety (Hirsch, Clark and Mathews, 2006a). As a feared social event is anticipated, negative self-images become activated which increases the experience of anxiety (Hirsch & Holmes, 2007). These continue to be present during the social event and become reinforced by negative interpretations of self-performance and the responses of others (Hirsch, Clark, Mathews & Williams, 2003). Mental imagery is a key characteristic of fantasy proneness where the ability to generate vivid imagery forms part of imaginational ability (Sanchez-Bernados & Avia, 2004).

As the anticipation of a feared event plays a key role in social anxiety; it was the hypothesis of the present study, that the establishment of a relationship between fantasy proneness (imaginational ability) and social anxiety may ascertain the role which imagination and fantasy play in the way a socially anxious person imagines a feared event and to the following experience of social anxiety.

Correlating the results obtained from a measure of fantasy proneness, the Creative Experiences Questionnaire (CEQ), and the Liebowitz Social Anxiety Scale (self-report version; LSAS-SR), the study attempted to ascertain whether a statistically significant relationship could be found between the constructs of fantasy proneness and social anxiety.

The findings revealed weak correlations between scores from the CEQ and the LSAS-SR total and subscale scores. This indicated that in the present study, utilising these instruments, a weak but significant positive relationship between fantasy proneness and social anxiety was found. The findings of the present study thus suggests, that people with higher scores for fantasy proneness, also have higher scores on social anxiety.

Research studies internationally have investigated the role of self-imagery in the development and maintenance of social anxiety, as well as the possible link between fantasy proneness and psychopathology. Whilst the findings of the present study supports the hypothesis presented, further investigation would be beneficial to further exploration of the relationship between fantasy proneness and social anxiety, not only in the general population, but including clinical samples. If a strong positive relationship between these constructs could be found in future studies, by utilising an alternative methodology, other instruments, or a bigger sample size, it might be found that the same element which plays a role in underlying social anxiety, might be utilised to play an adaptive role, particularly in a treatment context. In other words, a cognitive intervention which includes an adjunctive imaginal component could enhance the efficacy of cognitive treatment for

social anxiety. The accessing of the imagery and self-images operating in a clients' experience of social anxiety, and finding techniques to challenge or adapt these images, would facilitate the countering of social anxiety in a treatment context.

The present study can be regarded as a preliminary or pilot study which attempted to explore the relationship between fantasy proneness and social anxiety from within a cognitive theoretical paradigm. Although the findings of the study revealed weak correlations, the positive relationship between fantasy proneness and social anxiety remains significant. This relationship underlines the literature reviewed, which looked at the role of mental imagery in fantasy proneness as well as the function of negative self-imagery in social anxiety, demonstrating the connection between these aspects of both fantasy proneness and social anxiety. This bears further investigation.

The treatment and intervention implications of finding a relationship between fantasy proneness and social anxiety would reinforce, and expand, the use of imagery. It could be used in the development of an understanding of the workings of social anxiety, as well as of the potential for using imagery in treatment paradigms. A relationship between fantasy proneness and social anxiety could provide insight into the understanding of the role of fantasy proneness in the development and maintenance of psychopathology more broadly, as well as the possible adaptive aspects of drawing on fantasy proneness or imaginational ability in treating and counteracting psychopathology. A cognitive intervention that includes both the language-based verbal domain of the internal

dialogues operational in social anxiety, and the imagery/imaginative components of cognitive processing, will allow for increased efficacy in the treatment of social anxiety.

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APPENDIX A

CONSENT FORM

I understand the purpose and procedures of the research project which is titled:

'It's just your imagination': Fantasy proneness and social anxiety

I understand that I may withdraw at anytime from participation in this study, without any negative consequences. I also understand that all information I shall have given will be treated as confidential and that I will remain anonymous in the research report. I also understand that I have the right to refuse to answer any question. I may also request a copy of a summary of the results of this research project.

I (Name in block letters) _____ agree to participate in this research project conducted by Zureida Garda; a masters student studying clinical psychology at the University of Witwatersrand.

Signature (Participant): _____

Researcher (Zureida Garda): _____

Date: _____

BIOGRAPHICAL INFORMATION SHEET

Please fill in and mark appropriately on this biographical information sheet after completing the consent form- thank you.

Participant number: _____

Sex: _____

Area of study: _____

Date of Birth: _____

APPENDIX B

PARTICIPANT INFORMATION SHEET

Subject Information Form Participation in the Interview Process

Hello,

My name is **Zureida Garda** I am a student studying for a Master's Degree in Clinical Psychology which requires me to complete a research study. My study is summarised as follows:

Title - 'It's just your imagination': fantasy proneness and social anxiety.
Research aspects: Fantasy proneness and social anxiety
 Social anxiety is a form of anxiety where an individual becomes nervous as they think about a social event; such as giving a speech. Fantasy proneness refers to an individual's ability to imagine, visualise or daydream, in other words, their ability to fantasise.

You are invited to participate in the study. Should you consent to participate in the study, you will be required to complete two questionnaires which should take approximately 20 minutes to complete. All information disclosed will remain confidential. No names or identifying information will be used in reporting the results of the study. If you agree to participate, it will mean completing the questionnaires as described above.

Any questions which you may have, or additional information you may require, will be answered before, during and after the administration of the questionnaires.

Although I do not anticipate that filling in the questionnaires will be upsetting, should you require further support with emotional issues after completion of the questionnaires; telephonic counselling will be available to you. The required helpline telephone numbers will be made available before the administration of the questionnaires. The university student counselling centre also offers a counselling service free of charge to registered students.

Participation in the study is voluntary if you agree to take part and then if you chose to no longer participate; you may withdraw at any time. Non-participation will in no way influence or affect your academic record. If you agree to participate, please sign the consent form, which will be provided.

The results of the study will be published in the final research report once the study has been completed and may also be published in a journal article form. Only group trends will be reported. If you are interested in receiving a copy of a summary of the results of the study, you are welcome to approach me. The research report will be available in the Cullen Library once I have completed my degree.

Thank you for your time.

Zureida Garda – 082 322 7073

APPENDIX C

CREATIVE EXPERIENCES QUESTIONNAIRE (CEQ)

1] As a child I thought that the dolls, teddy bears and stuffed animals that I played with were living creatures	☐ YES	☐ NO
2] As a child I strongly believed in the existence of dwarves, elves and fairytale figures	☐ YES	☐ NO
3] As a child I had my own make believe friend or animal	☐ YES	☐ NO
4] As a child I could very easily identify with the main character of a story and/or movie.	☐ YES	☐ NO
5] As a child I sometimes had the feeling I was someone else (e.g. a princess, orphan, etc.)	☐ YES	☐ NO
6] As a child I was encouraged by adults to (parents, grandparents, brothers, sisters) to fully indulge myself in my fantasies and daydreams	☐ YES	☐ NO
7] As a child I often felt lonely	☐ YES	☐ NO
8] As a child I devoted my time to playing a musical instrument, dancing, acting and/or drawing.	☐ YES	☐ NO
9] I spend more than half the day (daytime) fantasising or daydreaming.	☐ YES	☐ NO
10] Many of my friends and/or relatives do not know that I have such detailed fantasies.	☐ YES	☐ NO
11] Many of my fantasies have a realistic intensity	☐ YES	☐ NO
12] Many of my fantasies are just as lively as a good movie.	☐ YES	☐ NO
13] I often confuse fantasies with real memories	☐ YES	☐ NO
14] I am never bored, because I start fantasising when things get boring.	☐ YES	☐ NO
15] Sometimes I act as if I am somebody else and I completely identify myself with that role.	☐ YES	☐ NO

16] When I recall my childhood, I have very vivid and lively memories.	☐ YES	☐ NO
17] I can recall many occurrences before the age of three.	☐ YES	☐ NO
18] When I perceive violence on television, I get so into it that I really get upset.	☐ YES	☐ NO
19] When I think of something cold, I actually get cold.	☐ YES	☐ NO
20] When I imagine I have eaten rotten food, I really get nauseous.	☐ YES	☐ NO
21] I often get the feeling that I can predict things that are bound to happen in the future.	☐ YES	☐ NO
22] I often have the experience of thinking of someone and soon afterwards that particular person calls or shows up.	☐ YES	☐ NO
23] I sometimes feel that I have had an out of body experience	☐ YES	☐ NO
24] When I sing or write something, I sometimes have the feeling, that someone or something outside my self directs me.	☐ YES	☐ NO
25] During my life I have had intense religious experiences which influenced me in a very strong manner	☐ YES	☐ NO

Liebowitz Social Anxiety Scale

Liebowitz MR. Social Phobia. Mod Probl Pharmacopsychiatry 1987;22:141-173

Number:

Age:

Date:

Gender:

Degree:

Fear or Anxiety:

0 = None

1 = Mild

2 = Moderate

3 = Severe

Avoidance:

0 = Never (0%)

1 = Occasionally (1-33%)

2 = Often (33-67%)

3 = Usually (67-100%)

	Fear or Anxiety	Avoidance
1. Telephoning in public. (P)		
2. Participating in small groups. (P)		
3. Eating in public places. (P)		
4. Drinking with others in public places. (P)		
5. Talking to people in authority. (S)		
6. Acting, performing or giving a talk in front of an audience. (P)		
7. Going to a party. (S)		
8. Working while being observed. (P)		
9. Writing while being observed. (P)		
10. Calling someone you don't know very well. (S)		
11. Talking with people you don't know very well. (S)		
12. Meeting strangers. (S)		
13. Urinating in a public bathroom. (P)		
14. Entering a room when others are already seated. (P)		
15. Being the center of attention. (S)		
16. Speaking up at a meeting. (P)		
17. Taking a test. (P)		
18. Expressing a disagreement or disapproval to people you don't know very well. (S)		
19. Looking at people you don't know very well in the eyes. (S)		
20. Giving a report to a group. (P)		
21. Trying to pick up someone. (P)		
22. Returning goods to a store. (S)		
23. Giving a party. (S)		
24. Resisting a high pressure salesperson. (S)		

APPENDIX D

HREC (2004)

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

**APPLICATION TO THE HUMAN RESEARCH ETHICS COMMITTEE
(NON-MEDICAL) FOR CLEARANCE OF RESEARCH INVOLVING
HUMAN SUBJECTS.**

Unless applications are received by the 7th of the month, they will be carried forward to the following month for consideration.

PROTOCOL NUMBER (for office use only): -----

This application must be typed or handwritten in capitals

NAME: Prof/Dr/Mr/Mrs/Ms/Miss- MS ZUREIDA TANYA GARDA

DEPARTMENT/INSTITUTION- PSYCHOLOGY DEPARTMENT

FULL TIME OR PART-TIME – FULL TIME

TELEPHONE NO. AND EXTENSION- 082 322 7073

E-MAIL - ztg7@yahoo.co.uk

TITLE OF RESEARCH PROJECT

'IT'S JUST YOUR IMAGINATION': FANTASY PRONENESS AND SOCIAL ANXIETY.

Is this research for degree purposes? If so, for what degree, and has it been approved by the relevant higher degrees committee or other relevant unit?

Yes, MA (Clinical) Psychology

WHERE WILL THE RESEARCH BE CARRIED OUT?

University Of The Witwatersrand.

WHO ARE THE RESEARCHERS AND WHO WILL SUPERVISE THE PROJECT?

Researcher: Zureida Garda
Supervisor: K. Greenop

PLEASE DESCRIBE FULLY THE PROCEDURES YOU PROPOSE TO CARRY OUT ON SUBJECTS AND INFORMANTS IN THE PURSUIT OF THE RESEARCH AIMS BY ANSWERING ALL THE QUESTIONS

Protocols submitted to the Committee must have the information that will enable it to judge the safety of procedures or confidentiality of information for research on human subjects.

The following questions have been designed for this purpose and should therefore be answered as fully as possible.

1. Give a brief outline of the proposed research.

The aim of the research report is to examine whether a relationship exists between fantasy proneness and social anxiety. The reason for the study is to explore the role of fantasy in the anticipation of an event that results in an anxiety response. A measure of fantasy proneness, the Creative Experiences Questionnaire, and a social anxiety scale, the Liebowitz Social Anxiety Scale, will be administered. The results of these scales will be statistically correlated to determine whether a significant relationship exists between these constructs. Little research evidence has been found on a possible relationship between these particular constructs, it is however the contention of this study that imagination plays a role in the imagining of an anticipated and feared event, and a subsequent anxiety response to the contents of the imagined outcomes of the event. If no relationship is found to exist between fantasy proneness and social anxiety, this will indicate that imagination does not play a role in maintaining social anxiety.

2. What research procedures are to be used?

The design is non-experimental and analysis of data will be quantitative. A correlational design will be utilised in order to describe and quantify the degree of relationship between the variables fantasy proneness and anticipatory anxiety.

Two self-report measures will be administered to the sample, namely;
Creative Experiences Questionnaire - the CEQ is a 25 item self-report measure of fantasy proneness with adequate test-retest reliability and internal consistency.

Liebowitz Social Anxiety Scale - the LSAS is a 24 item scale which was originally established as a clinician administered scale, with sound reliability and validity, developed to measure anxiety experienced in social and performance situations.

Procedure:

A selected group of students (see below) will be approached and asked to be volunteers for the study. As a snowball sampling procedure is the chosen approach for this research, this group of students will be asked to give the names of possible new contacts. The participants will be given a clear and detailed outline of the aims and purpose of the research. They will also be informed that should they agree to participate they have the right to withdraw from the research at any stage. The questionnaires will be administered individually or in small groups to the sample; this should take approximately twenty minutes.

3. What type of information is to be gathered? Where a questionnaire will be used, please attach a copy.

The questionnaires are both self-report measures:
Creative Experiences Questionnaire
Liebowitz Social Anxiety Scale (Self Report)

4. How will the subjects be selected and exactly what will they be told when asked to participate in the research?

A non-clinical sample of approximately 40 university students will be accessed. The sample will consist of volunteers. A non-probability convenience and snowball sampling procedure will be utilised to achieve the necessary sample size.

The researcher's initial target group will be a group of 4th year B.A and Engineering students. This group of students will be approached and asked to be volunteers for the study. As a snowball sampling procedure is the chosen approach for this research, this group of students will be asked to give the names of possible new contacts. This will facilitate for the broadening of the sample in this research study. The participants will be given a clear and detailed outline of the aims and purpose of the research. They will also be informed that should they agree to participate they have the right to withdraw from the research at any stage.

5. Will the research be of any direct benefit to the subject?

YES / NO (delete whichever is not applicable)
If 'YES' elaborate briefly.

No.

6. Are there any risks involved for the subjects? (For example – legal, psychological, financial or physical risks) If "yes", please identify them and explain how they will be minimised.

There are no direct risks to participants, however attention may be drawn to anxiety responses, counselling centre telephone numbers will therefore be made available to the participants before the administration of the questionnaires for any necessary further support:
 Depression & Anxiety Support Group – 011 783 1474
 Life Line – 011 728 1331

7. How is confidentiality to be guaranteed?

Participants will not be required to disclose their name or contact details. Only gender, area of study and age information will be obtained.

8 What is to be done with the raw research data after completion of the project?

The research data will be archived in the Psychology Department and kept with the examination scripts in a secure location.

9. How will the end results be reported, and to whom?

The end results will be published in the research report required for completion of the MA degree, and submitted to the supervisor and external examiner.

The results may also be used for journal publication after the completion of the research report.

APPENDIX E

Table 4: Goodness-of-Fit Tests for Normal Distribution: Kolmogorov-Smirnov D

Test	Statistic		p Value
CEQ	0.09014367	Pr>D	>0.150
LSAS-SR (TOTAL)	0.08133907	Pr>D	>0.150
LSAS-SR Subscales:			
LSAS-SR (Fear Total)	0.11457976	Pr>D	>0.097
Fear Subscale (Performance)	0.09622235	Pr>D	>0.150
Fear Subscale (Social Interactions)	0.10856821	Pr>D	>0.145
LSAS-SR (Avoidance Total)	0.07641562	Pr>D	>0.150
Avoidance Subscale (Performance)	0.12983737	Pr>D	>0.034*
Avoidance Subscale (Social Interactions)	0.09834914	Pr>D	>0.150

*significant