The Influence of Social Phobia in First Episode of Psychosis and Attentional Processing and the Ability to Use Theory of Mind

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NUMBERING

AS ORIGINAL

DECLARATION

This work has not been submitted to any other institutions for any other qualification.

Thesis Abstract

Chapter One: Literature Review

This chapter reviews the research surrounding the prevalence of comorbid social phobia in people diagnosed with schizophrenia. It then critically evaluates the eight studies that have specifically explored the relationships, if any, between social phobia and psychotic symptoms. The review surmises that the research findings are inconsistent, which seem to be attributable to methodological differences between all the studies in terms of participant selection, chronicity of psychotic symptoms and lack of consistent measures.

Chapter Two: Research Report

This study investigates attentional processing, the influence of social phobia and the ability to use Theory of Mind (ToM: the ability to infer other people's mental states and behaviour) in people diagnosed with their first episode of psychosis, when compared to healthy matched controls. The results showed that the first episode group attended towards negative evaluation, somatic sensations, physical threat, but not social situation word groups. Social phobia was highly prevalent in the first episode of psychosis cohort (37%) and this anxiety disorder was unrelated to psychotic symptoms. ToM processing was impaired in the first episode group. ToM was not related to social phobia symptoms, but was related to social functioning.

Chapter Three: Critical Appraisal

This section presents an overview of the experiences and personal reflections of the work that constitutes this thesis and includes the main personal learning points.

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Structure and Word Counts

Literature Review

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Research Report

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LIST OF CONTENTS

CHAPTER ONE

A Review of the Literature Exploring Comorbid Social Phobia in Schizophrenia

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A Review of the Literature Exploring Comorbid Social Phobia in Schizophrenia

Abstract

A review of the literature investigating the phenomenon of comorbid social phobia in individuals diagnosed with schizophrenia was conducted. First, it briefly considers the research surrounding the prevalence rates of comorbid social phobia in schizophrenia. The main emphasis of the review is on whether comorbid social phobia is related to the positive and negative symptoms associated with this condition and/or whether this anxiety disorder is a psychological reaction to being diagnosed with schizophrenia. It provides an up-to-date synthesis of the limited research currently available in this area and critically evaluates the studies and their findings. The review concludes that there is convincing support for the presence of comorbid social phobia in schizophrenia. The emerging evidence however is conflicting as to whether comorbid social phobia is intrinsic in the schizophrenia spectrum or a separate anxiety disorder. This is in part due to methodological differences between the studies. Overall, the review concludes that comorbid social phobia in psychosis is a serious and pervasive disorder that either occurs independently of, together with, or as a reaction to, being diagnosed with such a serious disabling psychiatric disorder. It recommends more research in the area and the need for social phobia to be recognised and treated as part of the care package for people diagnosed with psychosis.

A Review of the Literature Exploring Comorbid Social Phobia in Schizophrenia

Introduction

Psychosis is a complex and severe health problem with an organic and/or emotional origin. Peters, Joseph and Garety (1999) have argued that the symptoms of psychosis are experienced on a continuum from normal levels to a severe and disabling form. Maphosa and Kuipers (2004) detailed that the most common form of psychosis is schizophrenia, with the difficulties experienced comprising positive (e.g., hallucinations, delusions and thought disorder) and negative (e.g., self-neglect, social withdrawal and affective flattening) symptoms. Schizophrenia is in itself a multi-dimensional complex disorder including other symptoms such as anxiety and depression (Andreasen, 1995) and is the condition most often explored by the psychosis research.

Social phobia, together with other anxiety disorders such as obsessive-compulsive disorder and panic, are comorbid conditions often associated with schizophrenia (e.g., Cassano, Pini, Saettoni, Rucci & Dell'Osso, 1998; Turnbull & Bebbington, 2001). Social phobia is in itself a serious condition commonly characterised by high levels of social, educational and occupational impairment (Heimberg, Stein, Hiripi & Kessler, 2000). Social phobia is defined as a "marked and persistent fear of one of more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others" (American Psychiatric Association, 1994, p. 411). There are two distinct subtypes of this anxiety disorder, namely 'specific' and 'generalised'

(Lydiard, 2001). The former is generally confined to one fear, usually public speaking, and the latter is a pervasive form of the illness associated with several social anxiety fears. Brown and Barlow (1992) suggested that 'generalised' social phobia is often associated with comorbid anxiety, mood or psychiatric disorders, such as schizophrenia.

The research investigating comorbid social phobia in schizophrenia suggests that patients experience severe disabilities including a greater risk, when compared to those patients with schizophrenia without social phobia, of suicide (Pallanti, Quercioli, & Hollander, 2004), reduced social functioning (Blanchard, Mueser & Bellack, 1998), lower self-esteem (Gumley, O'Grady, Power & Schwannauer, 2004), social isolation and difficulty forming long-term relationships (Penn, Hope, Spaulding & Kucera, 1994). Despite this severity, Voges and Addington (2005) stated that the factors contributing to the development of comorbid social phobia in psychosis are not clear.

Indeed, comorbid social phobia often goes unrecognised in schizophrenia and consequently is rarely a target of treatment. Cassano et al. (1998) proposed that the validity of comorbid diagnoses is questionable due to the side effects associated with medication and possible overlapping of symptoms. They suggested that the primary diagnosis of schizophrenia often dominates clinical attention resulting in any comorbid anxiety disorders being viewed as less important or a non-specific epiphenomenona of the condition. Halperin, Nathan, Drummond and Castle (2000)

argued that social phobia is often considered to be part of the symptomatology of schizophrenia or that the treatment priority being placed on the positive and negative symptoms. There are also similarities between the symptoms common in social phobia and schizophrenia that can be conceptualised by looking at cognitive, behavioural and physiological processes.

In consideration of cognitive processing, persistent positive symptoms such as delusions can be characterised by delusions of reference and negative evaluative thinking. For example, in the social situation of a surprise party being thrown for a person, if this individual were experiencing paranoid ideation then examples of their cognitions would be "this is a trap to harm me", "they are all out to get me" or perhaps "this is the end" (Chadwick, Birchwood & Trower, 1996). If this person was experiencing social phobia, their thoughts would be more in relation to their performance in that social situation, e.g., "I must not show that I am nervous", "I don't want to appear stupid" or "If I get anxious people wont take me seriously" (Clark & Wells, 1995). These cognitions have different themes with the former relating to cognitions of threat/harm from others and the latter associated with themes of not performing well in social situations. Interestingly, the fear of negative evaluation from others is a common characteristic of both social phobia and delusions.

Behaviourally, for example, people diagnosed with schizophrenia, especially those experiencing heightened paranoia, may socially withdraw and avoid going out due to

beliefs that someone wants to harm them or that they may receive unwanted threatening communications. In social phobia however, the person may chose to avoid a social situation because they fear being negatively evaluated by others. Also, if a person experiencing social phobia does attend a social event, they tend to adopt safety behaviours (Salkovskis, 1991), such as holding their glass tightly so stop their hand from shaking. Thus, the difference here is that social phobia is not determined by a belief that 'harm' is going to come to them personally or by being overly suspicious, it is more likely to be in the guise of the belief that they will perform badly and be criticised by others.

High physiological arousal in social situations is a characteristic of both conditions (e.g., Clark & Wells, 1995; Morrison, 2001). The cause of such arousal however, probably differs as a result of their cognitive appraisal of the situation. People diagnosed with psychosis can fear harm or unwanted communications causing them to feel scared, tense, nervous and hypervigilant for signs of threat (Chadwick et al., 1996). Individuals experiencing social phobia also feel the same physiological reactions, but they are caused by fear of negative evaluation and that they won't perform well or by actually being in the social situation itself (Clark & Wells, 1995).

Taken together, it seems fair to suggest that both social phobia and psychotic symptoms do share some common characteristics. In support, Morrison (2001) argued that the positive symptoms of psychosis could be explained in a cognitive framework similar to that of anxiety models, due to the similarity between these

psychological conditions. For example, a vulnerable individual, based on cognitive and emotional factors, will make characteristic appraisals of 'the self' and the social world resulting in the occurrence of specific psychotic symptoms. Morrison described the key difference that determines a psychotic presentation is that of 'cultural unacceptability'. Namely, a delusional belief is if a person's heart is racing and they determine that this is a sign of aliens taking over their body, whereas if they decide that they are having a heart attack then this could be indicative of panic disorder. Morrison details that a belief that an alien is taking over one's body is not a culturally acceptable explanation and it is cognitive appraisals like this that determine the disorder.

Interestingly, the psychosis research investigating social phobia is limited especially when compared to obsessive-compulsive disorder, panic and depression (Pallanti et al., 2004). According to Pallanti and colleagues, this has resulted in the clinical relevance of social phobia in schizophrenia not being recognised and thus treated. To date, there are only two studies (Halperin et al., 2000; Kingsep et al., 2003) looking at the efficacy of cognitive behavioural therapy for social phobia in schizophrenia, thus providing limited evidence-based treatment recommendations (Lawrence, Bradshaw & Mairs, 2006). Both of these studies were from the same Australian group of researchers and involved a total of 53 patients in total. They both found the intervention had a positive impact on general psychopathology, social phobia and quality of life. From this work, Halperin et al. surmised that the social impairment

influenced by social phobia in schizophrenia is an independent domain and should be assessed and treated, alongside the positive and negative symptoms.

In view of the apparent severity of social phobia in schizophrenia (e.g., Penn et al., 1994) and the confusion surrounding whether this anxiety disorder is a distinct co-occurring condition (Cassano et al., 1998), this review critically evaluates the studies exploring the relationships between comorbid social phobia and schizophrenia. Within the constraints of this review, prospective studies that have identified that heightened social anxiety levels and poor pre-morbid adjustment are factors related to people who have gone on to be diagnosed with a psychotic condition (e.g., Jones, Rogers, Murray & Marmot, 1994; Malmberg, Lewis, David & Allebeck, 1998, Olin & Mednick, 1996) will not be included. The focus will be on investigating the literature concentrating on patients with current symptomatology of schizophrenia and social phobia and the evidence pertaining to factors and relationships between them.

The Search Strategy

The electronic databases 'Medline via PUB MED', 'PSYCINFO', 'Web of Knowledge' and 'Science Direct' were used to search for the appropriate literature for this review. The search terms used were as follows: social anxiety, social phobia, schizophrenia, psychosis, delusions, positive symptoms, negative symptoms, both independently and a combination of these terms. The searches were limited to the past 15 years and spanned 1992 to 2007. Only articles that are published in the

English language are included. Whilst reading relevant articles, the reference sections were scrutinised for further papers that would inform this review. Emails were also sent to leading experts in this field asking for any information or any unpublished studies or work in progress.

The Aims

The overall aim of this review is to develop a clearer clinical understanding of the phenomenon of comorbid social phobia in schizophrenia. The objective is to evaluate the current evidence about social phobia comorbidity in schizophrenia to inform not only the assessment and treatment processes, but also to identify factors that may play key roles in the development and expression of psychosis. To achieve this, the literature investigating the prevalence rates of social phobia in the most common form of psychosis, namely schizophrenia is briefly discussed. Next, the literature specifically looking at whether social phobia is part of the psychosis spectrum, or a distinct co-occurring condition or a psychological reaction to being diagnosed with psychosis, will be presented and evaluated. It is salient therefore to begin with the literature surrounding prevalence rates of social phobia in schizophrenia.

The Prevalence of Social Phobia in Schizophrenia

There have been a number of studies exploring the prevalence rates of social phobia in patients experiencing schizophrenia. For example, Cosoff and Hafner (1998) used the Structured Clinical Interview for DSM-III-R (SCID-III-R: Spitzer, Williams, Gibbon & First, 1992) to diagnose anxiety disorders in their study of 100 inpatients

experiencing schizophrenia, schizoaffective disorder or bipolar disorder. They reported that of the patients diagnosed with schizophrenia, 17% (10 patients out of 60) had clinical levels of social phobia. Similarly, Cassano et al. (1998) found that of 96 patients with current psychotic symptoms in an inpatient setting, 17% (5 out of 31) of those experiencing schizophrenia had comorbid social phobia based on the SCID-III-R.

Taken together, these inpatient studies clearly demonstrate that social phobia is a highly comorbid disorder with schizophrenia. However, there are a number of limitations that needs to be considered. Cosoff and Hafner (1998) pointed out that there is a selection bias in their study, as those presenting with comorbid anxiety disorders in the community may be more likely to be hospitalised due to being seen as more of a challenge to community based services. These authors also suggested that people diagnosed with psychosis who are hospitalised represent the most extreme end of the disorder, resulting in greater cognitive dysfunction and reduced level of social functioning. This impacts on the generalisability of these findings because people experiencing psychosis living at home as outpatients may display quite a different symptoms presentation. A further limitation is that neither of the studies included a reliable and valid psychometric measure to clarify clinical levels of social phobia.

More recently, prevalence rates have been recorded by outpatient studies (e.g., Huppert & Smith, 2005; Pallanti et al., 2004) and early intervention studies (e.g., Birchwood, Trower, Brunet, Gilbert, Iqbal & Jackson, 2006; Voges & Addington,

2005) using the SCID-IV (First, Spitzer, Gibbon & Williams, 1996). In addition, Pallanti et al. used the Liebowitz Social Anxiety Scale (LSAS: Liebowitz, 1987), together with other measures of psychological functioning. They found that of the 80 outpatients with schizophrenia, 36% (29 patients) had comorbid social phobia. Huppert & Smith (2005) used the Social Interaction Anxiety Scale (SIAS: Mattick & Clarke, 1998) to determine the presence of social phobia in 32 outpatients experiencing schizophrenia. This study found that 6 individuals (18%) were experiencing clinical levels of this anxiety disorder. Large percentages have been reported in the first episode client studies. For example, Voges and Addington included the Social Phobia Anxiety Inventory (SPAI: Turner, Beidel, Wolff, Spaulding & Jacob, 1996) and found that approximately 60% of the 60 first episode patients were experiencing clinical levels of social anxiety. In contrast, Birchwood et al. used the SIAS and the Brief Fear of Negative Evaluation scale (BFNE: Leary, 1983) to explore the comorbidity of social anxiety in 79 people with a first episode of psychosis. They reported that 29% (23 people) were experiencing clinical levels of social anxiety based on the SIAS.

The above outpatient studies also consistently suggest that social phobia is a prevalent anxiety disorder in this cohort. It is important to note that the increases in percentages when compared to the inpatient research, with the exception of the data reported by Huppert and Smith (2005), could be attributable to the use of specific social phobia measures. In support, Voges and Addington (2005) only found that 32 % of their sample met the criteria for social phobia when using the SCID, whereas

around 60% were classified with clinical levels of social anxiety using the SPAI. Interestingly, this first episode study also reported a higher percentage when compared to the Birchwood et al. study (60% vs 29% respectively). This considerable difference could be due to the SPAI being used in Voges and Addington's research and the SIAS in the latter study. To date, only the SIAS has been shown to be a reliable and valid measure of social phobia in this client group (Huppert, Smith & Apfeldorf, 2002). Indeed Voges and Addington noted that the lack of a reliable and valid measure of social phobia for this cohort is a limitation of their work.

Section Conclusion

The inpatient and outpatient research demonstrates that social phobia is a significant co-occurring anxiety disorder in patients experiencing schizophrenia. The variance in percentages could be attributed to several factors including the fact that the patients experiencing schizophrenia will be in different stages of their condition, which may in turn impact on levels of social phobia. The validity and reliability of self-report social phobia measures in general needs further research to establish the best measure for this anxiety disorder in people with schizophrenia.

The Factors Contributing to Social Phobia in Schizophrenia

This part of the review includes six papers that have specifically explored the relationships between social phobia and schizophrenia symptoms in inpatient and outpatient cohorts. It also describes and evaluates two additional studies looking at

whether social phobia occurs as a psychological reaction to the shame and stigma associated with the diagnosis of a psychotic illness. Please see Table 1.1. for a brief summary of these studies.

Is Comorbid Social Phobia Related to Schizophrenia Symptoms?

Penn et al. (1994) explored the phenomenon of social phobia in schizophrenia in 38 inpatients experiencing a chronic course of schizophrenia. All of the participants were undergoing a rehabilitation programme. The study used a variety measures including the Fear Questionnaire (FQ: Marks & Mathews, 1979) and a ward version of the social phobia sub-scale on the FQ, which was designed specifically for this study. Trained researchers, who were blind to the aims of the study, conducted behavioural ratings of social anxiety (e.g., eye contact, restlessness, speech rate) based on an unstructured role-play where the patients had a 3-minute conversation with a stranger to get to know one another. The research aimed to highlight the relationships, if any, between social phobia and positive and negative symptoms assessed using the Positive and Negative Symptom Scale (PANSS: Kay, Fishbein & Opler, 1987). The results showed that the patients' self-reported social anxiety on the FQ-Social phobia subscale was equivalent to clinical levels reported by patients diagnosed with social phobia. The relationships between self-reported levels of social phobia and negative symptoms were not significant. Positive symptoms were related to self-reported domains pertaining to fearful situations (e.g., social and agoraphobia). Negative symptoms were however related to behavioural social anxiety indices, such as rocking, speech rate and fluency. The authors concluded that skill deficits in social

situations are related to negative symptoms and self-reported agoraphobic and social fears are related to positive symptoms.

A major criticism of this study is that the behavioural indices of social anxiety that were highlighted as related to negative symptoms could as easily be attributable to the side effects associated with the anti-psychotic medication. All participants were taking medication that is associated with such side effects as movement disorders (e.g., shaking, rocking), sedation, cognitive and motor slowing (Otto et al., 2000). Indeed, Penn et al. (1994) recognised that a limitation of their work was that they did not measure any medication side effects. Therefore, any conclusions as to the relationship between behavioural signs of social anxiety and schizophrenia need to be considered within this constraint. Furthermore, there is a selection bias here as they only looked at a treatment seeking inpatient cohort, thus limiting the generalisation of these findings.

In 1998, Cassano et al. investigated psychiatric comorbidity in 96 hospitalised patients experiencing psychotic disorders using a range of clinical measures. Following diagnosis of schizophrenia by 3 senior psychiatrists, the SCID-III-R was used to diagnose psychiatric disorders including positive symptoms. Negative symptoms were assessed using the Scale for the Assessment of Negative Symptoms (SANS: Andreasen, 1983). No independent clinical measure of social phobia was used in addition to the SCID-III-R. The results showed that somatic delusions (positive symptoms), reduction in normal movement and lack of affect (negative

symptoms) were significantly associated with social phobia comorbidity and there was no association with hallucinations. The authors proposed that social phobia, compared to other comorbid anxiety disorders, showed the greatest association with schizophrenia symptoms and suggested that the presence of this comorbid disorder is likely to negatively impact on the severity of the illness.

The above study was an in-patient study recruited from open wards of an acute adult service and all of the participants were undergoing treatment, once again limiting the generalisability of the findings. It includes a relatively large sample of participants although the socio-demographic details were not recorded so it is difficult to ascertain whether this research is ethnically diverse. The study would have benefited from a measure specifically designed to assess clinical levels of social phobia, similar to those mentioned in the prevalence section (e.g., SIAS). There is no comparison with patients experiencing social phobia without psychosis or a non-clinical matched control group to help clarify group differences. Another point to note is that despite using the SANS to specifically measure negative symptoms, the study did not assess positive symptoms with a measure designed to specifically assess these symptoms (e.g., Scale for the Assessment of Positive Symptoms [SAPS]: Andreasen, 1987).

Pallanti et al. (2004) addressed some of the aforementioned criticisms in a study designed to evaluate social phobia and its relationship to positive and/or negative symptoms in 80 outpatients experiencing schizophrenia. They also compared the questionnaire results from this cohort with 27 outpatients experiencing a current

primary diagnosis of social phobia. Pallanti and colleagues used the SCID-IV, LSAS, SAPS and SANS to assess anxiety, social phobia, positive and negative symptoms respectively. Twenty-nine patients with schizophrenia had comorbid social phobia and there were no differences between positive and negative symptoms between this group and the group of patients with schizophrenia without social phobia. Due to this similarity, the authors concluded that the presentation of comorbid social phobia in schizophrenia was unrelated to clinical psychotic symptoms. The schizophrenia group with social phobia demonstrated a greater likelihood of suicide attempts, alcohol and substance abuse and lower social adjustment and quality of life, when compared to the other groups. This group had a similar clinical presentation of social phobia as the patients with a primary diagnosis of social phobia when based on the LSAS. Furthermore, the patients diagnosed with schizophrenia without social phobia had significantly lower LSAS than the two other groups. Taken together, Pallanti et al. surmised that the findings demonstrate that social phobia is an independent and serious condition associated with schizophrenia that can emerge following a psychotic episode and requires treatments specially designed for this presentation.

The strengths of this research are that it includes a large number of participants who are managing their illness in the community and assesses positive symptoms, negative symptoms and social phobia with measures specifically designed to assess these factors. Once again, there is no information on ethnicity included, so it is difficult to draw conclusions on the ethnic diversity of the group. Interestingly, in contrast to the inpatient studies (Cassano et al., 1998; Penn et al., 1994), this study concluded that

social phobia in schizophrenia was unrelated to positive and negative symptoms. This conclusion however, was based on the fact that the schizophrenia groups with and without social phobia displayed no difference on symptomatology using the SANS and SAPS sum of global scores. To add further weight to this conclusion, the study would have benefited from the inclusion of analyses looking at the relationships between social phobia and sub-sections of the SANS and SAPS. Unfortunately, this type of correlational analysis is not included in this paper. An additional explanation of the differences between the inpatient and outpatient studies is that during an acute phase of experiencing positive symptoms (inpatients) the form of anxiety being observed may be different to that following recovery or successful management of symptoms (outpatients), and hence the non-significant findings in this study.

In an attempt to look at a more homogeneous group of people experiencing psychosis, Voges and Addington (2005) explored the relationship between social phobia, social functioning and schizophrenia symptoms in 60 first episode of psychosis patients. This study benefited from the inclusion of the SPAI to measure social phobia symptoms, the Social Functioning Scale (SFS: Birchwood, Smith, Cochrane, Wetton & Copestake, 1990) to measure social functioning and other measures of quality of life and assessments of self-statements. The PANSS was used to determine current positive and negative symptomatology. This questionnaire-based study found that higher SPAI scores were significantly associated with negative symptoms, negative self-statements and poorer social functioning, but not quality of life. Positive symptoms were unrelated to social phobia as determined by the SPAI.

This research benefited from looking at a sample of people in their first episode of psychosis, which means there are experiencing relatively similar symptoms and of a similar age (under 35 years), thus ensuring some homogeneity. This study is the first so far to report demographics showing that the majority were single (83%) and Caucasian (85%). These are, unfortunately, two possible limitations, as it is quite possible that being in a relationship will positively influence levels of social anxiety (e.g., Stein, Walker & Forde, 1994). Also, this study lacked cultural generalisability being based on a predominately white Canadian cohort. A further criticism that is acknowledged by the authors was that there was no control group of either people experiencing social phobia or not have any experience of mental health problems to compare the findings with. On a positive note, this research does show that comorbid social phobia is prevalent in people currently experiencing their first episode of psychosis and when considered in view of the previous studies, it seems fair to suggest that it continues throughout the chronic path of the illness.

Also in 2005, Huppert and Smith conducted a study examining how anxiety disorders manifests and interacts with schizophrenia symptomatology in of 32 outpatients diagnosed with schizophrenia. This study involved a variety of questionnaires assessing generalised anxiety, obsessive-compulsive disorder, panic, depression and of interest to this review social phobia. To assess the latter, the SIAS and Social Phobia Scale (SPS: Mattick & Clark, 1998) was used, as a previous study by Huppert, Smith and Apfeldorf (2002) found them to be a reliable and valid measure of social phobia in outpatients diagnosed with psychotic disorders. The relationships between

SIAS or SPS measures and negative symptoms as assessed by the PANSS were not significant. Positive symptoms determined by the PANSS, on the other hand, were related to social phobia characteristics. These included bizarre behaviour that was rated both by the participant and an interviewer and increased levels of self-reported paranoia were related to SPS. Huppert and Smith concluded that paranoia predominately is associated with social phobia, which would in turn impact on social and functional recovery in people diagnosed with schizophrenia.

This study provided a comprehensive assessment of anxiety disorders in schizophrenia and the participants, although small in number, were from a range of ethnic backgrounds. It seems fair to assume that the completion of over 10 self-report measures, in addition to other interviewer-led measures, would have been at the very least exhausting for the participants, especially as cognitive fatigue is a common side-effect of anti-psychotic medication (Otto et al., 2001). In addition, Ononaiye, Turpin and Reidy (in press) have suggested that the completion of such questionnaires could have primed the participants towards anxiety related information. It is difficult to know conclusively how these factors would impact on the results in this study, but the sheer number of questionnaires used and the possible influence on the participants' anxiety levels should be considered, together with fatigue effects.

A recent study by Lysaker and Hammersley (2006) attempted to explore the possible origins of social phobia in schizophrenia. They determined current positive and negative symptomatology using the PANSS and social phobia using the LSAS. The

authors also measured flexibility of abstract thought and quality of life to ascertain how this is affected in line with current symptom presentation. This paper was concerned with identifying whether the ability to process abstract information and/or significant delusions, which in turn impacted on behaviour, explained comorbid social phobia. In consideration of the former, it was proposed that deficits in cognitive abilities would influence the processing of subtle cognitive information during a social interaction leading to confusion and avoidance. Delusions on the other hand, could influence the person to interpret ambiguous social information as threatening, once again leading to confusion and avoidance. Sixty-five outpatients with a diagnosis of schizophrenia, from a host of ethnic backgrounds, were split into four groups. The groups comprised impaired abstract thought and delusions (11 patients) or no delusions (39 patients) and not having impaired abstract thought and delusions (15 patients) or no delusions (6 patients) and their levels of social phobia were assessed. The study reported that participants who had impaired abstract thought and delusions had significantly higher levels of social phobia, when compared to the other three groups who all had similar LSAS scores. In light of these results, Lysaker and Hammersley tentatively proposed that significant delusions and impairments trigger heightened social phobia because of the multiple combinations of confusion, ambiguity and threat. Although, they also documented that the opposite may be true, in that increased social phobia leads to such deficits and delusions.

This is an interesting study that attempted to look at the causality issue by looking at the relationships between impaired abstract thought processes, delusions and social

phobia. The results were however based on extremely small sample sizes with only 6 patients in the no impairment and no delusion group and 11 patients in the group that demonstrated greater scores on the social phobia measure. Such numbers limit the statistical power of the study and unfortunately the paper does not include any power calculations to inform the reader when considering the results. The authors do note that the limited age range with most of the participants being in their 40s impacts on the generalisability of their findings not only to an outpatient sample, but also to this age group. They also recognise that their findings need to be replicated and explored further by future research. The study does however include measures of social phobia and positive and negative symptomatology and they are the first to consider other factors that may impact on social phobia, such as impaired thought processes. It also shows, in support of the suggestions made earlier in this review, that delusions and social phobia share common characteristics and that impaired thought processes are the key to this commonality.

Section Summary

Overall, the studies exploring the associations between social phobia and schizophrenia are equivocal. For example, three of the studies, all of which used an outpatient cohort (Huppert & Smith, 2005; Lysaker & Hammersley, 2006; Pallanti et al., 2004) failed to find any evidence of a relationship between negative symptoms and social phobia. Only Penn et al. (1994), which is an inpatient study, noted a relationship between behavioural signs of social anxiety and negative symptoms, which could have easily been attributable to medication side effects. One inpatient

study (Cassano et al., 1998) and one first episode study (Voges & Addington, 2005), on the other hand, found self-reported levels of social phobia to be associated with negative symptoms. In contrast, the majority of studies (Cassano et al., 1998; Huppert & Smith, 2005; Lysaker & Hammersley, 2006; Penn et al., 1994) reported positive symptoms to be associated with self-reported social phobia. Only Pallanti et al. and Voges and Addington, both outpatient studies, found no evidence of a relationship between positive symptoms and social phobia.

In conclusion of this section, the apparent differences between the studies in the chronicity of the psychosis and their methodological limitations and inconsistencies, make it difficult to ascertain whether there is a relationship between the symptoms associated with schizophrenia and comorbid social phobia. The more precise details of the association, such as whether is dependent on negative and/or positive symptoms, symptoms severity and/or being an inpatient or outpatient requires further more systematic investigation using validated social phobia measures, as homogeneous a participant group as possible and incorporating behavioural as well as self-report measures of social phobia.

Social phobia as a Psychological Reaction to the Psychotic Illness

Two studies have looked at whether increased social phobia is a psychological reaction to being diagnosed with a psychosis (Birchwood et al., 2006; Gumley et al., 2004). Both studies made reference to Birchwood's (2003) proposal that social phobia underpins the perception of feeling shame, stigma and subordination to others

because of the diagnosis of psychosis. For example, Birchwood suggested that the loss of social status and goals, fear of stigma and feeling devalued as a human being resulted in feeling a sense of shame leading to emotional dysfunction. This dysfunction includes the fear of, and subsequent avoidance of, social situations/interaction, which acts as a safety behaviour to lessen such aversive feelings, which is a characteristic of the psychological disorder social phobia.

A questionnaire study by Gumley and colleagues (2004) investigated whether comorbid social phobia in schizophrenia is related to feelings such as loss, entrapment, shame and humiliation, when compared to participants who are experiencing schizophrenia without any additional anxiety disorder. The PANSS was used to measure current schizophrenia symptomatology and the Diagnostic and Statistical Manual (DSM-IV: APA, 1994) determined levels of social phobia. This resulted in 38 outpatients diagnosed with schizophrenia taking part, 19 with and 19 without social phobia. There were no differences between the two groups on positive and negative symptoms. The authors measured negative beliefs about self and illness and psychological distress. The participants experiencing schizophrenia with social phobia recorded significantly higher levels of negative beliefs about the illness and their self-esteem levels were lower than those without social phobia. Even after controlling for depression, entrapment, shame and self-esteem were still significantly different for the two groups. Gumley et al. surmised that in support of Birchwood (2003), negative beliefs about oneself and the experience of schizophrenia symptoms are factors associated with the occurrence of comorbid social phobia in psychosis.

This study was the first to provide direct evidence that the presence of negative feelings about the self and the psychosis were greater in those patients diagnosed with schizophrenia and comorbid social phobia, than those without an additional anxiety disorder. This study found, similar to the Pallanti et al. (2004) paper, that the social phobia was unrelated to the psychosis because there were no differences between the two schizophrenia sub-groups on positive and negative symptomatology. In order to make this conclusion more robust, a standardised clinical measure of social phobia needs to be incorporated. The authors noted that the study included a small sample size and that the self-esteem measure is highly mood-dependent. Birchwood et al. (2006) noted that the patients in this study had a long history of relapse, which restricts the generalisability of the results. Furthermore, it is difficult to draw any conclusions on whether these negative beliefs are a causal factor in the development of social phobia or whether the social phobia is a consequence of the negative bias.

Recently, Birchwood et al. (2006) explored not only social phobia in psychosis, but specifically if it occurred during the recovery phase of a first episode of psychosis when the stigmatisation feelings begin due to the diagnosis and experience of the illness. A total of 79 young people within 6 months of their first episode of psychosis completed a variety of questionnaires including the SIAS and BFNE to measure social anxiety/phobia and the PANSS to assess positive and negative symptoms. Other measures assessed depression, shame, cognitive appraisals of psychosis, pre-morbid functioning and social ranking. Similar to Pallanti et al. (2004) and Gumley et al (2004), positive and negative symptoms were not linked to social phobia

measures in either the 29% of the group who were experiencing clinical levels of social phobia or the whole group alone. This provides further evidence that social phobia is not related to the symptoms associated with the psychosis diathesis. The participants experiencing co-morbid social phobia perceived more shame and felt marginalised due to the psychosis, when compared to those without this anxiety disorder. The authors concluded that the social phobia seemed to increase following the onset of symptoms and recognised that this could also be attributable to latent pre-morbid anxiety and depression that acts as a vulnerability factor.

This final paper presented in this review provides an interesting insight into the role of social phobia in people experiencing their first episode of psychosis. The studied utilised a large sample of participants all in a similar phase of their psychosis and used reliable and valid measures of social phobia, psychosis and depression to inform their findings. The suggestion that social phobia is elevated following onset of the first episode is a prelimary one that is recognised by Birchwood et al. (2006) as requiring further research. However, Voges and Addington (2005) also provided support for this suggestion, if one accepts that the SIAS is a valid and reliable measure of social anxiety in this population. They found that 60% of their first episode sample were experiencing social phobia which may be attributable to the relatively early phase of the illness. A further strength of the Birchwood et al. paper is that it raised the issue of possible under-recording of social phobia symptoms in Black and Asian people experiencing psychosis, as there was only 17% from these backgrounds combined, compared to 39% classified as White in the social phobia

group. As mentioned previously, this study depends predominately on questionnaire data and it is impossible to determine from the paper what allowances were made for participants who may not have understood the questions or who were experiencing fatigue.

Section Summary

These two outpatient studies provide further evidence that social phobia is unrelated to the psychosis diathesis. The papers also highlighted the negative influence of shame, stigma and negative beliefs about the illness on the person experiencing schizophrenia, possibly impacting on heightened levels of social phobia in this cohort. More research is needed in this area, as the promising early findings need to be explored within different stages of this illness and with more ethnic diverse samples.

Overall Conclusions

The review has critically evaluated the literature pertaining to prevalence rates of social phobia in schizophrenia, the relationships between these two disorders and whether the possibility that a psychological reaction to the diagnosis of schizophrenia can partly explain comorbid social phobia.

In summary of the prevalence papers, the studies show that social phobia is a common comorbid disorder in schizophrenia. The percentages do vary which could be due to the aforementioned limitations, such as the questionnaires employed to measure social phobia and the severity and course of the schizophrenia symptoms.

Taking those into consideration however, social phobia still seems to be a highly comorbid and problematic anxiety disorder in schizophrenia.

Please see Table 1.1. for a brief summary of the eight studies investigating the relationships between social phobia and schizophrenia symptoms. This shows that five studies (Birchwood et al., 2006; Gumley et al., 2004; Huppert & Smith, 2005; Lysaker & Hammersley, 2006; Pallanti et al., 2004) failed to find any evidence of an association between negative symptoms and social phobia in a variety of patient groups experiencing schizophrenia. This is particularly interesting if one considers that emotional and social withdrawal are characteristics common to social phobia and negative symptoms in schizophrenia. Penn et al. (1994) reported that behavioural signs of social phobia were related to negative symptoms, but these could easily be attributable to medication side effects. Cassano et al. (1998) found that lack of movement and affect were related to self-reported levels of social phobia in their inpatient sample, which could once again be due to medication. In contrast, Voges and Addington (2005) found that social phobia was related to negative symptoms in a first episode cohort. Therefore, it seems fair to conclude that there is greater evidence to suggest that negative symptoms are not associated with social phobia symptoms, but that more research is needed in this area.

Table 1.1. also shows that half of the studies found that positive symptoms were significantly associated with social phobia. Interestingly, in both first episode studies (Birchwood et al., 2006; Voges & Addington, 2005), there was no evidence of a

relationship, which may be indicative of the possibility that social phobia is indeed a distinct disorder (in consideration of positive symptoms), especially when individuals are in their first episode of psychosis. Delusions (Cassano et al., 1998; Lysaker & Hammersley) and paranoia (Huppert & Smith, 2005) were the main positive symptoms associated with social phobia which is not surprising when one considers the similarity of fear of negative evaluation between these factors (Chadwick et al., 1996; Clark & Wells, 1995). This highlights the possibility that being currently symptomatic with positive symptoms is when the person is most likely to have heightened levels of social phobia, thus impairing the individual further both socially and functionally. The other two outpatient studies (Gumley et al., 2004; Pallanti et al., 2004) found no associations between positive symptoms and social phobia. This could be in part due to the lack of detailed statistical analyses to explore relationship factors.

Gumley et al (2004) and Birchwood et al. (2006) provided prelimary evidence that social phobia is a distinct psychological disorder that can occur as a consequence of the diagnosis of psychosis and the experiences that follows. This area is in its early research stages and as such requires more work looking at whether this is the case for individuals with more enduring and severe forms of the illness, as it is quite possible that the shame and stigma reduces once a manageable treatment strategy is in place (Killackey & Yung, 2007). This also raises the questions of what other factors influence social phobia in later stages of the illness, which is also an area requiring research.

There are some methodological considerations that may explain the inconsistencies in the findings. In terms of participant selection, there are obvious differences in age ranges and ethnicity (when recorded) across the studies. Some papers were also based on relatively small sample sizes, thus limiting the statistical power of the findings. Furthermore, all the studies included participants who were treatment seeking, thus not explaining what may happen to those who are treatment resistant or not actively seeking help (Birchwood, 2003). This limits the generalisability of the findings and shows the need for more research in this area.

It also seems fair to suggest that the very nature of a psychotic disorder means that it is difficult, if not impossible, to get a homogeneous group, due to the diverse nature of psychosis (Bentall, Jackson & Pilgrim, 1988). The studies, and their subsequent findings, are dependent on how the symptoms were measured and differences in the participants in relation to their symptom presentation, severity and whether they are currently an inpatient or managing their condition in the community. For example, Gumley et al. (2004) looked at outpatients who had experienced a series of relapses. This information was not consistently provided by the other papers, so it is difficult to ascertain the impact of relapses on the results. Voges and Addington (2005) and Birchwood et al. (2006) in some way attempted to address this issue by including only first episode clients and Killackey and Yung (2007) argued that those experiencing their first episode of psychosis could be experiencing less 'disability' when compared to multiple episode cohorts. These are all factors that need to be considered when interpreting the findings.

There were also a lack of non-psychiatric control groups or patients diagnosed with social phobia or indeed other anxiety disorders in these papers. Only Pallanti et al. (2004) included a group of patients with social phobia to compare the findings with the people diagnosed with schizophrenia. The inclusion of such control groups is vital because it allows for the determination of any findings being due to the differences between the groups and thus attributable to the psychosis diathesis.

The sheer number and type of questionnaires employed, how the participant was asked to complete them and whether of not an independent measure of social phobia was used are further methodological inconsistencies. The main criticism however is the general lack of a validated measure of social phobia being included in most of the studies. Huppert et al. (2002) have proposed the SIAS as a reliable and valid measure of social phobia in people experiencing schizophrenia. These authors consequently used this questionnaire in their later paper (Huppert & Smith, 2005), together with Birchwood et al. (2006). Other studies have either used the LSAS (Lysaker & Hammersley, 2006; Pallanti et al., 2004), the SPAI (Voges & Addington, 2005), the FQ (Penn et al., 1994) or no formal independent measure of social phobia (Cassano et al., 1998; Gumley et al., 2004). This will have influenced the findings because each questionnaire will be assessing different aspects of the anxiety disorder (Huppert et al., 2002). This would not only influence the contradictory findings in the associations between positive and negative symptoms and social phobia, but also the differences and accuracy of the prevalence data.

Future research in this area should focus on conducting systematic investigations into the relationships between comorbid social phobia and the symptoms associated with psychosis using reliable and valid measures of social phobia (e.g., the SIAS) and schizophrenia (e.g., PANSS). The research should clearly state the full demographics of their participant cohorts and include control groups comprising non-clinical matched controls and/or people diagnosed with anxiety disorders. Similar to Lysaker & Hammersley (2006), other possible factors, such as impaired thought processes, should be considered. The research needs to also include the stage of illness, number of relapses, whether or not the person is socially supported and other areas of cognitive functioning such as the ability to infer the mental state and behaviour of others, which is called Theory of Mind (Premack & Woodruff, 1978).

In conclusion, it is difficult to determine from the aforementioned research whether social phobia symptoms coexist as part of psychosis diathesis or whether it is an independent disorder. Of note, every study mentioned has called for more research into this area to inform theories, assessment and treatment. This includes studies that have sufficient statistical power, the inclusion of control groups and social phobia groups, together with validated anxiety measures. What these studies do provide however is an insight to the high prevalent rates of social phobia in schizophrenia and some of the relationship factors and psychological reactions that influence comorbid social phobia in schizophrenia, that further research can build upon. Although the findings from these studies are far from conclusive, and require further detailed and systematic investigation, mental health practitioners need to be alerted to the presence

and possibility of comorbid social phobia in individuals diagnosed with schizophrenia in order to implement further interventions aimed at improving functional and social recovery.

Table 1.1. Summary of the Findings from the Studies Investigating the Relationships between Comorbid Social Phobia and Schizophrenia

Study	Sample	S & SP Measures	Any Relationship Between Social Phobia and: Negative Symptoms	Positive Symptoms
Penn et al. (1994)	38 S inpatients	FQ, PANSS,	Yes - Behavioural	Yes – Social Fear
UK Study	Mean age 36.2 yrs	BFNE	Signs Only	
Cassano et al. (1998)	96 S inpatients	SCID-III-R	Yes - Movement	Yes - Delusions
Italian Study	Mean age not recorded	DSM-III-R	and affect	
Pallanti et al. (2004)	80 S outpatients	LSAS,	No	No
Italian Study	27 SP patients	SAPS, SANS		
	Mean age 36.2 yrs	SCID-IV		

Table 1.1. continued

Study	Sample	S & SP Measures	Any Relationship Between Social Phobia and: Negative Symptoms	Positive Symptoms
Gumley et al. (2004)	38 S outpatients	PANSS	No	No
UK Study	Mean age 34.4 yrs	DSM-IV		
Voges & Addington (2005)	60 FE outpatients	SPAI, PANSS	Yes	No
Canadian Study	Mean age 27.5 yrs	SCID-IV		
Huppert & Smith (2005)	32 S outpatients	SIAS, SPS	No	Yes - Paranoia
US Study	Mean age 36.6 yrs	SANS, SAPS		
		PANSS		

Table 1.1. continued

Study	Sample	S & SP Measures	Any Relationship Between Social Phobia and: Negative Symptoms	Positive Symptoms
Lysaker & Hammersley (2006)	65 S outpatients	LSAS	No	Yes – Delusions and
US Study	Mean age 48.7 yrs	PANSS		Thoughts
Birchwood et al. (2006)	79 FE out patients	SIAS, BFNE	No	No
UK Study	Age range 16-30	PANSS		

N.B. S = *patients diagnosed with schizophrenia* SP = *patients diagnosed with social phobia*

FQ = *Fear Questionnaire* SIAS = *Social Interaction and Anxiety Scale* PANSS = *Positive and Negative Symptom Scale*

SCID = *Structured Clinical Interview for Diagnostic and Statistical Manual for Anxiety Disorders (DSM)*

LSAS = *Liebowitz Social Anxiety Scale* BFE – *Brief Fear of Negative Evaluation Scale*

SANS = *Scale for the Assessment of Negative Symptoms* SAPS = *Scale for the Assessment of Positive Symptoms*

References

American Psychiatric Association (APA). (1994). *Diagnostic and Statistical Manual of Mental Disorders* (Vol. 4). Washington, DC.

Andreasen, N. C. (1983). *The scale of the assessment of negative symptoms in schizophrenia (SANS)*. Iowa City, Ia: University of Iowa.

Andreasen, N. C. (1987). *Schizophrenia: the scale for the assessment of positive and negative symptoms*. Milan: Cortina.

Andreasen, N. C. (1995). Symptoms, signs, and diagnosis of schizophrenia. *The Lancet, 346*, 477-481.

Bentall, R. P., Jackson, H. F., & Pilgrim, D. (1988). Abandoning the concept of schizophrenia: some implication of validity arguments for psychological research into psychotic phenomena. *British Journal of Clinical Psychology, 27*, 306-324.

Birchwood, M., Smith, J., Cochrane, R., Wetton, S., & Copestake, S. (1990). The social functioning scale: the development and validation of a new scale of social adjustment for use in family intervention programs with schizophrenic patients. *British Journal of Psychiatry, 157*, 853-859.

Birchwood, M., Trower, P., Brunet, K., Gilbert, P., Iqbal, Z., & Jackson, C. (2006). Social anxiety and the shame of psychosis: A study in first episode psychosis. *Behaviour Research and Therapy, 45*, 1025-1037.

Blanchard, J. J., Mueser, K. T., & Bellack, A. S. (1998). Anhedonia, positive and negative affect and social functioning in schizophrenia. *Schizophrenia Bulletin, 24*, 413-424.

Brown, T. A., & Barlow, D. H. (1992). Comorbidity among anxiety disorders: implications for treatment and DSM-IV. *Journal of Consulting and Clinical Psychology, 60*, 835-844.

Cassano, G. B., Pini, S., Saettoni, M., Rucci, P., & Dell'Osso, L. (1998). Occurrence of clinical correlates of psychiatric comorbidity in patients with psychotic disorders. *Journal of Clinical Psychiatry, 59*, 60-68.

Chadwick, P., Birchwood, M., & Trower, P. (1996). *Cognitive therapy for delusions, voices and paranoia*. Chicester: Wiley

Cosoff, S. J., & Hafner, R. J. (1998). The prevalence of comorbid anxiety in schizophrenia, schizoaffective disorder and bipolar disorder. *Australian and New Zealand Journal of Psychiatry, 32*, 67-72.

First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (1996). *Structured clinical interview for DSM-IV Axis I disorders (SCID), clinical version.* Washington DC: American Psychiatric Press.

Gumley, A. I., O'Grady, M., Power, K., & Schwannauer, M. (2004). Negative beliefs about self and illness: a comparison of individuals with psychosis with or without comorbid social anxiety disorder. *Australian and New Zealand Journal of Psychiatry, 38*, 960-964.

Halperin, S., Nathan, P., Drummond, P., & Castle, D. (2000). A cognitive-behavioural, group-based intervention for social anxiety in schizophrenia. *Australian and New Zealand Journal of Psychiatry, 34*, 809-813.

Heimberg, R. G., Stein, M. B., Hiripi, E., & Kessler, R. C. (2000). Trends in the prevalence of social phobia in the United States: a synthetic cohort analysis of changes over four decades. *European Psychiatry, 15*, 29-37.

Huppert, J. D., & Smith, T. E. (2005). Anxiety and schizophrenia: the interaction of sub-types of anxiety and psychotic symptoms. *CNS Spectrum, 10*, 721-731.

Huppert, J. D., Smith, T. E., & Apfeldolf, W. J. (2002). Use of self-report measures on anxiety and depression in outpatients with schizophrenia: reliability and

validity. *Journal of Psychopathology and Behavioural Assessment, 24*, 275-283.

Johnstone, E. C., Ebmeier, K. P., Miller, P., Owens, D. G. C., & Lawrie, S. M. (2005). Predicting schizophrenia: findings from the Edinburgh high-risk study. *British Journal of Psychiatry, 186*, 18-25.

Jones, P., Rogers, B., Murray, R., & Marmot, M. (1994). Child development risk factors for adult schizophrenia in the British 1946 birth cohort. *Lancet, 144*, 1398-1402.

Kay, S., Fishbein, A., & Opier, L. (1987). The positive and negative syndrome scale (PANSS) for schizophrenia. *Schizophrenia Bulletin, 13*, 261-275.

Killackey, E., & Yung, A. R. (2007). Effectiveness of early intervention in psychosis. *Current Opinions in Psychiatry, 20*, 121-125.

Kingsep, P., Nathan, P., & Castle, D. (2003). Cognitive behavioural group treatment for social anxiety in schizophrenia. *Schizophrenia Research, 63*, 121-129.

Lawrence, R., Bradshaw, T., & Mairs, H. (2006). Group cognitive behavioural therapy for schizophrenia: a systematic review of the literature. *Journal of Psychiatric and Mental Health Nursing, 13*, 673-681.

Leary, M. R. (1983). A brief version of the fear of negative evaluation scale. *Personality and Social Psychology Bulletin, 9*, 371-375.

Liebowitz, M. R. (1987). Social phobia, in modern problems in pharmacopsychiatry. In D. F. Klein (Ed.), *Anxiety* (pp. 141-173). Basel: Karger.

Lydiard, R. B. (2001). Social anxiety disorder: co-morbidity and its implications. *Journal of Clinical Psychiatry, 62*(1), 17-24.

Lysaker, P. H., & Hammersley, J. (2006). Association of delusions and lack of cognitive flexibility with social anxiety in schizophrenia spectrum disorders. *Schizophrenia Research, 86*, 147-153.

Malmberg, A., Lewis, G., David, A., & Allebeck, P. (1998). Premorbid adjustment and personality in people with schizophrenia. *British Journal of Psychiatry, 172*, 308-313.

Maphosa, W., & Kuipers, E. (2004). *Caring for someone with severe mental illness*: South London and Maudsley NHS Trust.

Marks, I. M., & Mathews, A. M. (1979). Brief standard self-rating scale of phobic patients. *Behaviour Research and Therapy, 17*, 263-267.

Mattick, R. P., & Clarke, J. C. (1998). Development and validation of measures of social phobia scrutiny fear and social interaction anxiety. *Behaviour Research and Therapy, 36*, 455-470.

Olin, S. S., & Mednick, S. A. (1996). Risk factors of psychosis: identifying vulnerable populations premorbidly. *Schizophrenia Bulletin, 22*(2), 223-240.

Ononaiye, M. S. P., Turpin, G., & Reidy, J. (in press). Attentional bias in social anxiety: manipulation of stimulus duration and social-evaluative anxiety. *Cognitive Therapy and Research.*

Otto, M. W., Pollack, M. H., Gould, R. A., Worthington, J. J., McArdle, E. T., & Rosenbaum, J. F. (2000). A comparison of the efficacy of clonazepam and cognitive-behavioral group therapy for the treatment of social phobia. *Journal of Anxiety Disorders, 14*, 345-358.

Owens, D. G. C., Miller, P., Lawrie, S. M., & Johnstone, E. C. (2005). Pathogenesis of schizophrenia: a psychopathological perspective. *British Journal of Psychiatry, 186*, 386-393.

Pallanti, S., Quercioli, L., & Hollander, E. (2004). Social anxiety in outpatients with schizophrenia: a relevant cause of disability. *American Journal Of Psychiatry, 161*(1), 53-58.

Penn, D. L., Hope, D. A., Spaulding, W., & Kucera, J. (1994). Social anxiety in schizophrenia. *Schizophrenia Research, 11*, 277-284.

Peters, E. R., Joseph, S. A., & Garety, P. A. (1999). The measurement of delusional ideation in normal population: introducing the PDI. *Schizophrenia Bulletin, 25*, 553-576.

Premack, D., & Woodruff, G. (1978). Does the chimpanzee have a theory of mind? *Behavioural Brain Science, 4*, 515-526.

Salkovskis, P. M. (1991). The importance of behaviour in the maintenance of anxiety and panic: a cognitive account. *Behavioural Psychotherapy, 19*, 6-19.

Schooler, N., Hogarty, G. E., & Weissman, M. M. (1979). Social adjustment scale II (SAS-II). In W. A. Hargreaves & C. C. Attkisson & J. E. Sorensen (Eds.), *Resource materials for community mental health program evaluators.* Washington, DC: US Department of Health, Education and Welfare.

Spitzer, R. L., Williams, J. B., Gibbon, M., & First, M. B. (1992). The structured clinical interview for DSM-III-R (SCID). History, rationale and description. *Archives of General Psychiatry, 49*, 624-629.

Stein, M. B., Walker, J. R., & Forde, D. R. (1994). Setting diagnostic thresholds for social phobia: considerations from a community survey of social anxiety. *American Journal Of Psychiatry, 151*(3), 408-412.

Turnbull, G., & Bebbington, P. (2001). Anxiety and the schizophrenic process: clinical and epidemiological evidence. *Social Psychiatry and Psychiatric Epidemiology, 36*, 235-243.

Turner, S. M., Beidel, D. C., Wolff, P. L., Spaulding, S., & Jacob, R. G. (1996). Clinical features affecting treatment outcome in social phobia. *Behaviour Research and Therapy, 34*(10), 795-804.

Voges, M., & Addington, J. (2005). The association between social anxiety and social functioning in first episode psychosis. *Schizophrenia Research, 76*(2-3), 287-292.

CHAPTER TWO

First Episode Psychosis and Comorbid Social Phobia:

Attentional Processing and the Ability to Use Theory of Mind

Word Count 9805 (excluding references)

Abstract

Comorbid social phobia is a prevalent disorder in people diagnosed psychosis. Cognitive models propose that selective attention to threat plays a vital role in the development and maintenance of anxiety disorders and psychosis. In contrast to the anxiety literature, there is a lack of cognitive research exploring attentional processing in psychosis. The present study investigated attentional processing in people diagnosed with their first episode of psychosis ($N = 19$) compared to matched non-clinical controls ($N = 19$). The participants performed a modified forced-choice dot-probe task incorporating somatic sensation, negative evaluation, social situation and physical threat word groups. The groups were also compared on a measure of theory of mind (ToM; the ability to infer mental states in other people) and the relationships between social phobia, social functioning and this task were explored. The results showed that the first episode group attended towards the somatic sensation, negative evaluation and physical threat word groups, in comparison to the control group who attended away. Thirty seven percent of the first episode group were experiencing clinical levels of social phobia which was unrelated to the psychotic symptomatology. ToM processing was impaired in the first episode group, when compared to the control group, which was related to social functioning. The results are discussed in relation to previous findings and theoretical perspectives.

Introduction

Anxiety disorders, and of specific interest to this paper social phobia, have been documented as comorbid disorders often associated with psychosis (e.g., Cassano, Pini, Saettoni, Rucci & Dell'Osso, 1998; Turnbull & Bebbington, 2001). Maphosa and Kuipers (2004) detailed that the most common form of psychosis is schizophrenia and the difficulties experienced comprise positive (e.g., hallucinations, delusions and thought disorder) and negative (e.g., self-neglect, social withdrawal and affective flattening) symptoms. The American Psychiatric Association (APA: 1994) defined social phobia as a "marked and persistent fear of one of more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others" (p. 411).

Common problems associated with comorbid social phobia in schizophrenia include poor social functioning, social isolation, social withdrawal and difficulty forming long-term relationships (e.g., Penn, Hope, Spaulding & Kucera, 1994). Prevalence rates of social phobia in schizophrenia range from 17% in inpatient groups (e.g., Cosoff & Hafner, 1998), up to 36% in outpatient studies (e.g., Pallanti, Querciolo & Hollander, 2004) and up to 60% in people experiencing their first episode of psychosis (Voges & Addington, 2005). Birchwood, Trower, Brunet, Gilbert, Iqbal and Jackson (2006), on the other hand, found that 29% of their first episode sample were experiencing social phobia. In comparison to Voges and Addington's work, this study used the Social Interaction and Anxiety Scale (SIAS: Mattick & Clarke, 1998), which is a validated social phobia measure for this cohort (Huppert, Smith & Apfeldorf, 2002).

The factors contributing to the development of comorbid social phobia in psychosis are not clear. Interestingly, social phobia and psychosis do share some common characteristics including social withdrawal, heightened physiological arousal in social situations and a belief that they are being negative evaluated by others (Chadwick, Birchwood & Trower, 1996; Clarke & Wells 1995). In an attempt to explain this phenomenon, Voges and Addington (2005) suggested that social phobia is intrinsic in the psychosis diathesis. Birchwood et al. (2006) posited that the development of social phobia could be attributed to the shame and stigma of being given a diagnosis of psychosis, leading to social withdrawal. Halperin, Nathan, Drummond and Castle (2000) proposed that the social impairment influenced by social anxiety is an independent domain of schizophrenia and as such should be assessed and treated, alongside the positive and negative symptoms.

Despite the fact that social phobia is highly prevalent and disabling when experienced with psychosis, Voges and Addington (2005) noted that this area has received little research attention. Indeed, the limited research exploring the relationships between social phobia and schizophrenia has been conflicting, insofar as some studies have reported social phobia to be associated with positive symptoms (e.g., Huppert & Smith, 2005; Lysaker & Hammersley, 2006), whereas others found no association between them (e.g., Pallanti et al. 2004; Gumley, O'Grady, Power & Schwannauer, 2004). Of note, two first episode of psychosis studies have found no relationship between positive symptoms and social phobia (Birchwood et al., 2006; Voges & Addington, 2005). In consideration of negative symptoms, studies have either found a

significant relationship (e.g., Cassano et al., 1998; Voges & Addington, 2005) or no relationship whatsoever (e.g., Huppert & Smith, 2005; Birchwood, 2006). Some reasons for these inconsistent findings include issues such as the lack of consistent social phobia measures, differences in the chronicity of the condition in the participant samples and methodological inconsistencies.

Cognitive models (e.g., Beck, Emery & Greenberg, 1985; Clark & Wells, 1995) have proposed that selective attentional processing of relevant threatening information is a key factor in the development and maintenance of anxiety disorders, whether they occur independently or part of a comorbid presentation. For example, Clark's (1986) model of panic stated that a panic attack results from the tendency to misinterpret one's bodily sensations in a catastrophic manner. The model suggested that this tendency is maintained by selectively attending to threatening interoceptive cues, such as signs of physiological anxiety. The cognitive approach to obsessive-compulsive disorder (e.g., Rachman, 1998) proposed that selective attention to threat is a maintenance factor in the appraisal and interpretation of intrusive thoughts and beliefs characteristic of this disorder. In consideration of social phobia, Clark & Wells (1995) emphasised that negative evaluation and negative self-performance are common factors in social phobia leading to selectively attending to threatening information pertaining to negative evaluation or personal signs of displaying anxiety.

Morrison (2001) attempted to apply such cognitive theoretical models to the understanding of the positive symptoms that are associated with psychosis (see Figure 1). Morrison argued that, in line with the self-regulatory executive function (S-REF) model proposed by Wells and Matthews (1994), hallucinations and delusions could be conceptualised by heightened self-awareness. The S-REF model hypothesises that heightened self-focused attention and an attentional bias towards salient threatening information, together with the negative cognitive appraisal of such information, is a characteristic of psychological dysfunction. This results in people experiencing psychosis displaying an attentional bias towards threatening information, ruminative processing and a dysfunction belief system.

Cognitive research has utilised the emotional Stroop task to assess attentional selective processing of threatening information in anxious populations. The task involves the presentation of threatening words (e.g., physical or social threat), together with control neutral words, that are presented to the participant in different colours. The participant is asked to name the colour of the word whilst ignoring the content of the word. An increased colour-naming latency for threatening words, compared to the neutral words or stimuli, indicates an attentional bias towards threat. Studies employing the emotional Stroop task have found that people with clinical levels of generalised anxiety disorder (e.g., MacLeod & Mathews, 1988; Mogg, Bradley, Millar & White 1995) and social phobia (e.g., Hope, Rapee, Heimberg & Dombeck, 1990; Spector, Pecknold & Libman, 2003) displayed an attentional bias towards threatening material.

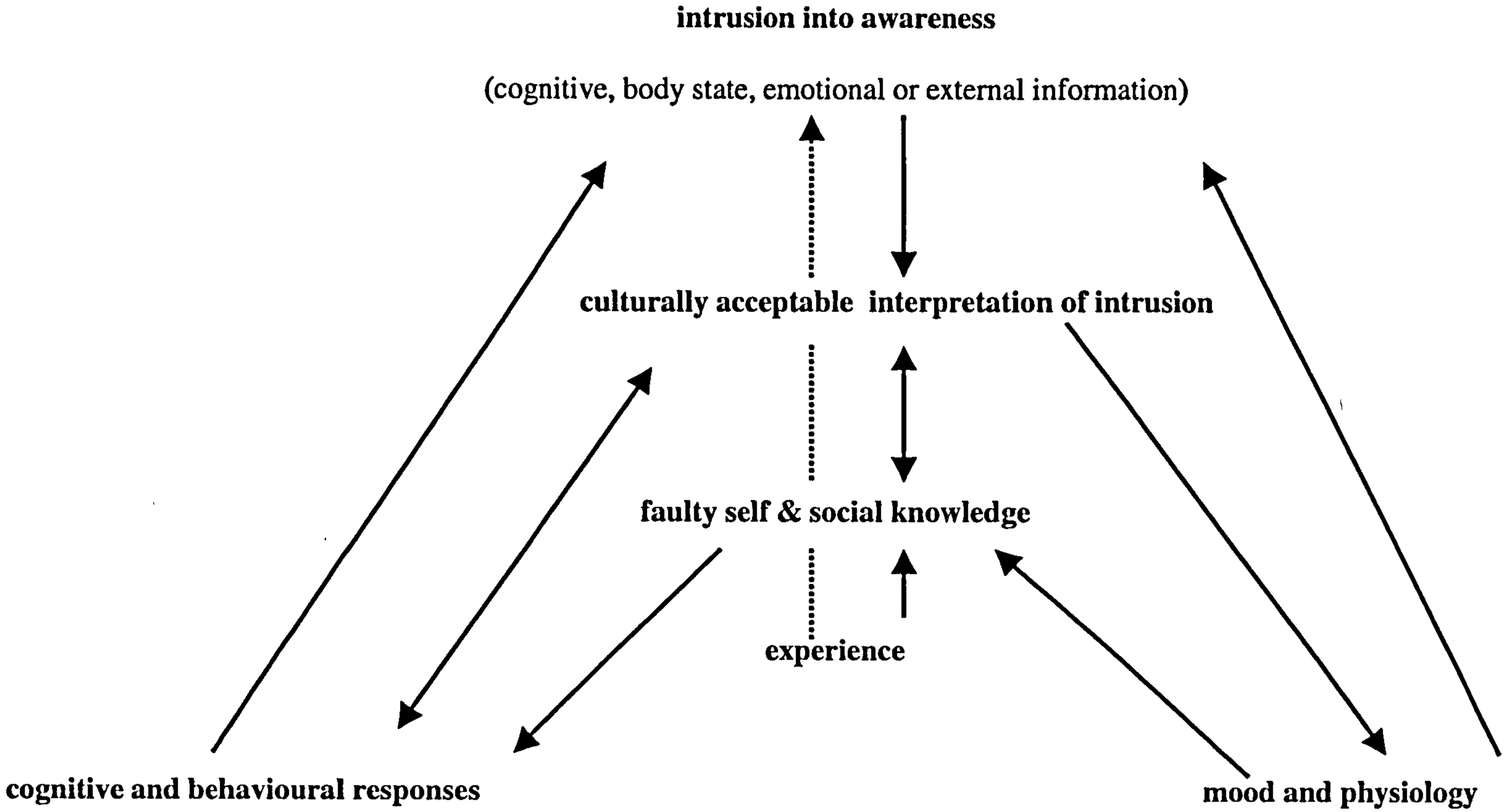

Figure 2.1. A Model of Psychosis (Morrison, 2001, p. 261)

Research exploring attentional processing in people experiencing symptoms associated with schizophrenia has also utilised this task. For example, Bentall and Kaney (1989) found that people experiencing persecutory delusions were slower than the control group to colour name paranoia words (e.g., spy, threat, persecute). Interestingly, this study did not find the same effect with depression-related words (e.g., sadly, afraid, hopelessly). These findings led them to conclude that the attentional bias associated with persecutory delusions is only towards delusion relevant stimuli, thus contributing to the continuation of the delusional beliefs. In contrast, Penn et al. (1994) did not find any interference effects with patients diagnosed with schizophrenia and thus no evidence of an attentional bias using the emotional Stroop task with social and physical threat words. In this study however, the Stroop task was completed after completing a role-play of being in a social situation. It seems fair to propose that such a demanding anxiety-provoking task may have increased social threat to such a level, which then caused the suppression of attentional bias towards further threat. This suppression effect has been documented in social anxiety (Ononaiye, Turpin & Reidy, in press) and social phobia (Amir, McNally, Reimann, Burns, Lorenz, & Mullen, 1996) studies.

Kinderman (1994) looked at attention to positive (e.g., calm, wise, positive) and negative (e.g., lazy, weak, foolish) trait words in a patient group experiencing persecutory delusions when compared to a control group using the emotional Stroop task. He found that people experiencing persecutory delusions demonstrated interference when naming both word groups, which indicates an attentional bias

towards the processing of information pertaining to the self. Kinderman surmised that this was indicative of the dysfunctional processing of information relating to the self, irrespective of the valence of the stimuli. A later study by Kinderman, Prince, Waller and Peters (2003) found that a patients experiencing persecutory delusions demonstrated, when compared to controls, an overall interference effect for threat words comprising sociotropic (e.g., isolated, helpless), autonomic (e.g., powerless, restrain), physical (e.g., pain, collapse) ego threat (e.g., ridiculed, mocked) and self-directed ego threat (e.g., failure, stupid). They did not find any significant interference effects with each individual word groups, only when the data was collapsed across all groups.

The Stroop task has, however, been widely criticised as an impure measure of attentional bias. Salemink, van den Hout and Kindt (2007) suggested that there are concerns as to whether this task actually reflects an attentional bias. For example, MacLeod (1991) pointed out that the increase in response latencies that is used as a marker of selective attention in modified Stroop studies could arise from post-attention elaboration. In support, Mogg and Bradley (1998) proposed that the interference effect with colour naming words occurs at the response selection stage (post-attentional) rather than during the pre-attentional stage.

Macleod, Mathews and Tata (1986) devised the visual dot-probe task to address these issues and there are currently two versions of this task. The dot-detection task comprises pairs of words (threat-neutral or neutral-neutral) being simultaneously

presented on a computer screen with a dot-probe occasionally following the stimulus presentations. The participant is requested to press a spacebar when and if they see a dot. In the critical threat-neutral trials, a dot-probe always replaces one of the words and the reaction times to the threat and neutral words in this trial provide the basis for the analysis. An attentional bias is indicative of greater vigilance towards a word group (e.g., threat word) that is characterised by shorter dot detection latencies.

Mogg and Bradley (1999) criticised this task because there has to be several numbers of filler trials (neutral – neutral trials with a dot following them) to stop the participant guessing that the dot always follows the threat-neutral trials. They argued that participants with emotional disorders might have difficulties in sustaining attention for the number of trials required with the dot-detection task. Mogg and Bradley proposed that forced-choice version of the task, on the other hand, involves only critical threat-neutral trials with a stimulus (e.g., E or F) appearing in place of one of the words and the participant presses the letter that corresponds with the one presented. Both versions of the task do address the criticisms of the Stroop paradigm (MacLeod, 1991; Mogg & Bradley, 1998), in that this task incorporates a bias free response (press a computer key) to a neutral stimulus (a dot or a letter).

There has been extensive research using the visual dot probe task with anxious populations such as generalised anxiety disorder (e.g., Mogg, Matthews and Eysenck, 1992) and social phobia (e.g., Musa, Lepine, Clark, Mansell & Ehlers, 2003; Ononaiye, Turpin & Reidy, submitted). The Musa et al. study found that individuals

diagnosed with social phobia without concurrent depression showed an attentional bias towards social and physical threat words. Ononaiye et al. found that people with clinical levels of social phobia showed an attentional bias towards physical threat words. Interestingly, to date there are no studies using either version of the visual dot probe task to explore the nature of attentional processing in people diagnosed with psychosis.

In a related vein, the relationship between social phobia, social functioning and the cognitive concept called Theory of Mind (ToM: Premack & Woodruff, 1978) has not been extensively explored in people experiencing psychosis (Doody, Gotz, Johnstone, Frith & Owens, 1998). Premack and Woodruff defined ToM as the capability to conceptualise other people's mental states and the ability to explain and predict much of their behaviour. Frith (1992) and Corcoran (2001) proposed that ToM skills develop normally and that it becomes impaired following the first episode psychosis. They argued that this is in contrast to children within the autistic spectrum who appear to be born with such a deficit. A ToM deficit in schizophrenia may be indicative of not knowing psychological concepts and/or not being able to apply them and/or not feeling able to justify their use due to the current psychotic symptoms (McCabe, Leudar & Antaki, 2004).

In a recent review, Lee, Farrow, Spence & Woodruff (2004) concluded that patients diagnosed with schizophrenia displayed impaired performance on ToM tasks. It is linked with social phobia and social functioning because ToM is considered to be a

socially acquired skill that is learnt through social interactions by a process of trial, error and self-reflection (Corcoran et al., 1995). Furthermore, it is proposed that a key feature of schizophrenia is the difficulty to act appropriately during social encounters (e.g., Doody et al. 1998; Frith, 1992) and thus the suggestion here is that there is a possibility that this deficit is connected with the ability to use ToM. Bora, Eryavuz, Kayahan, Sungu and Veznedaroglu (2006) directly looked at the relationship between social functioning and ToM processing in outpatients with schizophrenia. They found that social functioning was not related to performance on a selection of four out of the ten stories on the 'Hinting Task'. This task involves the participant inferring the intended meaning of a short story comprising two people. To date, there does not appear to be any research exploring social phobia and its relationship, if any, with deficits in ToM processing using the 'Hintings Task'.

The Aims

Overall, there is a lack of research investigating the influence of comorbid social phobia on cognitive processing in individuals experiencing psychosis. In view of this, the overall aim is to investigate cognitive processing in service users of an Early Intervention Service for people experiencing their first episode of psychosis. This study is the first to use a dot-probe task with people experiencing psychosis and has utilised the forced-choice version of the task to address the aforementioned criticisms by Mogg and Bradley (1999).

This study uses the same word groups as Ononaiye et al. (submitted) that looked at attentional processing in social phobia. Thus, this allows for the current study to compare attentional processing styles to the same categories of threat between people experiencing social phobia and people experiencing psychosis in this study.

Furthermore, this study aims to explore the prevalence of social phobia in this current sample of first episode clients and its relationship to positive and negative symptoms using the validated SIAS measure.

Finally, a ToM task called the 'Hintings Task' (Corcoran, Mercer & Frith, 1995), which is a social judgement task designed to assess the capacity of individuals to infer intentions behind direct speech will be included to explore possible relationships with social phobia and social functioning.

The Hypotheses

Attentional Processing

The hypotheses are considered in light of previous Stroop studies with individuals with psychosis (e.g., Bentall & Kaney, 1989) and dot-probe studies with people experiencing social phobia (Musa et al., 2003; Ononaiye et al., submitted). Therefore, in comparison to matched non-clinical controls, individuals with psychosis are expected to display an attentional bias toward the negative evaluation and somatic sensations word groups due to the high comorbidity of social phobia associated with psychosis (e.g., Cassano et al., 1998) and also that negative evaluation is common in

both social phobia (Clark & Wells, 1995) and psychosis (Chadwick et al., 1996). An attentional bias towards physical threat has been associated with social phobia (e.g., Musa et al., 2003; Ononaiye et al., submitted) and psychosis (e.g., Kaney & Bentall, 1989). Thus, individuals diagnosed with psychosis are hypothesised to demonstrate an attentional bias towards physical threat words, in comparison to the control group. Consistent with Ononaiye et al., there will be no group differences with the social situation word group.

Social Phobia and Psychotic Symptoms

In consideration of social phobia and psychotic symptoms, similar to the other early intervention studies (Birchwood et al., 2006; Voges & Addington, 2005), no relationship between the social anxiety and social phobia measures and positive symptoms are expected. The evidence was conflicting with the negative symptoms and social phobia, with Birchwood et al. reporting no relationship and Voges and Addington finding a significant relationship between them. As this current study uses the same social phobia measure as Birchwood and colleagues, the prediction is that there will be no relationship between these variables.

ToM Processing

In relation to ToM processing, as people experiencing psychosis have demonstrated an impaired ToM processing (Lee et al., 2004) and social functioning and social phobia has been linked to deficits in ToM, it is proposed that individuals with psychosis will demonstrate impaired ToM processing, when compared to the control group. It is also

proposed that there will be a relationship between social functioning and ToM performance. It is difficult to determine whether social phobia symptoms will be related to impaired performance on the ToM task, so the study aims to be the first to research this possibility.

Method

Power analysis

G*Power (Buchner, Erdfelder & Faul, 1997) was used to calculate the power analysis. Previous research by Ononaiye et al. (submitted) formed the basis for the assumption of a 'large' effect size of f = .40, a significance level of alpha = .05, and with two groups of participants, a total sample size of 44 (22 diagnosed with psychosis and 22 matched controls) is required to achieve 80% power. This number of participants is also similar to previous dot-probe research (Ononaiye et al., submitted; Mogg & Bradley, 2002) that also detected attentional processing effects. These power calculations suggest that the predicted number of participants in the study will be sufficient to carry out meaningful statistical analysis and detect any significant findings.

Participants

Early Intervention Group: The participants comprised service users recruited from the Early Intervention teams across Sheffield who provide a treatment and support program for individuals currently experiencing a first episode of psychosis. None of the people taking part were experiencing an acute episode of psychosis. Participants

were only included if they were diagnosed by the Early Intervention team, including a psychiatrist, as having experienced or currently experiencing a psychotic episode. The teams identified a possible 71 service users and the care-coordinators contacted each person individually to see if they would like to take part in the study. From the 32 people who initially agreed to take part, 21 service users actually completed the study. Two individuals were removed from the data due to them not having a diagnosis of psychosis by the Early Intervention team concerned. This left 19 individuals, of whom there were 12 men and 7 women with a mean age of 22.05 years (SD = 3.24). The majority of participants were Caucasian and there was 1 person each from an Asian, African and Chinese background. Eleven of the service users were students and 8 were unemployed and the mean years of education was 13.4 years (SD = 2.7). Those who had co-morbid substance abuse, learning difficulties or did not have English as a first language were excluded from the study.

Matched Non-Clinical Control Group: The 19 matched controls (12 male, 7 female) were directly matched for age (mean age = 21.74 years, SD = 5.0), ethnicity and years and education (mean education = 13.6 years, SD = 2.8). They were also matched for occupational/educational status and comprised young people using the services of a local centre to find employment (N = 8) or students from the University of Sheffield (N = 11). The participants were recruited in response to a poster or email advertisement that asked for people to take part in a study who were confident in all social situations. Participants also had to score 5 or below on the Social Avoidance and Distress Scale (Watson & Friend, 1967) to ensure that they had low levels of social anxiety. The

control group had no known history of any psychological disorders and were not experiencing any current psychological problems or psychotic symptoms. Those who had co-morbid substance abuse, learning difficulties or did not have English as a first language were excluded from the study.

Materials

Structured Clinical Interview – Positive and Negative Syndrome Scale (SCI-PANSS: Opler, Kay, Lindenmayer & Fiszbein, 1999) assessed the presence of positive, negative symptoms that are associated with psychosis and general psychopathology. The researcher, who was trained in the completion and scoring of this questionnaire, administered the SCI-PANSS and agreement for scoring was obtained from each participants' care co-ordinator. All items are rated from 1 (absent) to 7 (extreme) scored according to a standardised set of instructions. This measure has high internal consistency and homogeneity among the items (all *r*s > 0.73) and excellent test-retest (all *r*s > 0.77) reliability (Opler et al., 1999).

Social Avoidance and Distress Scale (SAD: Watson & Friend, 1967) is a 28-item true/false (14 true and 14 false) questionnaire measuring both actual, and desire of, avoidance of social situations and the distress caused by being in a social interaction (Watson & Friend, 1969). The SAD has sufficient reliability of 0.50 and the test-retest reliability is 0.79 (Watson & Friend, 1969).

Brief Fear of Negative Evaluation Scale (BFNE: Leary, 1983) is a 12-item questionnaire using a Likert scale (e.g., 1 = not at all like me to 5 = extremely characteristic of me) that determines a person's fear of the possibility of being evaluated negatively by others. This scale demonstrates high levels of internal consistency with a Cronbach's alpha of 0.86 and a good test-retest reliability $r = .84$ (Leary, 1983).

Social Interaction Anxiety Scale (SIAS: Mattick & Clarke, 1998) is a 20-item questionnaire assessing anxiety and fears of general social interactions. It has been extensively used in social phobia literature and a cut-off score of 36 indicates clinical levels of social anxiety from other anxiety disorders, with a sensitivity of 0.93 and a specificity of 0.66 (Peters, 2000). Huppert et al. (2002) reported that this questionnaire is a valid and reliable measure of social phobia in people experiencing psychotic symptoms with a Cronbach's alpha of 0.95 and a test-retest reliability of 0.65.

Social Functioning Scale (SFS: Birchwood, Smith, Cochrane, Wetton & Copestake, 1990) is a 79-item scale that measures levels of social functioning in individuals experiencing psychosis. It has seven subscales assessing social, interpersonal communication, activities of daily living, recreation, social activities, competence at independent living and occupation/employment. Raw scores of the 7 sub-scales are converted to scale score equivalents with a mean of 100 and a standard deviation of 15 (Birchwood et al., 1990). This measure has high internal consistency for the full scale with aCronbach's alpha of 0.80 for the full scale and all alphas > .69 for the subscales.

It has acceptable validity as determined by its ability to discriminate between pathology and social outcome (all *rs* > 0.44).

Hospital Anxiety and Depression Scale (HADS: Zigmond & Snaith, 1983) is a 14-item clinical tool comprising of statements and the individual rates one of four replies that applies to how they are feeling. Scores between 8 – 10 is indicative of mild, 11 – 14 is representative of moderate with 15+ being rated as severe levels of anxiety or depression. This scale has good internal consistency with a Cronbach's alpha of 0.93 for anxiety and 0.90 for depression (Moorey et al., 1991).

Visual Analogue Scale (VAS) measured an individual's level of state anxiety (ranging from 'not anxious" to ' extremely anxious') before and after the study.

The Modified Dot-Probe Task

There were 64 words threat words and 64 matched neutral words (see Table 2.1) that were taken from a recent study by Ononaiye, Turpin & Reidy (in press). The neutral words were matched with the threat words for length and frequency of usage in the English language. There were 4 categories of threat: somatic sensation (e.g., blushing, gasping), negative evaluation (e.g., criticised, humiliated), social situation (e.g., meeting, dating), and physical threat words (e.g., fatal, pain).

Table 2.1. Threat Words by Category

Somatic Sensation	Negative Evaluation	Social Situation	Physical Threat
sweating	stupid	meeting	injury
nervous	mocked	interview	disease
dizzy	foolish	public	lethal
shaky	embarrassed	audience	cancer
trembling	failure	conversation	pain
suffocating	disgraced	assessment	ambulance
breathless	pathetic	speech	deadly
nausea	inferior	presentation	illness
blushing	worthless	crowd	emergency
gasping	ridiculed	examination	violence
collapse	inept	party	doctor
tense	criticised	socialise	coffin
lightheaded	inadequate	performance	stroke
gagging	ashamed	dating	fatal
faint	humiliated	engagement	hospital
palpitations	incompetent	stage	coronary

All stimuli were presented to participants using an Applemac Powerbook G4 computer. Sixty-four trials were presented on a white screen and each trial began with a black cross in the centre of the screen for 500 milliseconds to act as a fixation point. Similar to Mansell, Ehlers, Clark & Chen (2002), a randomly chosen threat-neutral word pair was displayed in 40 point bold black Times typeface for 500 milliseconds. The words were diagonally opposite from each other, separated 8cm vertically, with their outside edges separated by 14cm horizontally. When the words disappeared, a

probe that comprised a 12-point light brown letter 'E' or 'F', appeared in place of either the threat or neutral word. The probability of the probe replacing the threat or neutral word and the threat and neutral word being presented in the upper left/lower right or lower left/upper right were equated across trials. The participants were instructed to press either the 'E' or 'F' key of a button box that corresponded with the probe presented on the screen as quickly and as accurately as they could. There were 10 practice trials, which were repeated until successfully completed, before they attempted the main block of trials.

The Hintings Task (Corcoran et al., 1995)

The 'Hintings Task' is a ToM measure that comprises 10 short passages, each describing an interaction between two people and all ending in one of the people dropping an obvious hint to the other. The participant is requested to say what the character really meant. An appropriate response is given a score of 2 and the next story is read out. However, if no appropriate response is provided further information is given and the participant attempts to give an appropriate answer and if achieved is given a score of 1. If the participant is unable to infer the intended meaning then they receive a score of 0. All items on the task are read aloud for the individuals by the researcher.

Procedure

The appropriate ethical approval from the North Sheffield Ethics Committee and clinical governance from Sheffield Care Trust was obtained for this study. Following

consent, the participants, each tested individually in a quiet room, rated their current levels of anxiety on the VAS and completed the SAD, BFNE, SIAS and HADS. The researcher was available to assist participants when and if necessary throughout the study. Next, they took part in the modified dot-probe task, which was followed by the completion the SFS. The trained researcher then administered the SCI-PANSS and the 'Hintings Task'. Following this, the participant was fully debriefed, rated their anxiety level once again on the VAS, thanked for taking part and given £5 as a contribution to their travel expenses.

Results

Participant Characteristics

Independent *t*-tests were conducted on the participants' scores on each of the questionnaires. Table 2.2 shows the means, standard deviations and *t*-test results for these questionnaires. This revealed that in comparison to the controls, the first episode group had significantly higher levels of SAD, BFNE, SIAS, and HADS than the matched controls. The controls had significantly higher levels of SFS than the first episode group. The first episode group recorded significantly higher anxiety levels both before and after the study on the VAS than the controls.

Table 2.2 *Group Characteristics*

	First Episode Group ($N = 19$)		Control Group ($N = 19$)		
	M	SD	M	SD	*t*
VAS Start	0.6	0.8	0.1	0.3	2.76*
VAS End	0.3	0.6	0.0	0.0	2.04*
SAD	13.1	7.7	2.1	1.1	6.15**
BFNE	38.9	10.9	24.6	6.3	4.93**
SIAS	30.8	17.7	10.1	6.4	4.81**
HADS-A	8.4	4.9	3.8	2.7	3.54**
HADS-D	7.5	3.6	1.2	1.2	7.23**
SFS	105.8	7.0	122.4	4.3	-8.76**
SCI-PANSS *(First Episode group only)*:					
Positive Scale	12.9	5.0			
Negative Scale	10.5	4.4			
General Psychopathology	23.3	6.0			

n.b. * denotes $p < .05$ ** denotes $p < .001$

Attentional Processing

The aim of this part of the study was to ascertain the nature of the attentional bias in people under the care of Early Intervention services, in relation to different categories of threat, when compared to non-clinical matched controls.

Reaction Time Data Analysis

The data analysis for the probe detection task was calculated on the reaction times for the correct responses only and the times for the incorrect responses were removed from the data (4%). The outliers were removed by excluding latency data that fell outside two standard deviations from the mean score for each participant. A repeated measures ANOVA was undertaken with participant group (first episode vs. controls) as the between-participant variable and word type (somatic sensation, negative evaluation, social situation and physical threat), probe position (upper vs. lower) and word position (upper vs. lower) as within-participant variables. This revealed no significant main effects of word type, word position or probe position (all Fs < 1). The four-way interaction involving word type x probe position x word position x group was also not significant, $F(3, 108) = .23$, $p = .87$, *partial* $^2 = .01$. However, the main effect of group was significant, $F(1, 36) = 5.77$, $p = .02$, *partial* $^2 = .14$. Pairwise comparisons revealed that the first episode group were slower ($M = 728$) than the Control group ($M = 635$) on detecting the probe[1].

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[1] Please note the analysis remained unchanged throughout this section when co-varying for anxiety and depression.

Table 2.3. *Reaction Times in MSecs (SDs in parenthesis) in the Dot-Probe Task for the First Episode Group and the Control Group*

	Negative Evaluation		Physical Threat		Social Situation		Somatic Sensation	
	Probe		Probe		Probe		Probe	
	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
First Episode Group:								
Threat Word Upper	695*(119)*	744*(120)*	691*(136)*	752*(182)*	720*(184)*	769*(206)*	716*(153)*	721*(148)*
Threat Word Lower	727*(131)*	735*(170)*	763*(212)*	737*(187)*	708*(144)*	698*(174)*	748*(139)*	698*(174)*
Control Group:								
Threat Word Upper	643*(94)*	635*(100)*	632*(112)*	644*(94)*	631*(96)*	648*(130)*	640*(118)*	651*(80)*
Threat Word Lower	624*(91)*	626*(99)*	652*(105)*	625*(85)*	631*(109)*	625*(125)*	630*(135)*	625*(125)*

Attentional Bias Score Analysis for each Word Group

To explore the results in relation to the hypotheses, attentional bias scores (cf. MacLeod et al., 1986) were calculated for each word group using the following equation: 0.5 x [(UpLt-UpUt) + (LpUt-LpLt)], where U = upper position, L = lower position, p = probe, t = threat word. The bias score reflects the word position x probe position interaction with positive values reflecting selective attention towards and negative values reflecting an attentional bias away from the threatening words.

As with the reaction time data, the repeated measures ANOVA revealed a non-significant interaction between the attentional bias scores (somatic sensation, negative evaluation, social situation and physical threat) and group (first episode vs controls), $F(1, 36) = .94$, $p = .43$, *partial* $^2 = .02$. There was also the same between group differences, $F(1, 36) = 5.65$, $p = .02$, *partial* $^2 = .14$. This was explored using independent t-tests on each word group separately. Please see Figure 2.2. for details of each word group's bias score for each participant group.

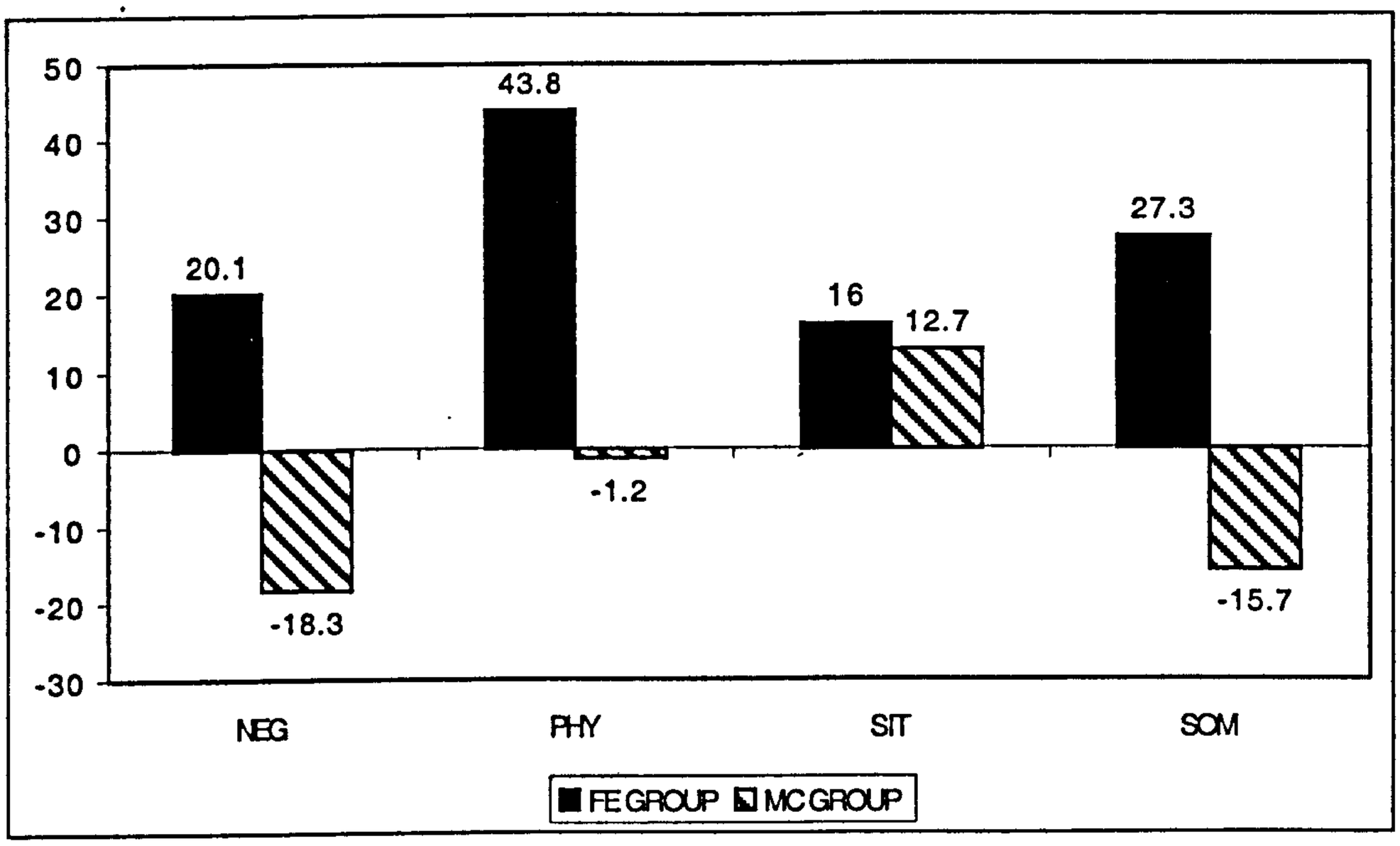

Figure 2.2. *Bar Chart Displaying Each Word Group's Mean Attentional Bias Score for the First Episode (FE) and Matched Control (MC) Groups*

Negative Evaluation Word Group:

There was a significant difference between the first episode group and the control group in response latencies to negative evaluation words. The first episode group displayed an attentional bias towards the negative evaluation words, in comparison to the control group who attended away from this word group, $t(36) = 2.00$, $p = .03$, $d = .64$.

Physical Threat Word Group:

The analysis revealed a significant difference between the groups in relation to the responses to the physical threat words. The first episode groups attended towards the words and the control group attended away, $t(36) = 1.91$, $p = .03$, $d = .61$.

Somatic Sensation Word Group:

There was a significant difference between the two groups in probe detection latencies with the somatic sensation words. The first episode group attended towards the somatic words and the control attended away, $t(36) = 1.82$, $p = .04$, $d = .61$.

Social Situation Word Group:

There was no significant difference between the first episode group and the control group with this word group, $t(36) = .152$, $p = .440$, $d = .58$.

Comparison with Ononaiye et al.*'s (submitted) Social Phobia Study*

A study by Ononaiye et al. (submitted) uses the same word groups and employed a probe detection dot-probe task to explore attentional processing in phobia. Of course, the comparison of different studies should be done with caution because of the differences in experimental conditions, measures and demographics (see Table 2.4). This Table shows that the First Episode group were on average slightly older but with a wide variation in age and had lower SAD scores than the social phobia group. The comparison of two different detection tasks is considered another confounding

variable, although Salemink et al. (2007) proposed that this is possible once the data has been transferred to attentional bias scores.

Table 2.4. Comparison of Participant Characteristics

	Social Phobia Group *(Ononaiye et al., submitted)*	First Episode Group *(Current Study)*
Number of Participants	16	19
Age	25.4 (11.0)	22.1 (3.24)
SAD	22.4 (3.3)	13.1 (7.7)
SIAS	N/A	38.8 (17.7)

Figure 2.3. compares the attentional bias scores from the current study (first episode group only) and the study by Ononaiye et al. (submitted) investigating attentional processing in people experiencing social phobia. It shows that the first episode group attended towards each word group, whereas the social phobia group only attended towards the negative evaluation and physical threat word groups. Furthermore, the first episode group displayed greater attentional bias towards these two word groups than the social phobia group. This suggests that the first episode in psychosis group is hypervigilant towards a variety of threats and to a greater intensity than the social phobia group.

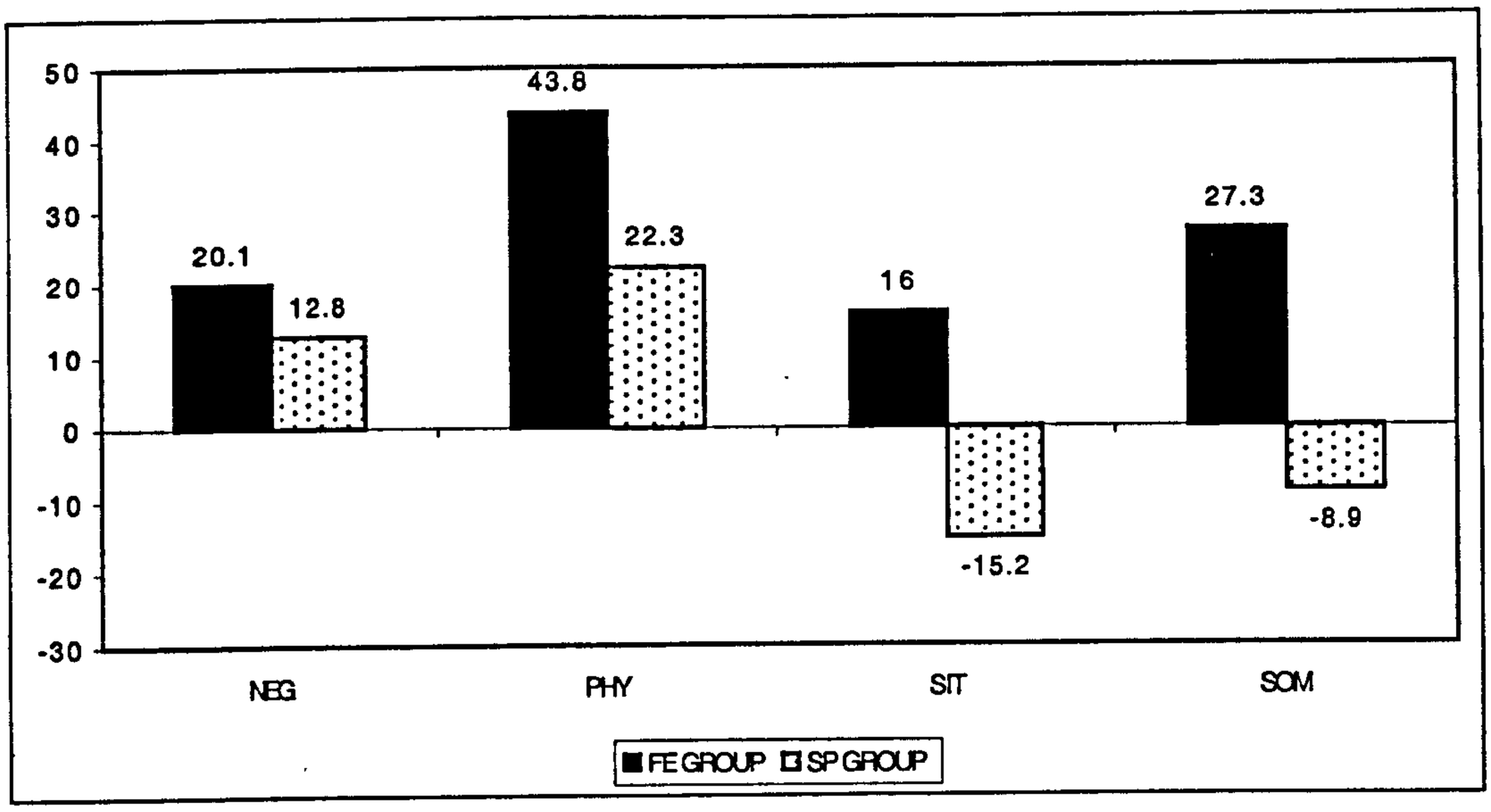

Figure 2.3. *Bar Chart Comparing the First Episode (FE) and the Social Phobia (SP) Group's Attentional Bias Scores to Each Word Group*

Social Phobia and Psychotic Symptoms

The aim of this section is to explore the prevalence rates and any possible relationships between social phobia and psychotic symptoms in the first episode of psychosis group only.

Prevalence of Comorbid Social Phobia in Psychosis

Similar to Birchwood et al. (2006), 37% of the first episode group were experiencing clinical levels of social phobia as determined by the SIAS using Peters' (2000) criteria of a cut-off score of 36 or above. The SIAS scores in this study were comparable to other published schizophrenia and social phobia studies (see Table 2.5).

Table 2.5. Comparison of SIAS Scores Across Studies

		SIAS Score
Present Sample	Psychosis + SP	48.3 (12.3)
	Psychosis No SP	18.2 (9.4)
Birchwood et al. (2006)	Psychosis + SP	51.9 (11.9)
	Psychosis No SP	19.6 (8.8)
Kingsepp et al. (2003)	Psychosis + SP	48.5 (10.0)
Huppert et al. (2002)	Psychosis	41.4 (15.6)
Peters (2000)	Social Phobia	55.2 (12.9)

The Relationships Between Social Anxiety/Phobia and Psychotic Symptoms

Pearson correlational analyses were conducted to assess the relationships between measures of social anxiety/phobia (SAD, BFNE & SIAS) and positive and negative symptoms as determined by the SCI-PANSS. Pearson correlational analysis revealed that positive symptoms were not related to the SAD ($r = .04$, $p = .44$), the BFNE ($r = .10$, $p = .34$) or the SIAS ($r = .23$, $p = .17$) scales. Furthermore, negative symptoms were not related to the SAD ($r = .10$, $p = .35$), the BFNE ($r = -.22$, $p = .18$) or the SIAS ($r = .05$, $p = .41$) questionnaires. These findings are similar to Birchwood et al. (2006) who also reported that social phobia was unrelated to positive or negative symptoms associated with psychosis.

ToM Processing

The aim of this section is to explore ToM processing in people experiencing their first episode of psychosis and the control group and whether social anxiety/phobia or social functioning measures influence this task.

Independent *t*-tests revealed that the first episode group (*M = 16.7, SD = 2.9*) responded with more incorrect responses than the control group *(M = 18.9, SD = 0.5)* on the Hintings Task, $t(19) = -3.20$, $p = .01$, $d = -.98$. These means are comparable to data reported by Corcoran et al. (1995) who found that patients with schizophrenia scored 15.6 on this task and controls scored 18.3.

Pearson correlations were conducted to explore the relationships between the SAD, BFNE, SIAS, and SFS with the Hintings Task scores. Similar to Doody et al. (1998), this analysis showed that the participants' levels of social anxiety/phobia as determined by the SAD ($r = -.12$, $p = .23$), BFNE ($r = .01$, $p = .48$) and the SIAS ($r = -.05$ $p = .38$) were not related to performance on the Hintings Task. The participants' overall SFS score, however, was related to the performance on the Hintings Task ($r = .37$, $p = .02$). The SFS subscales of social withdrawal ($r = .35$, $p = .02$), independent performance ($r = .27$, $p = .05$), prosocial ($r = .48$, $p = .01$) and employment ($r = .36$, $p = .01$) were related to the Hintings Task Scores. This shows that increased levels of social functioning, particularly in the areas of being independent, socially active and in a job increased a person's performance on the Hintings Task.

Discussion

This study is the first to investigate the nature of the attentional bias in people experiencing their first episode of psychosis to different categories of threatening words using the forced-choice version of the dot probe task. It found that people diagnosed with their first episode of psychosis demonstrated an attentional bias towards negative evaluation, somatic sensation and physical threat word groups, when compared to a non-clinical matched control group. There were no attentional bias differences between the two participant groups in relation to response latencies to the social situations words. Interestingly, a comparison of the mean data with a study by Ononaiye et al. (submitted) suggested that this attentional bias is greater in people experiencing psychosis than people experiencing clinical levels of social phobia. This effect was particularly pronounced with the physical threat and somatic sensation word groups.

The study also found that a substantial subgroup (37%) of the people experiencing a first episode of psychosis reported clinical levels of social anxiety. Their scores on the SIAS were comparable to clinical groups with psychosis and social phobia (e.g., Birchwood et al., 2006) and social phobia without psychotic symptoms (e.g., Peters, 2000). In support of Birchwood and colleagues, the results showed that social anxiety/phobia ratings were not related to positive and negative symptoms and thus provide further support that social phobia is a distinct clinical disorder when experienced with psychotic symptoms as first suggested by Pallanti et al. (2004).

Furthermore, people diagnosed with psychosis did not score as highly on the 'Hintings Task', when compared to the control group, indicating an impairment of ToM processing. Social anxiety and social phobia symptoms were unrelated to the psychosis group's performance on the 'Hintings Task', whereas greater social functioning was associated with improved scores on this task. Greater scores on the sub-scales of social withdrawal, being pro-social and independent socially and employed were all significantly related to increased 'Hintings Task' scores.

In support of the aforementioned emotional Stroop studies (e.g., Bentall & Kaney, 1989; Kinderman, 1994; Kinderman et al., 2003), this study has provided further evidence of a selective attention to threatening stimuli being characteristic of people experiencing psychosis. Of note, these studies only looked at people experiencing persecutory delusions, whereas this current study included people who may or may not be experiencing such delusions. However, it is important to note that all of them were relatively low in symptom presentation as indicated by the SCI-PANSS scores. They were also all recovering from their first episode of psychosis, which is a time that Birchwood et al. (2006) proposed is a risk factor for elevated social anxiety. It is difficult to ascertain how these factors impacted on the results. It does however seem fair to conclude that the use of a more recognised measure of attentional processing such as the forced-choice dot-probe task in this study, together with a relatively homogeneous sample of participants of a similar age and symptom presentation has detected selective attentional biasing effects to threatening stimuli.

The attentional bias towards negative evaluation words was expected because a preoccupation with negative evaluation is a characteristic of both social phobia (Clark & Wells, 1995) and psychosis (Chadwick, Birchwood & Trower, 1996). Interestingly, Ononaiye et al. (submitted) did not find any evidence of an attentional bias difference between people with clinical levels of social phobia and a non-clinical control group. Musa et al. (2003) did report that their participants diagnosed with social phobia without concurrent depression demonstrated an attentional bias towards social threat words that did include words relating to negative evaluation. It seems fair to conclude from this current study that participants with psychosis both with and without comorbid social phobia are hypervigilant to themes relating to negative evaluation.

The attentional bias towards physical threat words has been found in patients experiencing social phobia (e.g., Musa et al., 2003; Ononaiye et al., submitted) and psychosis (e.g., Kaney & Bentall, 1989). This study's results support these findings and show that themes of physical threat dominate attentional processing in this client group. This word group includes stimuli such as 'doctor', "hospital', illness' and 'attack' which will all be words extremely familiar to people experiencing their first episode of psychosis, because many of the first episode group had had recent hospital stays. This familiarity effect may help to explain why the people with psychosis in this study showed an increased attentional bias towards this word group when compared to people with social phobia. An alternative explanation is that an attentional bias to physical threat in the environment is a characteristic of psychosis.

Heightened physiological arousal is common in people experiencing psychosis (Chadwick et al., 1996) and social phobia (Clarke & Wells, 1995). All the participants in this study were meeting the researcher who they did not know and this was often in an unfamiliar environment (e.g., therapy room). These factors would make the individual feel anxious as this was a social encounter where the participants were doing a study that they had not done before. The first episode group of participants found this an anxiety provoking situation as they recorded increased levels of self-reported state anxiety in the on the visual analogue scale when compared to the control group. Thus, it seems fair to suggest that these factors would have heightened the participants' physiological arousal and may have influenced the attentional biasing towards somatic sensations words, which was once again greater in this client group than the previous social phobia study.

There were no significant differences between the participant groups in this study who both attended towards the social situation words. Interestingly, a recent study by Ononaiye et al. (submitted) also failed to find any evidence of any selective attentional effects between people experiencing clinical levels of social phobia and non-clinical matched controls with this word group. On comparing the findings between the first episode in psychosis group in this study and the social phobia group in the Ononaiye et al. (submitted) paper, the former group attended towards the words (*Mean* = 16.0) whereas the latter group attended away (*Mean* = -15.2) from the social situation word group (see Figure 2.2). These differences suggest that the first episode

in psychosis group demonstrated a greater attentional bias towards not only the social situation words.

An important caveat when comparing the findings to the Ononaiye et al. (submitted) paper is that although the studies both used the same word groups, a different version of the dot probe task and the possible methodological inconsistencies, limits the extent to which you can compare the findings (Salemink et al., 2007). However, taking these factors into account, the comparison of the means data across the studies does show a marked and interesting difference between the groups. The first episode group displayed a greater attentional bias towards all word groups when compared to the social phobia group. Future research needs to compare directly the nature of the attentional bias to different words groups including people diagnosed with psychosis with and without social phobia and people experiencing clinical levels of social phobia in order to detect what factors may be influencing the strength of the bias.

Theoretically, these findings provide evidence supporting the cognitive theories that propose that people with a psychological disorder demonstrate a bias towards stimuli that is relevant to their current concerns (e.g., Beck et al., 1985; Clark & Wells, 1995; Morrison, 2001). Indeed, the first episode group displayed the strongest attentional bias towards physical threat words and then words relating to physiological signs of anxiety, followed by words relating to negative evaluation. Of note, the control group selectively attended away from these word groups. These group differences provide further weight to the argument that attention to threat is a causal and/or maintenance

factor in the development of social phobia (e.g., Clark & Wells, 1995) and a psychotic illness (Morrison, 2001). Unfortunately, Morrison's model only considers positive symptoms and selective attentional processes. The first episode group in this study were experiencing greater levels of positive symptoms than negative, but one can not conclude that this was the main influential factor in the attentional biasing effects. Indeed, the fact that Morrison does not consider negative symptoms in his cognitive model is a limitation of this work. Furthermore, cognitive models in general need to consider the impact of additional comorbid psychological disorders in their theoretical perspectives.

This paper has shown that comorbid social phobia is prevalent in people experiencing their first episode of psychosis and that it is unrelated to symptoms associated with this psychiatric condition. These findings support previous work in this area (Birchwood et al., 2006; Gumley et al., 2004; Pallanti et al., 2004) that failed to find any relationships between the two disorders. It also contrasts with studies that have reported a relationship between positive (e.g., Cassano et al., 1998) and/or negative (Penn et al., 1994) symptoms and social anxiety symptoms. The findings also contrasted with Voges and Addington (2005) who found that negative symptoms were associated with social anxiety in a similar participant sample. These differences could be attributed to the use of different social phobia measures employed, insofar as the Voges and Addington study used the SPAI, which to date has not been validated with this cohort. This provides support for the suggestion that such differences in findings between the studies could be due to differences in the participants in terms of

age, chronicity of illness and methodological inconsistencies. As shown in Chapter One, the accumulating evidence and the apparent inconsistencies means that it is difficult to draw any conclusive findings from the studies. This study does not however, support Birchwood et al.'s suggestion that social phobia, as determined by the SIAS, in first episode psychosis, is unrelated to positive and negative symptoms. It also highlights the importance of ensuring similar client groups and measures when comparing findings.

A major strength of this work is that the matched control group were directly matched for years of education and occupational status. A further strength is that this study used the SIAS questionnaire to determine clinical levels of social phobia. The SIAS has been validated as being a reliable and valid measure of social phobia (Peters, 2000), as well as comorbid social phobia in people diagnosed with schizophrenia (Huppert et al., 2002). Huppert and colleagues compared the psychometric properties of the SIAS in 33 outpatients with schizophrenia and 46 patients with anxiety disorders. They found that the SIAS had good test-retest reliability and successfully discriminated social phobia from other anxiety disorders in the schizophrenia cohort.

Additionally, this study provides further evidence to Lee et al.'s recent review concluding that people diagnosed with a psychotic condition have difficulty in inferring the mental states of others. The first episode of psychosis group demonstrated impaired ToM processing as determined by the 'Hintings Task', when compared to a non-clinical control group. It is important to note that although both

groups were matched for years in education, direct measures of intellectual functioning were not included. The impairment scores on the task in the first episode group were similar to the levels documented by Corcoran et al. (1995) showing a relatively stable impairment across two different patient groups diagnosed with psychotic symptoms.

Social functioning was related to impaired performance in ToM processing in this study. In particular, the subscales of social withdrawal, not being pro-social or socially independent and lack of employment were related to impaired performance on the 'Hintings Task'. Bora et al. (2006) also used the SFS and four stories from the 'Hintings Task'. They found, in contrast to this study, that the SFS was not related to impaired performance on the task. Bora and colleagues did report that an alternative ToM task called the 'Eyes Test', which is a mental state decoding assessment, was a better predictor of social functioning. They felt that this was because the latter task involves spontaneous automatic judgements rather than more effortful mental reasoning in the 'Hintings Task'. Is does seem fair to suggest that as they used less than 50% of the 'Hintings Task' suggested by Corcoran et al. (1995), this would have impacted on the range and quality of the responses to compare and thus the results. Also, their participant were outpatients who had been clinically stable for three months and it is possible that this may influence ToM, as improvement in symptoms could result in less ToM impairment (Corcoran et al., 1995).

Interestingly, social anxiety and social phobia measures were not related to participants' performance on the ToM task. The rationale was that as ToM is a socially acquired skills then those with social anxiety symptoms may not have learnt the skills necessary. However, Birchwood et al. (1996) argued that social phobia develops as a consequence of the shame and stigma of being diagnosed with psychosis. If this is the case, then the individual would have learnt the social skills that may be impaired by the experience of social phobia prior to the onset of the condition and hence the non-significant relationships found in this study.

Limitations

It is beyond the scope of this paper to determine whether confounding variables such as medication effects, concentration, intellectual difference and memory impairment impacted on these findings. The ToM task, for example, involves listening carefully to a short story, retaining the information whilst considering a response. It was noted by the researcher that the first episode group would regularly ask for the statement to be repeated, which rarely happened with the control group. Thus, possible fatigue effects caused by the medication or memory problems could have influenced the retaining of information, the determination of inference and the actual response in the first episode group. Bora et al. (2006) proposed that people with schizophrenia prefer to use cartoons or drawings when completing mental reasoning tasks as pictorial stimuli allows for a different from of encoding that verbally presented information. Thus, this current study may have benefited from a different type of ToM task or perhaps the "Hintings Task" could be presented in a more pictorial format.

In a related vein, the study in itself was cognitively demanding, including the participants completing questionnaires and a dot probe task, being interviewed using the SCI-PANSS and responding to the 'Hintings Task'. All the first episode participants were taking anti-psychotic medication, which has been shown to negatively impact on cognitive processing and cause fatigue effects (Otto et al., 2001). Thus, the control group were at somewhat of an advantage as there were not on any type of medication or experiencing any psychotic symptoms.

Furthermore, all of the questionnaires were presented in the same order so it is difficult to know whether the ordering of the questionnaires had any impact on the results. For example, all the measures pertaining to social anxiety/phobia were completed before the dot-probe task and it is possible that this primed the participants towards socially threatening words in the task, especially those who were more hypervigilant to threat as with the psychosis group. On a positive note, at least all the participants completed the study in exactly the same way and this ensures that if participants were primed then it should happen across the groups.

The matched controls comprised of individuals who responded to an advert asking for people who were confident in all social situations. This may have resulted in extremely confident people taking part who may have had extremely high levels of extraversion and/or grandiosity. It is out of the scope of this piece of research to explore these issues, but the wording of the advert and the subsequent participants it attracted needs to be considered in the interpretation of these findings.

The first episode sample were a relatively homogeneous group of similar young age group having experienced their first episode of psychosis and seeking treatment from an Early Intervention Service. This limits the generalisability of the findings, especially in the consideration of people experiencing schizophrenia more longer term or with regular relapses or indeed those who are either treatment resistant or not treatment seeking whatsoever. Indeed, Killackay & Yung (2007) have argued that people experiencing their 1st episode of psychosis may be less cognitively impaired than a more chronic multiple episode cohort.

The number of participants including in this study were relatively small which impacts on the power of this study. The effects sizes shown throughout the results are relatively good however, which demonstrates that this study is significantly powered within the strength of the group differences (Howell, 1997). The participant numbers are also comparable to other cognitive studies of social phobia (Musa et al., 2003) and psychosis (Bentall & Kaney, 1989). This study originally planned to explore attentional processing in people diagnosed with psychosis with and without social phobia. Unfortunately, the participant numbers means that there is insufficient power in this study to conduct this analysis.

Suggestions for Future Research

Future research therefore, needs to explore attentional processing to different categories of threat using validated measures of anxiety, psychotic symptoms and

depression levels in not only people experiencing their first episode of psychosis, but also those with more enduring and long-term psychotic conditions. There needs to be a systematic programme of psychosis research using a variety of paradigms that measure attention to threatening stimuli. The stimuli itself can be in the form of words or pictures and the presentation times need to be manipulated to see if the attention to threat is an automatic or conscious process.

The issue of comorbidity also needs to be investigated, because as the literature stands at the moment, it is difficult to surmise whether the presence of two or more disorders have no effect, an additive effect or an interactive effect on the nature of the attentional bias. Thus, the systematic investigation of psychotic populations with and without anxiety disorders such as social phobia, with control groups from either the non-clinical population or from people experiencing an anxiety disorder only is vital to highlight any similarities or differences.

In terms of ToM processing, future research needs to use different tasks to ensure that any deficits are attributable of deficits in ToM and not extraneous factors such as concentration problems. Additionally, this was the first study to explore the role of social anxiety/phobia in ToM processing and thus this needs to be the target of future research.

Clinical Implications

The knowledge of the mechanisms that underlie cognitive processing biases in psychoses (e.g., the individual's attentional system or ToM deficits) will help to inform theoretical perspectives (e.g., Morrison, 2001) and make therapy more efficient and effective (e.g., Halperin et al., 2000). It is documented that unhelpful attentional processing of threat maintains anxiety (Beck et al., 1985) and psychotic symptoms (Morrison, 2001) and knowledge pertaining to the exact nature of this bias is vital to inform the intervention process. For example, more precise evidence about a person's attentional bias leads to the development of cognitive behavioural therapy techniques that targets key cognitive processes, with the aim being to promote a positive change in symptoms presentation.

This research has added to the literature detailing the importance of social anxiety concerns in individuals with a diagnosis of psychosis. It also raises the profile of this comorbidity with health-care professionals. This will in turn inform the assessment and formulation process. A good example of where this knowledge would be helpful is in consideration of the care package provided by the Early Intervention teams. They run a weekly recovery group that involves service-users taking part in a social event (e.g., bowling, cinema, country walks). If the service-user has comorbid social phobia then they are unlikely to attend, which may impact on social functioning • recovering. Thus with this heightened awareness, the health professional is now aware of the influence of social phobia and focus treatment protocols accordingly. A psycho-education package aimed at both service-users and care-givers explaining the

phenomenon of comorbid social phobia in psychosis could also be developed in addition to the literature looking at each condition individually.

An exciting new area of research is that of attentional re-training of the selective bias using cognitive-experimental paradigms. For example, there is now evidence emerging that an attentional bias to threat in anxious populations can be modified through a process of re-training (e.g., MacLeod, Rutherford, Campbell, Ebsworthy & Holker, 2002). MacLeod (2007) explained that this involves exposing the participants to extended versions of cognitive-experimental tasks (e.g., dot probe) that train the person to attend to neutral stimuli (e.g., the dot always replaces a neutral word forcing the participant to learn to shift their attentional away from the threat). In support, Amir et al. (2004) have shown that treatment seeking individuals diagnosed with social phobia can be trained to focus on positive stimuli, rather than threatening, using a modified version of the probe detection paradigm. This obviously provides an exciting opportunity for similar paradigms to be devised for people experiencing psychosis either with or without a comorbid anxiety disorder.

Conclusions

The results from this study suggest that individuals experiencing psychosis, irrespective of their levels of social phobia, selectively attend to threatening information (negative evaluation, somatic sensation and physical threat), when compared to non-clinical controls. Theoretically, these findings provide support for cognitive models that propose that selective attention to threatening information is common in anxiety disorders (e.g., Beck et al., 1985) and psychotic presentations (Morrison, 2001). Tentative comparisons of the mean data of the attentional bias scores with a study by Ononaiye et al. (submitted) showed that the attentional bias was greater in this study, when compared to people experiencing social phobia without psychotic symptoms.

The study has also shown that comorbid social phobia in psychosis is a significant disorder that is unrelated to current psychotic symptomatology. Thirty-seven percent of the first episode in psychosis group were experiencing clinical levels of social phobia. ToM processing was impaired in the first episode in psychosis group, in contrast to the control group using the "Hintings Task". Social anxiety/phobia did not influence this deficit, but social functioning was related to ToM processing.

This is the first study to systematically explore these factors and thus further research is needed in this area, especially in relation to the limitations of this study. The overall aim is to inform theoretical perspectives, clinical treatment programs and to ensure the best outcome for the person diagnosed with psychosis.

References

American Psychiatric Association. (1994). *Diagnostic and Statistical Manual of Mental Disorders* (Vol. 4). Washington, DC.

Amir, N., Beard, C., Klumpp, H., Elias, J., Brady, R., & Hewett, J. (2004). *Modification of attentional bias in social phobia: change in attentional, generalizability across paradigms, and change in symptoms.* Paper presented at the *European Association for Behavioural and Cognitive Therapies*, University of Manchester.

Amir, N., McNally, R. J., Riemann, B. C., Burns, J., Lorenz, M., & Mullen, J. (1996). Suppression of the emotional Stroop effect by increased anxiety in patients with social phobia. *Behaviour Research and Therapy, 34*, 945-948.

Asmundson, G. J. G., & Stein, M. B. (1994). Selective processing of social threat in patients with generalized social phobia: evaluation using a dot-probe paradigm. *Journal of Anxiety Disorders, 8*(2), 107-117.

Beck, A. T. (1995). Cognitive therapy: past, present and future. In M. J. Mahoney (Ed.), *Cognitive and constructive psychotherapies: theory, research and practice*. New York: Springer.

Beck, A. T., Emery, G., & Greenberg, R. L. (1985). *Anxiety Disorders and phobias: a cognitive perspective*. New York: Basic Books.

Bentall, R. P., & Kaney, S. (1989). Content specific information processing in persecutory hallucinations. *British Journal of Clinical Psychology, 30*, 213-222.

Birchwood, M. (2004). Social anxiety and the shame of psychosis. *Schizophrenia Research, 70*, s46.

Birchwood, M., Smith, J., Cochrane, R., Wetton, S., & Copestake, S. (1990). The social functioning scale: the development and validation of a new scale of social adjustment for use in family intervention programs with schizophrenic patients. *British Journal of Psychiatry, 157*, 853-859.

Birchwood, M., Trower, P., Brunet, K., Gilbert, P., Iqbal, Z., & Jackson, C. (2006). Social anxiety and the shame of psychosis: A study in first episode psychosis. *Behaviour Research and Therapy, 45*, 1025-1037.

Bora, E., Eryavuz, A., Kayahan, B., Sungu, G., & Veznedaroglu, B. (2006). Social functioning, theory of mind and neurocognition in outpatients with schizophrenia; mental state decoding may be a better predictor of social functioning than mental state reasoning. *Psychiatry Research, 145*, 95-103.

Buchner, A., Erdfelder, E., & Faul, F. (1997). *How to Use G*Power* [WWW document].

URL www.psycho.uni-duesseldorf. de/aap/projects/gpower/index

Cassano, G. B., Pini, S., Saettoni, M., Rucci, P., & Dell'Osso, L. (1998). Occurrence of clinical correlates of psychiatric comorbidity in patients with psychotic disorders. *Journal of Clinical Psychiatry, 59*, 60-68.

Chadwick, P., Birchwood, M., & Trower, P. (1996). *Cognitive therapy for delusions, voices and paranoia*. Chicester: Wiley

Clark, D. M. (1986). A cognitive approach to panic. *Behaviour Research and Therapy, 24*, 461-470.

Clark, D. M., & Wells, A. (1995). A cognitive model of social phobia. In R. G. Heimberg & M. Liebowitz & D. Hope & F. Schneier (Eds.), *Social phobia: diagnosis, assessment and treatment* (pp. 69-93). New York: Guildford.

Corcoran, R. (2001). Theory of mind in schizophrenia. In D. Penn & P. Corrigan (Eds.), *Social cognition in schizophrenia* (pp. 149-174). Washington DC: American Psychiatric Association.

Corcoran, R., Mercer, G., & Frith, C. D. (1995). Schizophrenia, symptomatology and social inference: investigating "theory of mind" in people with schizophrenia. *Schizophrenia Research, 17*, 5-13.

Cosoff, S. J., & Hafner, R. J. (1998). The prevalence of comorbid anxiety in schizophrenia, schizoaffective disorder and bipolar disorder. *Australian and New Zealand Journal of Psychiatry, 32*, 67-72.

Doody, G. A., Gotz, M., Johnstone, E. C., Frith, C. D., & Owens, D. G. (1998). Theory of mind and psychoses. *Psychological Medicine, 28*, 397-405.

Frith, C. D. (1992). *The cognitive neuropsychology of schizophrenia.* Hove, UK: Psychology Press.

Gumley, A. I., O'Grady, M., Power, K., & Schwannauer, M. (2004). Negative beliefs about self and illness: a comparison of individuals with psychosis with or without comorbid social anxiety disorder. *Australian and New Zealand Journal of Psychiatry, 38*, 960-964.

Halperin, S., Nathan, P., Drummond, P., & Castle, D. (2000). A cognitive-behavioural, group-based intervention for social anxiety in schizophrenia. *Australian and New Zealand Journal of Psychiatry, 34*, 809-813.

Hope, D. A., Rapee, R. M., Heimberg, R. G., & Dombeck, M. J. (1990). Representations of the self in social phobia: vulnerability to social threat. *Cognitive Therapy and Research, 14*, 177-189.

Howell, D. C. (1997). *Fundamental statistics for the behavioral sciences* (2nd ed.). Boston: PWS-Kent.

Huppert, J. D., & Smith, T. E. (2005). Anxiety and schizophrenia: the interaction of sub-types of anxiety and psychotic symptoms. *CNS Spectrum, 10*, 721-731.

Huppert, J. D., Smith, T. E., & Apfeldolf, W. J. (2002). Use of self-report measures on anxiety and depression in outpatients with schizophrenia: reliability and validity. *Journal of Psychopathology and Behavioural Assessment, 24*, 275-283.

Kinderman, P. (1994). Attentional bias, persecutory delusions and the self-concept. *British Journal of Medical Psychology, 67*, 53-66.

Kinderman, P., Prince, S., Waller, G., & Peters, E. (2003). Self-discrepancies, attentional bias and persecutory delusions. *British Journal of Clinical Psychology, 42*, 1-12.

Kucera, H., & Francis, W. N. (1967). *Computational analysis of present-day American English*. Providence: Brown University Press.

Leafhead, K. M., Young, A. W., & Szulecka, T. K. (1996). Delusions demand attention. *Cognitive Neuropsychiatry, 1*, 5-16.

Leary, M. R. (1983). A brief version of the fear of negative evaluation scale. *Personality and Social Psychology Bulletin, 9*, 371-375.

Lee, K. H., Farrow, T. F. D., Spence, S. A., & Woodruff, P. W. R. (2004). Social cognition, brain networks and schizophrenia. *Psychological Medicine, 34*, 391-400.

Lysaker, P. H., & Hammersley, J. (2006). Association of delusions and lack of cognitive flexibility with social anxiety in schizophrenia spectrum disorders. *Schizophrenia Research, 86*, 147-153.

MacLeod, C. (1991). Clinical anxiety and the selective encoding of threatening information. *International Review of Psychiatry, 3*, 279-292.

MacLeod, C. (2007). *The training of attentional and interpretive bias in anxiety: A new approach to the advancement of theoretical understanding and the*

enhancement of therapeutic intervention. Paper presented at the *Fifth World Congress of Behavioural and Cognitive Therapies*, Barcelona.

MacLeod, C., & Mathews, A. (1988). Anxiety and the allocation of attention to threat. *Quarterly Journal of Experimental Psychology, 40*, 653-670.

MacLeod, C., & Mathews, A. (1991). Cognitive-experimental approaches to the emotional disorders. In P. R. Martin (Ed.), *Handbook of behaviour therapy and psychological science: an integrative approach.* Oxford: Pergamon.

MacLeod, C., Mathews, A., & Tata, P. (1986). Attentional bias in emotional disorders. *Journal of Abnormal Psychology, 95*, 15-20.

MacLeod, C., Rutherford, E. M., Campbell, L., Ebsworthy, G., & Holker, L. (2002). Selective attention and emotional vulnerability: assessing the causal basis of their association through the experimental induction of attentional bias. *Journal of Abnormal Psychology, 111*, 107-123.

Mansell, W., Ehlers, A., Clark, D. M., & Chen, Y.-P. (2002). Attention to positive and negative social-evaluative words: investigating the effects of social anxiety, trait anxiety and social threat. *Anxiety, Stress and Coping, 15*, 19-29.

Maphosa, W., & Kuipers, E. (2004). *Caring for someone with severe mental illness*: South London and Maudsley NHS Trust.

Mathews, A., & MacLeod, C. (1985). Selective processing of threat cues in anxiety states. *Behaviour Research and Therapy, 23*, 563-569.

Mattick, R. P., & Clarke, J. C. (1998). Development and validation of measures of social phobia scrutiny fear and social interaction anxiety. *Behaviour Research and Therapy, 36*, 455-470.

McCabe, R., Leudar, I., & Antaki, C. (2004). Do people with schizophrenia display theory of mind deficits in clinical interactions? *Psychological Medicine, 34*, 401-412.

Mogg, K., & Bradley, B. P. (1998). A cognitive-motivational analysis of anxiety. *Behaviour Research and Therapy, 36*, 809-848.

Mogg, K., & Bradley, B. P. (1999). Orienting of attention to threatening facial expressions presented under conditions of restricted awareness. *Cognition and Emotion, 13*, 713-740.

Mogg, K., & Bradley, B. P. (2002). Selective orienting of attention to masked threat faces in social anxiety. *Behaviour Research and Therapy, 40*, 1403-1414.

Mogg, K., Bradley, B. P., Millar, N., & White, J. (1995). A follow-up study of cognitive bias in generalized anxiety disorder. *Behaviour Research and Therapy, 33*(8), 927-935.

Mogg, K., Mathews, A. M., & Eysenck, M. W. (1992). Attentional bias to threat in clinical anxiety states. *Cognition and Emotion, 6*, 149-159.

Moorey, S., Greer, S., Watson, M., Gorman, C., Rowden, L., Turnmore, R., Robertson, B. & Bliss, J. (1991) The factor structure and factor stability of the Hospital and Depression Scale in patients with cancer. *British Journal of Psychiatry, 158*, 255-259

Morrison, A. P. (2001). The interpretation of intrusions in psychosis: an integrative cognitive approach to hallucinations and delusions. *Behaviour Cognitive Psychotherapy, 29*, 257-276.

Musa, C., Lepine, J. P., Clark, D. M., Mansell, W., & Ehlers, A. (2003). Selective attention in social phobia and the moderating effect of a concurrent depressive disorder. *Behaviour Research and Therapy, 41*, 1043-1054.

Ononaiye, M. S. P., Turpin, G., & Reidy, J. (submitted). Attentional bias in social phobia: the problem of comorbidity. *Anxiety, Stress and Coping*.

Ononaiye, M. S. P., Turpin, G., & Reidy, J. (in press). Attentional bias in social anxiety: manipulation of stimulus duration and social-evaluative anxiety. *Cognitive Therapy and Research.*

Opler, L. A., Kay, S. R., Lindenmayer, J. P., & Fiszbein, A. (1999). *Structured clinical interview - positive and negative syndrome scale.* Toronto: Multi-Health Systems Inc.

Otto, M. W., Pollack, M. H., Gould, R. A., Worthington, J. J., McArdle, E. T., & Rosenbaum, J. F. (2000). A comparison of the efficacy of clonazepam and cognitive-behavioral group therapy for the treatment of social phobia. *Journal of Anxiety Disorders, 14*, 345-358.

Pallanti, S., Querciolo, L., & Hollander, E. (2004). Social anxiety in outpatients with schizophrenia: a relevant cause of disability. *American Journal Of Psychiatry, 161*(1), 53-58.

Penn, D. L., Hope, D. A., Spaulding, W., & Kucera, J. (1994). Social anxiety in schizophrenia. *Schizophrenia Research, 11*, 277-284.

Peters, L. (2000). Discriminant validity of the Social Phobia and Anxiety Inventory (SPAI), the Social Phobia Scale (SPS) and the Social Interaction Anxiety Scale (SIAS). *Behaviour Research and Therapy, 38*, 943-950.

Pishyar, R., Harris, L. M., & Menzies, R. G. (2004). Attentional bias for words and faces in social anxiety. *Anxiety, Stress and Coping, 17*, 23-36.

Premack, D., & Woodruff, G. (1978). Does the chimpanzee have a theory of mind? *Behavioural Brain Science, 4*, 515-526.

Rachman, S. (1998). *Anxiety*. Hove: Psychological Press.

Salemink, E., van den Hout, M., & Kindt, M. (2007). Selective attention and threat: quick orienting versus slow disengagement and two versions of the dot probe task. *Behaviour Research and Therapy, 45*, 607-615.

Spector, I. P., Pecknold, J. C., & Libman, E. (2003). Selective attentional bias related to the noticeability aspect of anxiety symptoms in generalised social phobia. *Journal of Anxiety Disorders, 437*, 1-15.

Turnbull, G., & Bebbington, P. (2001). Anxiety and the schizophrenic process: clinical and epidemiological evidence. *Social Psychiatry and Psychiatric Epidemiology, 36*, 235-243.

Voges, M., & Addington, J. (2005). The association between social anxiety and social functioning in first episode psychosis. *Schizophrenia Research, 76*, 287-292.

Watson, D., & Friend, R. (1969). Measurement of social-evaluative anxiety. *Journal of Consulting and Clinical Psychology, 33*(4), 448-457.

Wells, A., & Matthews, G. (1994). *Attention and emotion: a clinical perspective.* Hillsdale, NJ: Laurence Erlbaum Associates.

Zigmond, A. S., & Snaith, R. P. (1983). The Hospital Anxiety and Depression Scale. *Acta Psychiatrica Scandinavica, 67*, 361-370.

CHAPTER THREE

Critical Appraisal on the Research Process

Word Count 3945 (excluding references)

Introduction

This section of the thesis will appraise and critique the process of completing the work in this thesis. Based upon the research diary, it will be divided into two main sections. The first section focuses on the research process itself and presents a synopsis of the personal experiences and reflections of the researcher. The next section discusses the main learning experiences gained from conducting this research.

The Research Process

Background of the Project

I have an active interested in, and previously conducted research on, cognitive processing in anxious and depressed populations. To develop this interest further, I wanted to undertake a study in this area as part of my Doctorate of Clinical Psychology. My first placement involved working in an Early Intervention Service for young people diagnosed with a first episode of psychosis. I found working with this client group a challenging and rewarding experience and decided that this is where I would like to focus my research interests. Following discussion with my then supervisor, we realised that attentional processing to threatening information had not been fully investigated in this client group. A subsequent literature review identified that there had not been any studies looking at attentional processing in people experiencing psychosis using the dot-probe paradigm.

I chose my main supervisor because he had supervised me academically previously, so it seemed natural for me to approach him to be my supervisor. My placement supervisor at the Early Intervention Service had also agreed to be my supervisor for this research, as she not only worked in this area, but also had strong research interests with this client group. The three of us initially met and we started to put together a research protocol. I invited an additional supervisor, who had recently joined the department and had published extensively in this area to attend the meeting and subsequently he became my 3rd supervisor. Together, the four of us decided that the focus on the work should primarily be on attentional processing to threatening stimuli in people experiencing their first episode of psychosis. My supervisors also felt that because of the richness of the data that I would be gathering, the study should include looking at comorbid social phobia, social functioning and ToM processing.

In my diary, I noted how surprised I had been at the addition of the ToM processing. I was in my 'comfort zone' looking at attentional processing and social phobia and this was something I needed at the time. This was mainly because, coming from an academic background, I was finding the clinical work challenging and the learning of new ways of working was dominating a lot of my time. The research side of things was where I was comfortable and initially I wanted to stay safely within this area. I chatted with my supervisor about this and he enabled me to see the research value and the links between these areas that would ultimately culminate in a good research paper.

Clarification of the Research Project

Following these initial discussions, I decided to contact the Service Lead of the Early Intervention Service in Sheffield. I met with him to discuss the likelihood of recruiting enough participants for my study. He told me that in October 2005, Sheffield Early Intervention Service had 110 service users, which, due to expansion, was projected to grow to 280 people by the end of 2006. My power calculations suggested that I should be easily able to recruit enough participants from Sheffield. During supervision, we did discuss extending the recruitment to other Early Intervention Services in the Yorkshire area. We decided that there should be enough service-users to recruit in Sheffield, but we would also keep the possibility of extending the area of recruitment in mind.

The next issue to address was how to measure social phobia symptoms in this client group. I emailed a Canadian academic in this area and she advised me that she had tried to develop such a measure but had been unsuccessful. I then looked at the limited research in this area and found that three measures had been used. One of my supervisors said that in a recent piece of work he had used a particular scale called the Social Interaction Anxiety Scale (SIAS Mattick & Clarke, 1988). Following another meeting with my supervisors, we agreed that due to the lack of validated measures the SIAS would be a sensible measure to use and I had found a paper that had validated this paper with this population (Huppert, Smith & Apfeldorf, 2002).

The development of the dot-probe paradigm was based on a previous programme of doctoral work looking at attentional processing in social anxiety and social phobia. The

four word groups of social situations, somatic sensations, physical threat and negative evaluation not only seemed applicable to people with high levels of social anxiety concerns but also to individuals diagnosed with a psychotic disorder. I am very proud to say that I wrote the majority of the computer program myself in Psyscope. Upon reflection, acquiring this new skill was at times frustrating, but also rewarding (especially when I finished it!). I enlisted the help of two colleagues in the Psychology department and together we wrote the program that I used throughout the study. The Psychology department also loaned me a button box, which was a more sensitive recorder of the response latency.

Following the success of writing the program, I decided to look at which ToM task would be the best one to include. Luckily, one of my supervisors had worked at a previous university with an academic who was experienced in this area and indeed had written a ToM task. I emailed her with an outline of my research proposal and she sent me the 'Hintings Task' along with her permission to use it. This task had been used in previous studies and seemed an easy to administer task to this client group. In my diary I reflected on how easy it had been to talk to a specialist in this area and how easy it had been to get permission to use the task.

At this point, I felt like the study was coming together. I had emailed a researcher who had developed a social functioning questionnaire that had been extensively used in this population and he kindly gave me permission to use his measure. My supervisor had also agreed to train me in the questionnaire we used to measure positive and negative

symptoms in schizophrenia. I was concerned about the number of questionnaires we would be using. It was finding that fine line between the assessment of psychological health, anxiety and psychotic symptoms without the task being too onerous for the participant. In supervision, we decided to space out the completion of the questionnaires throughout the study and for myself, as the researcher, to assist the person as and when required.

Initial Research Proposal Process

I submitted my proposal in November of 2005 to the Clinical Psychology Unit's Research Sub-Committee for peer review. I attended the review meeting in December 2005. I found this a helpful process as it helped me to really think through my proposal, discuss any possible issues and it was also nice to discuss my work with experienced academics who were genuinely interested in my work, outside of my supervisors. Luckily, I only had to do minor changes. The biggest change was in my choice of anxiety and depression measures. I had not realised that the ones I had originally chosen had huge copyright fees. I chose one measure that assesses anxiety and depression at the same time in hospital populations, which not only addressed the copyright issue, but also reduced the numbers of questionnaires.

Ethical Approval and Research Governance

Previously, I had had quite a bad experience at the North Sheffield Ethics Committee meeting. They had literally argued amongst themselves about the choice of words in the dot-probe task. This left me wondering how my current application would be received. I

found the completion of the online forms relatively easy and the secretary very helpful at the committee office. The meeting in July 2006 went surprisingly well and they made the sensible suggestion about doing a separate information sheet for the control group. From that, the online completion of the governance form was relatively easy. It did become a frustrating process of collecting all relevant documentation but I must say they were very helpful at the Sheffield Health and Social Research Consortium and the subsequent application went smoothly and I was ready to start testing from October 2006.

Recruitment of Participants Experiencing First Episode of Psychosis

This section will be the longest as it was this area that proved to be the most challenging for me. It also contributes to one of the criticisms of my research chapter that the sample was a relatively small one. Regrettably, the Early Intervention health professionals were extremely busy and this meant that they had little time to promote my research to their service-users. On a positive note, it was great to work closely with teams and they did play a crucial role in the research in terms of recruitment. I knew that maintaining good working relationships with them was important. I was also conscious of how busy they were and that my research was not necessarily a priority for them. From my previous experience of working with NHS teams, I was able to remember the importance of perseverance and remembering the work pressures the teams were under. I also brought chocolates and biscuits for the team. I always work on the notion that a way to a teams commitment to my research is through their stomachs!

In September 2006, I began the recruitment process by attending a city-wide meeting of the four teams in Sheffield. I had prepared a presentation on the research and delivered at the meeting. I am confident in presenting and together with the fact that I knew a large proportion of the people there, the presentation went well and lots of questions were asked by the audience. It was decided at this meeting that I should liaise with each team's clinical psychologist as a first point of contact. Unfortunately, the meeting itself was poorly attended and I was concerned that this would not be the best way to enlist the help from the care-coordinators. I discussed this with my supervisors and the Service Lead via email and we decided that I should attend each team's own meetings at their base. This was an interesting process and each team meeting was inherently different. Despite knowing some of the staff and the clinical psychologists, I came away from two of the meetings concerned about whether the team would get behind the research. I emailed this concern to the clinical psychologist of the team and they assured me that everything would be fine.

I started actively recruiting from the team that I had my placement with in the first year. Their base was the same as mine for two days a week on my third year placement. The team were really helpful and interested in my research and actively recruited as many people as possible. It was also great to have the opportunity to keep popping downstairs to see them and remind them about my work. Another plus point was that I also knew a lot of their service-users from my placement in the first year, which helped allay some of their concerns about who I was. On reflection, I was in the early stages of the work and having familiar faces taking part in my research was helpful for me too.

Unfortunately, recruitment was extremely slow from the other three teams. I was emailing them and in regular contact with the clinical psychologists in the teams, but by December 2006 I only had 8 people. I emailed my supervisors and they assured me not to panic and that things would pick up. My supervisors suggested that I became a bit more aggressive in my recruitment strategy. I decided to contact each team member and meet up with him or her individually to discuss clients. This proved to be a useful strategy for some of the team members. At least four of the team members from two teams I was concerned about actively got behind recruitment and by March I was up to 16 people.

I also considered recruiting from other Yorkshire based early intervention teams. It became apparent that this would not be as easy as first thought. For example, one team had a policy not to see clients at base, which meant I would have to travel to see them. This was fine with me but there was huge a cost implication because I do not drive. It would mean to make effective use of the limited time that I had I would have to get taxis. Another team was reluctant for me to see their clients. A decision was made to reduce the number of participants needed by looking at people with psychosis and a healthy control group rather than two groups of participants experiencing psychosis with and without social phobia. A further power analysis revealed that this meant that I needed 22 people per group and I managed to secure 21 people from the Sheffield teams by May 2006.

The control group were surprisingly easy to recruit from either the University of Sheffield of Sheffield Connextions, which is an advice centre for young people in relation to future career opportunities. I sent out emails to students and I went to Connextions and recruited people from a poster whilst they were in the building. The Connextions' staff would bring any interested people who fitted my criteria to me after their appointment which was great and meant I got suitable control participants in a couple of weeks.

The Study

Due to my previous experience, I was well practiced in the procedure of the study. I recruited all the first episode participants initially and it took on average two hours go through the study in its entirety. I had to allow enough time for the service-user in case they wanted to talk or needed to take a break. This meant that realistically I could only see two clients (many of which would change their mind or not show up) a day and I would often have to travel by bus to their homes. Also, there was a high percentage (35%) of 'no shows' from the service users. As research time is so limited during the course this impacted on the recruitment process too. The controls, on the other hand, I would book one every hour and they were very much focused on the task and getting out as quickly as possible. I saw them either at the Clinical Psychology Unit's building or in the Connextions office, which allowed me to see more people on the day.

Analysis

I scored each participant's questionnaires directly after I had seen them. I had underestimated how long this process would take and on average it took one and a half

hours. I then emailed the scores to each care-coordinator for clarification and loaded the scores onto an Excel spreadsheet. The reaction time data needed to be converted from a Psyscope program to an Excel one. There was limited help to do this from the department, so flushed by my success of writing the Psyscope program, I decided to do this myself. This proved to be a frustrating, challenging and time-consuming process. I learnt how to manage large amounts of data on a spread-sheet and how to use Excel effectively to obtain the data I needed. I used to teach statistics and so the actual statistical analysis was enjoyable and relatively easy for me. The only problem I found was trying not to put too much analysis in and losing the emphasis of the paper.

The Write Up

Chapter One – Literature Review

I was once again in my comfort zone here as I enjoy the process of researching and writing literature reviews, so motivation was not really a problem for me. I did have difficulty however, determining my topic. I originally wanted to look at cognitive processing in psychosis but realised this was a huge topic and outside of the scope of this piece of work. During a supervision session, my supervisors suggested investigating comorbid social phobia in psychosis. I went away and researched the area and found relevant papers and then quite enjoyed writing the literature review.

Chapter Two – Research Report

Once I had decided what analysis to include, I started with writing up the method and results section. From this, the paper developed well and I made sure I gave myself lots of breaks and time to think about the work.

Supervision

I was lucky to have three excellent supervisors who have been extremely helpful and knowledgeable in their area. I know that I like a problem-focused supervisory approach to academic supervision and I would often attend meetings with my own agenda to keep everyone focused during the short time that we had. Due to busy diaries, we have not had that many formal supervision meetings with all of us present, but we have had lots of email and telephone contact. I personally find this a useful way to talk through research

issues and to gain clarification and view points. I also had a written version of what we have agreed in the form of an email, which is useful for the project, but also in the completion of my research diary. There were lots of opportunities for informal supervision or seeing each supervisor individually.

Implications for Learning and Future Practice

It feels impossible to sum up what I have learned from this program of work in one relatively short section of the thesis. Despite coming from an academic background and considering this to be one of the major strengths, the learning process has been immense, both from a researcher and clinician perspective.

I have learnt a lot about the experience of being diagnosed with a psychotic condition and how the early intervention teams work effectively with the young person using an assertive out-reach model. The service-users were on the whole, surprisingly open and honest about their symptoms and the experiences that led up to the onset of the psychotic symptoms. I saw people from a range of social and cultural backgrounds and each person's story gave me a fascinating insight into their psychosis experience. This research enabled me to talk to the person for as long as they needed rather than for an hour appointment. This gave me a privileged insight into not only the individual, but also the experience of psychosis and how they manage this condition. From this experience, I have learnt so much about having psychosis that the text books and research papers can not hope to cover and that I will never forget in my work as a clinician.

The balancing of the roles of a clinician and researcher is another learning area for me. Whilst conducting this research, I was on two very demanding placements, which meant very careful balancing of my diary and recognising my limitations. I am the type of person who thrives on being busy, but I learnt that I do have my limits and managing this was an important learning point for me. My priorities were very much divided as my client work was important, but we only have so much time for the research and the recruitment and scoring of the questionnaires were extremely time consuming. I learnt to manage these demands by being clear about my boundaries, prioritising my time and recognising that I am human and can only do so much. These are very important learning points for me to take into my new career as a qualified clinical psychologist.

The necessity of having good supervision has been confirmed to me throughout this process. I know that I have truly valued my supervisors' support especially in containing my anxiety during the problems in recruitment. I have benefited from their extensive knowledge in the area and the contacts they have with other key people who have helped me either with papers, questionnaires or accessing the early intervention teams. I will take these skills and use them when I become a supervisor myself, so that I will be seen as knowledgeable, reliable and approachable, be it in a clinical or academic supervisory role.

I have learnt how to develop my negotiation and diplomacy skills from working within and across the early intervention teams. I realised that each team, although working under the same umbrella, work extremely differently and have different team dynamics. I

had to learn to adjust accordingly and learn how to work effectively with different personalities in the teams. This is a vital skill that will be incredibly useful in my future career in multi-professional working.

The importance of a work-life balance has been reiterated to me too during this work. I believe that the past 12 months has taught me to value taking time out and enjoying my evenings and weekends. I did feel guilty giving myself the time to do other things, but I knew deep inside of me the importance of doing so. I often spoke about this conflict with my partner and friends and this was a helpful process to help me see how much I needed to take a break. I also had to take an unexpected period of 5 weeks sick leave in May 2007, which challenged me because I wanted to work on my thesis, but I realised I had to allow myself time to recover from my operation and to relax!

From a CPD perspective, I feel that I have good basic research skills that I would like to continue to develop. I would therefore like to take part in project management training. I would also like to develop my qualitative skills as I learnt so much from the richness of the interviews with the service-users. I would like to learn the skills to use qualitative techniques to encourage me to investigative the diversity and idiosyncratic experiences of clients to not only inform my clinical work, but those who will be reading the papers that I will hopefully be publishing.

Finally, I have learnt that, despite all the challenges, which I probably secretly enjoyed and relished (!), a career in clinical psychology is definitely for me. I love the mix of

clinical work and research opportunities. Indeed, the personal achievement I feel from a job well-done, be it with clients, teams or in writing a thesis, is immense and one I thrive upon.

Dissemination of the Findings

Please see Table 3.1. for full dissemination details. This shows that I have arranged to attend a city-wide meeting in July to feedback the findings in a presentation and I will write a handout for those who are unable to attend. I will also discuss with care co-ordinators how to disseminate the findings with the service users. I will be submitting the literature review to the journal called Clinical Psychology Review and the research chapter to Schizophrenia Research. I also intend to send my abstract to the British Association for Behavioural Cognitive Psychotherapists. I have presented previous papers at their conferences to a wide range of professionals interested in the cognitive approach. I am aiming to present this paper in the 2008 Edinburgh conference.

Table 3.1. Timetable for Dissemination

	Planned Time for Completion
Present at City-Wide meeting	July 2007
Prepare Literature for Publication	September 2007
Submit Paper to Clinical Psychology Review	October 2007
Prepare Research Chapter for Publication	September 2007
Obtain Supervisor Approval	September 2007
Submit Paper to Schizophrenia Research	October 2007
Submit Abstract to BABCP	December 2007
Present at BABCP Conference	July 2008

References

Huppert, J. D., Smith, T. E., & Apfeldolf, W. J. (2002). Use of self-report measures on anxiety and depression in outpatients with schizophrenia: reliability and validity. *Journal of Psychopathology and Behavioural Assessment, 24*, 275-283.

Mattick, R. P., & Clarke, J. C. (1998). Development and validation of measures of social phobia scrutiny fear and social interaction anxiety. *Behaviour Research and Therapy, 36*, 455-470.

Appendices

Appendix 1: Formats

Appendix 1.1. – Letter of approval of the specified journals from the research tutor

Appendix 1.2. – Instructions for authors from Clinical Psychology Review

Appendix 1.3. – Instructions for authors from Schizophrenia Research

Appendix 1.1.– Letter of approval of the specified journals from the research tutor

The University Of Sheffield.

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Clinical Psychology Unit.

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10 April 2007

Margo Ononaiye
Third year trainee
Clinical Psychology Unit
University of Sheffield

Dear Margo

I am writing to indicate our approval of the journal(s) you have nominated for publishing work contained in your research thesis.

Literature Review: Clinical Psychology Review

Research Report: Schizophrenia Research

Please ensure that you bind this letter and copies of the relevant Instructions to Authors into an appendix in your thesis.

Yours sincerely

Andrew Thompson
Director of Research Training

Appendix 1.2. – Instructions for authors from Clinical Psychology Review

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CLINICAL PSYCHOLOGY REVIEW

Guide for Authors

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FORMAT: We accept most wordprocessing formats, but Word, WordPerfect or LaTeX are preferred. Always keep a backup copy of the electronic file for reference and safety. Save your files using the default extension of the program used.

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

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

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STYLE AND REFERENCES: Manuscripts should be carefully prepared using the Publication Manual of the American Psychological Association, 5th ed., 1994, for style. The reference section must be double spaced, and all works cited must be listed. Please note that journal names are not to be abbreviated.

Reference Style for Journals: Cook, J. M., Orvaschel, H., Simco, E., Hersen, M., and Joiner, Jr., T. E. (2004). A test of the tripartite model of depression and anxiety in older adult psychiatric outpatients, *Psychology and Aging*, 19, 444-45.

For Books: Hersen, M. (Ed.). (2005). Comprehensive handbook of behavioral assessment (2 Volumes). New York: Academic Press (Elsevier Scientific).

TABLES AND FIGURES: Present these, in order, at the end of the article. High-resolution graphics files must always be provided separate from the main text file (see for full instructions, including other supplementary files such as high-resolution images, movies, animation sequences, background datasets, sound clips and more).

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Appendix 1.3. – Instructions for authors from Schizophrenia Research

SCHIZOPHRENIA RESEARCH

An International Multidisciplinary Journal

Guide for Authors

Schizophrenia Research provides rapid publication of new international research that contributes to the understanding of schizophrenia and related disorders. The journal brings together previously separated biological, clinical and psychological research on this disorder, and stimulates the synthesis of clinical and research data into cohesive hypthesis.

Types of papers:

(1) Full-length papers. 2000-3000 words (excluding tables, figures and references). (2) Short communications: 1000-1500 words (excluding tables, figures and references). (3) Letters to the Editors· 600-800 words, 10 references, 1 figure or table. (4) Special solicited research and/or reviews. (5) Invited comments or hypotheses. (6) Editorials. (7) Schizophrenia meeting reviews; solicited and/or submitted. (8) Book reviews.

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It is hoped that this list will be useful during the final checking of an article prior to *sending* it to the journal's editor for review. Please consult this Guide for Authors for further details of any item.

Ensure that the following items are present:

- One author designated as corresponding author
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- Telephone and fax numbers
- All necessary files have been uploaded
- Keywords
- All figure captions
- All tables (including title, *description*, footnotes)

Further considerations

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Appendix 2: Ethical Approval

Appendix 2.1. – Letter of ethics approval from North Sheffield Ethics Office

Appendix 2.2. – Letter of research governance approval from Sheffield Health and Social Research Consortium

Appendix 2.1. – Letter of ethics approval from North Sheffield Ethics Office

North Sheffield Ethics Office
1st Floor Vickers Corridor

Direct Line: 0114 271 4894 or.271 4011
Fax: 0114 256 2469
Email: sue.rose@sth.nhs.uk

Northern General Hospital
Herries Road
Sheffield
S5 7AU

09 August 2006

Dr Margarita Ononaiye
Clinical Psychologist in Training
Clinical Psychology Unit
University of Sheffield
Western Bank
Sheffield
S10 2TP

Dear Dr Ononaiye

Full title of study: **The influence of social anxiety and first episode psychosis on attentional processing and the ability to use theory of mind**

REC reference number: **06/Q2308/100**

Thank you for your letter of 28 July 2006, responding to the Committee's request for further information on the above research [and submitting revised documentation].

The further information has been considered on behalf of the Committee by the Chairman.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation [as revised].

Ethical review of research sites

The Committee has designated this study as exempt from site-specific assessment (SSA. There is no requirement for [other] Local Research Ethics Committees to be informed or for site-specific assessment to be carried out at each site.

Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

The information sheet for controls: The questions should run 1,2,3 not 5,6,7 and the 'Name of Service User' should be replaced by 'Name of volunteer'. Please provide and updated copy for our files.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Application		09 June 2006
Investigator CV	Supervisor	
Investigator CV		09 June 2006
Protocol	4	28 July 2006
Peer Review		09 June 2006
Questionnaires/Standard Measures: SCI PANSS, SAD, BFNE, HADS, SFS, VAS, SIAS		
Advertisement	4	28 July 2006
Participant Information Sheet: Controls	4	28 July 2006
Participant Information Sheet: Participants with psychosis	4	28 July 2006
Participant Consent Form: Controls	4	28 July 2006
Participant Consent Form: Participants with psychosis	4	28 July 2006
Response to Request for Further Information		28 July 2006

Research governance approval

You should arrange for the R&D department at all relevant NHS care organisations to be notified that the research will be taking place, and provide a copy of the REC application, the protocol and this letter.

All researchers and research collaborators who will be participating in the research must obtain final research governance approval before commencing any research procedures. Where a substantive contract is not held with the care organisation, it may be necessary for an honorary contract to be issued before approval for the research can be given.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

06/Q2308/100	**Please quote this number on all correspondence**

With the Committee's best wishes for the success of this project

Yours sincerely

Dr G P M Clark
CHAIRMAN – North Sheffield Research Ethics Committee

Email: april.dagnall@sth.nhs.uk

Enclosures: Standard approval conditions [SL-AC1 for CTIMPs, SL-AC2 for other studies]

Copy to: R & D consortium, Sheffield University R & D.

SF1 list of approved sites

Appendix 2.2. – Letter of research governance approval from Sheffield Health and Social Research Consortium

SHSRC NHS

Sheffield Health & Social Research Consortium

Fulwood House
Old Fulwood Road
Sheffield
S10 3TH

Tel: 0114 271 8804
Fax: 0114 271 6736
Email: shsrc@sct.nhs.uk
www.shsrc.nhs.uk

02 October 2006

Dr Margarita Ononaiye
Trainee Clinical Psychologist
Clinical Psychology Unit
302 Western Bank
Sheffield
S10 2TP

Dear Dr Ononaiye,

Consortium Reference: ZG88

Full Project Title: **The influence of social anxiety and first episode psychosis on attentional processing and the ability to use theory of mind**

You now have **Research Governance approval from this Consortium** to carry out research as described in documentation you have supplied to us.

Please advise us of the project start date immediately you do so and at that time inform us also of the expected end date.

In order to comply with the NHS Research Governance Framework, please copy the Consortium into all future project monitoring forms that you send to the relevant Research Ethics Committee, including the "Declaration of End of Study".

The Consortium recommends the attached format for maintenance of your project site file to ensure all documentation is readily accessible.

You will also need to seek approval for every future change to protocol and I suggest you do this by sending us a copy of the submission you also have to make to the NHS REC.

As Principal Investigator, you have an obligation to report all research-related adverse events directly to the Consortium.

This Research Governance approval is given on the understanding that the findings of the research will be appropriately disseminated in peer-reviewed journal(s) and to research participants and any organisations representing their interests.

We wish you every success with the project and please feel free to contact us if you need

further assistance from the Consortium.

Yours sincerely

Dr Robert Dixon
Consortium Manager

Enc Site File Guidance

Cc Elizabeth Johnson, Adult Mental Health, SCT
Jonathan Boote
Project File

Appendix 3: Copies of the Standard Measures

Appendix 3.1. - The Structured Clinical Interview Positive and Negative Syndrome Scale

Appendix 3.2. - The Social Avoidance and Distress Scale

Appendix 3.3. - The Brief Fear of Negative Evaluation Scale

Appendix 3.4. - The Hospital Anxiety and Depression Scale

Appendix 3.5. - The Social Functioning Scale

Appendix 3.6. - The Visual-Analogue Scale

Appendix 3.7. - The Social Interaction and Anxiety Scale

Appendix 3.8. - The Hintings Task

Appendix 3.9. - The Consent Forms

Appendix 3.10. - The Information Sheets

SCI-PANSS

Structured Clinical Interview — Positive and Negative Syndrome Scale

Lewis A. Opler, M.D., Ph.D.
Stanley R. Kay, Ph.D.
J.P. Lindenmayer, M.D., &
Abraham Fiszbein, M.D.

MHS

'uctured Clinical Interview for the Positive and Negative Syndrome Scale

SCI-PANSS

L. A. Opler, M.D., Ph.D. S. R. Kay, Ph.D. J. P. Lindenmayer, M.D. A. Fiszbein, M.D.

ent Name or ID: _____

Viewer: _____ Date: ____ / ____ / ____

Data on "Lack of Spontaneity and Flow of Conversation" (N6), "Poor Rapport" (N3), and "Conceptual Disorganization" (P2)

'm ... We're going to be spending the next 30 to 40 minutes talking about you and your reasons for being here. Maybe you start out by telling me something about yourself and your background?

tructions to interviewer: Allow at least 5 minutes for a non-directive phase serving to establish rapport in the context of an view before proceeding to the specific questions listed below.)

Data on "Anxiety" (G2)

Have you been feeling worried or nervous in the past week? _____

IF YES, skip to question 3. IF NO, continue.

Would you say that you're usually calm and relaxed? _____

IF YES, skip to question 8. IF NO, continue.

What's been making you feel nervous (worried, not calm, not relaxed)? _____

Just how nervous (worried, etc.) have you been feeling? _____

Have you been shaking at times, or has your heart been racing? _____

Do you get into a state of panic? _____

Has your sleep, eating, or participation in activities been affected? _____

Data on "Delusions (General)" (P1) and "Unusual Thought Content" (G9)

Have things been going well for you? _____

Has anything been bothering you lately? _____

0. Can you tell me something about your thoughts on life and its purpose? _____

11. Do you follow a particular philosophy (any special rules, teachings, or religious doctrine)? _____

12. Some people tell me they believe in the Devil; what do you think? _____

IF NO (i.e., he/she doesn't believe in the Devil), skip to question 14.
IF YES (i.e., he/she does believe), continue.

13. Can you tell me more about this? _____

14. Can you read other people's minds? _____

IF NO, skip to question 16. IF YES, continue.

15. How does that work? _____

16. Can others read your mind? _____

IF NO, skip to question 19. IF YES, continue.

17. How can they do that? _____

18. Is there any reason that someone would want to read your mind? _____

19. Who controls your thoughts? _____

Data on "Suspiciousness/Persecution" (P6) and "Poor Impulse Control" (GI4)

20. How do you spend your time these days? _____

21. Do you prefer to be alone? _____

22. Do you join in activities with others? _____

IF YES, skip to question 25. IF NO, continue.

23. Why not? ... Are you afraid of people, or do you dislike them? _____

IF NO, skip to question 26. IF YES, continue.

24. Can you explain? _____

Skip to question 26.

25. Tell me about it. _____

26. Do you have many friends? _____

IF YES, skip to question 30. IF NO, continue.

27. Just a few? _____

IF YES, skip to question 29. IF NO, continue.

Any? .... Why? _____

Skip to question 32.

Why just a few friends? _____

Close friends? _____

IF YES, skip to question 32. IF NO, continue.

Why not? _____

Do you feel that you can trust most people? _____

IF YES, skip to question 34. IF NO, continue.

Why not? _____

Are there some people in particular who you don't trust? _____

IF NO to question 34 and YES to question 32, skip to question 41.

IF NO to question 34 and NO to question 32, skip to question 36.

IF YES to question 34, continue.

Can you tell me who they are? _____

Why don't you trust people (or name specific person)? _____

IF "DON'T KNOW" or "DON'T WANT TO SAY," continue. Otherwise, skip to question 41.

Do you have a good reason not to trust ...?

_____

Is there something that .... did to you? _____

Perhaps something that ... might do to you now? _____

IF NO, skip to question 41. IF YES, continue.

Can you explain to me? _____

Do you get along well with others? _____

IF YES, skip to question 43. IF NO, continue.

What's the problem? _____

Do you have a quick temper? _____

44. Do you get into fights? _____

IF NO, skip to question 48. IF YES, continue.

45. How do these fights start? _____

46. Tell me about these fights. _____

47. How often does this happen? _____

48. Do you sometimes lose control of yourself? _____

IF NO, skip to question 50. IF YES, continue.

49. What happens when you lose control of yourself? _____

50. Do you like most people? _____

IF YES, skip to question 52. IF NO, continue.

51. Why not? _____

52. Are there perhaps some people who don't like you? _____

IF NO, skip to question 54. IF YES, continue.

53. For what reason? _____

54. Do others talk about you behind your back? _____

IF NO, skip to question 57. IF YES, continue.

55. What do they say about you? _____

56. Why? _____

57. Does anyone ever spy on you or plot against you? _____

58. Do you sometimes feel in danger? _____

IF NO, skip to question 64. IF YES, continue.

59. Would you say that your life is in danger? _____

60. Is someone thinking of harming you or even perhaps thinking of killing you? _____

61. Have you gone to the police for help? _____

62. Do you sometimes take matters into your own hands or take action against those who might harm you

_____

IF NO, skip to question 64. IF YES, continue.

3. What have you done? _____

Data on "Hallucinatory Behavior" (P3) and associated delusions

54. Do you once in a while have strange or unusual experiences? _____

55. Sometimes people tell me that they can hear noises or voices inside their head that others can't hear. What about you? _____

IF YES, skip to question 68. IF NO, continue.

66. Do you sometimes receive personal communications from the radio or TV? _____

IF YES, skip to question 68. IF NO, continue.

67. From God or the Devil?: _____

IF NO, skip to question 83. IF YES, continue.

68. What do you hear? _____

69. Are these as clear and loud as my voice? _____

70. How often do you hear these voices, noises, messages, etc.? _____

71. Does this happen at a particular time of day or all the time? _____

IF HEARING NOISES ONLY, skip to question 80. IF HEARING VOICES, continue.

72. Can you recognize whose voices these are? _____

73. What do the voices say? _____

74. Are the voices good or bad? _____

75. Pleasant or unpleasant? _____

76. Do the voices interrupt your thinking or your activities? _____

77. Do they sometimes give you orders or instructions? _____

IF NO, skip to question 80. IF YES, continue.

78. For example? _____

79. Do you usually obey these orders (instructions)? _____

80. What do you make of these voices (or noises); where do they really come from? _____

81. Why do you have these experiences? _____

82. Are these normal experiences? _____

83. Do ordinary things sometimes look strange or distorted to you? _____

84. Do you sometimes have "visions" or see things that others can't see? _____

IF NO, skip to question 88. IF YES, continue.

85. For example? _____

86. Do these visions seem very real or life-like? _____

87. How often do you have these experiences? _____

88. Do you sometimes smell things that are unusual or that others don't smell? _____

IF NO, skip to question 90. IF YES, continue.

89. Please explain. _____

90. Do you get any strange or unusual sensations from your body? _____

IF NO, skip to question 92. IF YES, continue.

91. Tell me about this. _____

Data on "Somatic Concern" (GI)

92. How have you been feeling in terms of your health? _____

IF OTHER THAN "GOOD," skip to question 94. IF "GOOD," continue.

93. Do you consider yourself to be in top health? _____

IF YES, skip to question 95. IF NO, continue.

94. What has been troubling you? _____

95. Do you have any medical illness or disease? _____

96. Has any part of your body been troubling you? _____

IF YES, skip to question 98. IF NO, continue.

97. How is your head? Your heart? Stomach? The rest of your body? _____

98. Could you explain? _____

Has your head or body changed in shape or size? _____

IF NO, skip to question 102. IF YES, continue.

100. Please explain. _____

101. What is causing these changes? _____

Data on "Depression" (G6)

102. How has your mood been in the past week: mostly good, mostly bad? _____

IF "MOSTLY BAD," skip to question 104. IF "MOSTLY GOOD," continue.

103. Have there been times in the past week when you were feeling sad or unhappy? _____

IF NO, skip to question 114. IF YES, continue.

104. Is there something in particular that is making you sad? _____

105. How often do you feel sad? _____

106. Just how sad have you been feeling? _____

107. Have you been crying lately? _____

108. Has your mood in any way affected your sleep? _____

109. Has it affected your appetite? _____

110. Do you participate less in activities on account of your mood? _____

111. Have you had any thoughts of harming yourself? _____

IF NO, skip to question 114. IF YES, continue.

112. Any thoughts about ending your life? _____

IF NO, skip to question 114. IF YES, continue.

113. Have you attempted suicide? _____

Data on "Guilt Feelings" (G3) and "Grandiosity" (P5)

114. If you were to compare yourself to the average person, how would you come out: a little better, mayt. a little worse, or about the same? _____

IF "BETTER," skip to question 117.
IF "ABOUT THE SAME," skip to question 118.
IF "WORSE," continue.

115. Worse in what ways? _____

116. Just how do you feel about yourself? _____

Skip to question 120.

117. Better in what ways? _____

Skip to question 120.

118. Are you special in some ways? _____

IF NO, skip to question 120. IF YES, continue.

119. In what ways? _____

120. Would you consider yourself gifted? _____

121. Do you have talents or abilities that most people don't have? _____

IF NO, skip to question 123. IF YES, continue.

122. Please explain. _____

123. Do you have any special powers? _____

IF NO, skip to question 126. IF YES, continue.

124. What are these? _____

125. Where do these powers come from? _____

126. Do you have extrasensory perception (ESP), or can you read other people's minds? _____

127. Are you very wealthy? _____

IF NO, skip to question 129. IF YES, continue.

128. Explain please. _____

Can you be considered to be very bright? _____

IF NO, skip to question 131. IF YES, continue.

Why would you say so? _____

Would you describe yourself as famous? _____

Would some people recognize you from TV, radio, or the newspaper? _____

IF NO, skip to question 134. IF YES, continue.

Can you tell me about it? _____

Are you a religious person? _____

IF NO, skip to question 140. IF YES, continue.

Are you close to God? _____

IF NO, skip to question 140. IF YES, continue.

Did God assign you some special role or purpose? _____

Can you be one of God's messengers or angels? _____

IF NO, skip to question 139. IF YES, continue.

What special powers do you have as God's messenger (angel)? _____

Do you perhaps consider yourself to be God? _____

Do you have some special mission in life? _____

IF NO, skip to question 143. IF YES, continue.

What is your mission? _____

Who assigned you to that mission? _____

Did you ever do something wrong — something you feel bad or guilty about? _____

IF NO, skip to question 149. IF YES, continue.

Just how much does that bother you now? _____

Do you feel that you deserve punishment for that? _____

IF NO, skip to question 149. IF YES, continue.

146. What kind of punishment would you deserve? _____

147. Have you at times thought of punishing yourself? _____

IF NO, skip to question 149. IF YES, continue.

148. Have you ever acted on those thoughts of punishing yourself? _____

Data on "Disorientation" (GI0)

149. Can you tell me today's date (i.e., the day, month, and year)? _____

IF YES, skip to question 151. IF NO, continue.

150. Can you tell me what day of the week it is? _____

151. What is the name of the place that you are in now? _____

IF NOT HOSPITALIZED, skip to question 154. IF HOSPITALIZED, continue.

152. What ward are you on? _____

153. What is the address of where you're now staying? _____

IF ABLE TO TELL, skip to question 155. IF NOT ABLE TO TELL, continue.

154. Can you tell me your home address? _____

IF NOT HOSPITALIZED, skip to question 156. IF HOSPITALIZED, continue.

155. If someone had to reach you by phone, what number would that person call? _____

156. If someone had to reach you at home, what number would that person call? _____

157. What is the name of the doctor who is treating you? _____

If NOT HOSPITALIZED, skip to question 159. IF HOSPITALIZED, continue.

158. Can you tell me who else is on the staff and what they do? _____

159. Do you know who is currently the president (prime minister, etc.)? _____

160. Who is our governor (premier, etc.)? _____

161. Who is the mayor (town supervisor, etc.) of this city (town, etc.)? _____

Data on "Difficulty in Abstract Thinking" (N5)

n going to now say a pair of words, and I'd like you to tell me in what important way they're alike. Let's start, for example, with the words "apple" d "banana." How are they alike — what do they have in common? IF THE RESPONSE IS THAT "THEY'RE BOTH FRUIT," EN SAY: Good. Now what about ...? *(Select three other items from the Similarities list at varying levels of difficulty from Appendix A.)*

IF AN ANSWER IS GIVEN THAT IS CONCRETE, TANGENTIAL, OR IDIOSYNCRATIC (E.G., "THEY BOTH HAVE SKINS," "YOU CAN EAT THEM," "THEY'RE SMALL," OR "MONKEYS LIKE THEM"), then say: OK, but they're both fruit. Now W about ... and ... : how are these alike? *(Select three other items from the Similarities list at varying levels of difficulty from Appendix A.)*

APPENDIX A
Items for Similarities in the evaluation of "Difficulty in Abstract Thinking"

Circle the Similarities Used

1. How are a ball and an orange alike?
2. Apple and banana ?
3. Pencil and pen?
4. Nickel and dime?

---

5. Table and chair?
6. Tiger and elephant?
7. Hat and shirt?
8. Bus and train?

---

9. Arm and leg?
10. Rose and tulip?
11. Uncle and cousin?
12. The sun and the moon?

---

13. Painting and poem?
14. Hilltop and valley?
15. Air and water?
16. Peace and prosperity?

Note on Appendix A: Similarities are generally assessed by sampling four items at different levels of difficulty (i.e., one item selected from each quarter of the full set). When using the PANSS longitudinally, items should be systematically altered with successive interviews so as to provide different selections from the various levels of difficulty and thus minimize repetition.

Notes on Similarities responses:

---

ou've probably heard the expression, "Carrying a chip on the shoulder." What does that really mean? There's a very old saying, Don't judge a book by its cover." What is the deeper meaning of this proverb? *(Select two other proverbs from the list in Appendix* 3 *at varying levels of difficulty.)*

APPENDIX B
Items for assessing PROVERB INTERPRETATION in the evaluation of "Difficulty in Abstract Thinking"

Circle the Proverbs Used

What does the saying mean:
1. "Plain as the nose on your face"
2. "Carrying a chip on your shoulder"
3. "Two heads are better than one"
4. "Too many cooks spoil the broth"

---

5. "Don't judge a book by its cover"
6. "One man's food is another man's poison"
7. "All that glitters is not gold"
8. "Don't cross the bridge until you come to it"

---

9. "What's good for the goose is good for the gander"
10. "The grass always looks greener on the other side"
11. "Don't keep all your eggs in one basket"
12. "One swallow does not make a summer"

---

13. "A stitch in time saves nine"
14. "A rolling stone gathers no moss"
15. "The acorn never falls far from the tree"
16. "People who live in glass houses should not throw stones at others"

Note on Appendix B: Proverb interpretation is generally assessed by sampling four items at different levels of difficulty (i.e., one item selected from each quarter of the full set). When using the PANSS longitudinally, items should be systematically altered with successive interviews so as to provide different selections from the various levels of difficulty and thus minimize repetition.

Notes on Proverb responses:

Data on "Lack of Judgment and Insight" (G12)

162. How long have you been in the hospital (clinic, etc.)? _____

163. Why did you come to the hospital (clinic, etc.)? _____

164. Did you need to be in a hospital (clinic, etc.)? _____

IF YES, skip to question 167. IF NO, continue.

165. Did you have a problem that needed treatment? _____

IF NO, skip to question 169. IF YES, continue.

166. Would you say that you had a psychiatric or mental problem? _____

IF NO, skip to question 169. IF YES, continue.

167. Why?....would you say that you had a psychiatric or mental problem? _____

IF NO, skip to question 169. IF YES, continue.

168. Can you tell me about it and what it consisted of? _____

169. In your own opinion, do you need to be taking medicine? _____

IF YES, skip to question 171.
IF NO and <u>unmedicated</u>, skip to question 172.
IF NO and <u>medicated</u>, continue.

170. Why then are you taking medicines? _____

Skip to question 172.

171. Why?... Does the medicine help you in any way? _____

172. Do you at this time have any psychiatric or mental problems? _____

IF YES, skip to question 174. IF NO, continue.

173. For what reason are you at the hospital (clinic, etc.)? _____

Skip to question 175.

174. Please explain _____

75. Just how serious are these problems? _____

IF UNHOSPITALIZED, skip to question 178.
IF HOSPITALIZED, continue.

76. Are you ready yet for discharge from the hospital? _____

77. Do you think you'll be taking medicine for your problems after discharge? _____

78. What are your future plans? _____

79. What about your longer-range goals? _____

Vell, that's about all I have to ask of you now. Are there any questions that you might like to ask of me?
hank you for your cooperation.

Appendix 3.2. - The Social Avoidance and Distress Scale

Please read each statement and decide whether it is *True* or *False* for you. by circling the relevant response. If you are uncertain. decide which is more applicable to how you feel at the moment. Try to answer based on your first reaction: do not spend too long on any single statement.

I feel relaxed even in unfamiliar social situations.	True	False
I try to avoid situations which force me to be very sociable.	True	False
It is easy for me to relax when I am with strangers.	True	False
I have no particular desire to avoid people.	True	False
I often find social occasions upsetting.	True	False
I usually feel calm and comfortable at social occasions.	True	False
I am usually at ease when talking to someone of the opposite sex.	True	False
I try to avoid talking to people unless I know them well.	True	False
If the chance comes to meet new people. I often take it.	True	False
I often feel nervous or tense in casual get-togethers in which both sexes are present.	True	False
I am usually nervous with people unless I know them well.	True	False
I usually feel relaxed when I am with a group of people.	True	False
I often want to get away from people.	True	False
I usually feel uncomfortable when I am in a group of people I don't know	True	False
I usually feel relaxed when I meet someone for the first time.	True	False
Being introduced to people makes me tense and nervous.	True	False
Even though a room is full of strangers. I may enter it anyway.	True	False
I would avoid walking up and joining a large group of people.	True	False
When my superiors want to talk with me. I talk willingly.	True	False
I often feel on edge when I am with a group of people.	True	False
I tend to withdraw from people.	True	False
I don't mind talking to people at parties or social gatherings.	True	False
I am seldom at ease in a large group of people.	True	False
I often think up excuses in order to avoid social engagements.	True	False
I sometimes take the responsibility for introducing people to each other.	True	False
I try to avoid formal social occasions.	True	False
I usually go to whatever social engagements I have.	True	False
I find it easy to relax with other people.	True	False

Appendix 3.3. - The Brief Fear of Negative Evaluation Scale

Read each of the following statements carefully and indicate how characteristic it is of you according to the following scale:

1 = Not at all characteristic of me
2 = Slightly characteristic of me
3 = Moderately characteristic of me
4 = Very characteristic of me
5 = Extremely characteristic of me

____ 1. I worry about what other people will think of me even when I know it doesn't make any difference.

____ 2. I am unconcerned even if I know people are forming an unfavorable impression of me.

____ 3. I am frequently afraid of other people noticing my shortcomings.

____ 4. I rarely worry about what kind of impression I am making on someone.

____ 5. I am afraid others will not approve of me.

____ 6. I am afraid that people will find fault with me.

____ 7. Other people's opinions of me do not bother me.

____ 8. When I am talking to someone, I worry about what they may be thinking about me.

____ 9. I am usually worried about what kind of impression I make.

____ 10. If I know someone is judging me, it has little effect on me.

____ 11. Sometimes I think I am too concerned with what other people think of me.

____ 12. I often worry that I will say or do the wrong things.

Appendix 3.4. - The Hospital Anxiety and Depression Scale

FOLD HERE

Hospital Anxiety and Depression Scale (HADS)

Name: Date:

Clinicians are aware that emotions play an important part in most illnesses. If your clinician knows about these feelings he or she will be able to help you more.

This questionnaire is designed to help your clinician to know how you feel. Read each item below and underline the reply which comes closest to how you have been feeling in the past week. Ignore the numbers printed at the edge of the questionnaire.

Don't take too long over your replies, your immediate reaction to each item will probably be more accurate than a long, thought-out response.

A D

I feel tense or 'wound up'
- 3 Most of the time
- 2 A lot of the time
- 1 From time to time, occasionally
- 0 Not at all

I still enjoy the things I used to enjoy
- 0 Definitely as much
- 1 Not quite so much
- 2 Only a little
- 3 Hardly at all

I get a sort of frightened feeling as if something awful is about to happen
- 3 Very definitely and quite badly
- 2 Yes, but not too badly
- 1 A little, but it doesn't worry me
- 0 Not at all

I can laugh and see the funny side of things
- 0 As much as I always could
- 1 Not quite as much now
- 2 Definitely not so much now
- 3 Not at all

Worrying thoughts go through my mind
- 3 A great deal of the time
- 2 A lot of the time
- 1 Not too often
- 0 Very little

I feel cheerful
- 3 Never
- 2 Not often
- 1 Sometimes
- 0 Most of the time

I can sit at ease and feel relaxed
- 0 Definitely
- 1 Usually
- 2 Not often
- 3 Not at all

I feel as if I am slowed down
- 3 Nearly all the time
- 2 Very often
- 1 Sometimes
- 0 Not at all

I get a sort of frightened feeling like 'butterflies' in the stomach
- 0 Not at all
- 1 Occasionally
- 2 Quite often
- 3 Very often

I have lost interest in my appearance
- 3 Definitely
- 2 I don't take as much care as I should
- 1 I may not take quite as much care
- 0 I take just as much care as ever

I feel restless as if I have to be on the move
- 3 Very much indeed
- 2 Quite a lot
- 1 Not very much
- 0 Not at all

I look forward with enjoyment to things
- 0 As much as I ever did
- 1 Rather less than I used to
- 2 Definitely less than I used to
- 3 Hardly at all

I get sudden feelings of panic
- 3 Very often indeed
- 2 Quite often
- 1 Not very often
- 0 Not at all

I can enjoy a good book or radio or television programme
- 0 Often
- 1 Sometimes
- 2 Not often
- 3 Very seldom

Now check that you have answered all the questions.

A D

TOTAL

Appendix 3.5. - The Social Functioning Scale

NAME: _____

This questionnaire helps us to learn how you have been getting on since you became ill.

This questionnaire takes about 20 minutes to complete- before getting started could you please answer the following:

1. Where do you live?

   Answer: _____

   _____

2. Who do you live with?

   Answer: _____

   _____

FOR INTERVIEWER'S USE ONLY:

	Raw Score	Scaled Score
Withdrawal/Social Engagement (W)		
Interpersonal Communication (Inter)		
Independence-Performance (Ip)		
Independence-Competence (Ic)		
Recreation (R)		
Prosocial (P)		
Employment/Occupation (E/O)		

1. What time do you get up each day?

Average weekday _____
Average weekend
(if different) _____

2. On average how many waking hours do you spend alone in one day?
e.g. alone in a room
walking out alone
listening to radio or watching TV alone etc.

Please tick one of the boxes:

0-3 hours	Very little spent alone	
3-6 hours	Some of time	
6-9 hours	Quite a lot of the time	
9-12 hours	A great deal of time	
12 hours	Practically all the time	

3. How often will you start a conversation at home?

Almost never	Rarely	Sometimes	Often

4. How often do you leave the house (for any reason)?

Almost never	Rarely	Sometimes	Often

5. How do you react to the presence of strangers/people that you don't know?

Avoid them	
Feel nervous	
Accept them	
Like them	

1. How many friends do you have at the moment?
(people who you see regularly, do activities with etc.)

2. Do you have a partner?

Yes	
No	

3. How often are you able to carry out a sensible or rational conversation?
Please tick a box

Almost never	
Rarely	
Sometimes	
Often	

4. How easy or difficult do you find it talking to people at the moment?

Very easy	
Quite easy	
Average	
Quite difficult	
Very difficult	

Please place a tick against each item to show how often you have done the following over the **past 3 months**.

	Never	Rarely	Sometimes	Often
Buying items from the shops (without help)				
Washing pots, tidying up etc.				
Regular washing, bathing etc.				
Washing own clothes				
Looking for a job/working				
Doing the food shopping				
Prepare and cook a meal				
Leaving the house alone				
Using buses, trains etc.				
Using money				
Budgeting				
Choosing and buying clothes for self				
Take care of personal appearance.				

Please place a tick in the appropriate column to indicate how often you have done any of the following activities **over the past 3 months.**

	Never	Rarely	Sometimes	Often
Playing musical instruments				
Sewing, knitting				
Gardening				
Reading things				
Watching television				
Listening to records or radio				
Cooking				
D.I.Y activities (e.g. putting up shelves)				
Fixing things (car, bike, household etc).				
Walking, rambling				
Driving\cycling (as a recreation)				
Swimming				
Hobby (e.g. collecting things)				
Shopping				
Artistic activity (painting, crafts etc.)				

Please place a tick in the appropriate column to indicate how often you have done any of the following activities **over the past 3 months.**

	Never	Rarely	Sometimes	Often
Cinema				
Theatre\Concert				
Watching an indoor sport (squash, table-tennis).				
Watching an outdoor sport (football, rugby).				
Art gallery\ museum.				
Exhibition.				
Visiting places of interest.				
Meetings, talks etc.				
Evening Class.				
Visiting relatives in their homes.				
Being visited by relatives.				
Visiting friends (including boy/girlfriends).				
Parties.				
Formal occasions.				
Disco etc.				
Nightclub\ Social club				
Playing an indoor sport.				
Playing an outdoor sport.				
Club\ Society.				
Pub.				
Eating Out.				
Church Activity.				

Please place a tick against each item to show how able you are at doing or using the following.

	Adequately	Needs Help	Unable	Don't know
Public transport				
Handling money.				
Budgeting.				
Cooking.				
Weekly shopping.				
Looking for a job/ in employment				
Washing own clothes.				
Personal hygiene.				
Washing, tidying etc.				
Purchasing from shops.				
Leaving the house alone.				
Choosing and buying clothes.				
Caring for personal appearance.				

Are you in regular employment?
(This includes industrial therapy, rehabilitation or retraining courses).

Yes	
No	

1 IF YES: What sort of job

How many hours do You work per week?_____.

How long have you had this job?_____.

2 IF NO: When were you last in employment?_____.

What sort of job was it?_____.

How many hours per week?_____.

Are you registered disabled?

Yes	
No	

Do you attend hospital as a day patient?

Yes	
No	

If not employed (do not answer if working)

Do you think you are capable of some sort of employment?

Definitely yes	Would have difficulty	Definitely no

How often do you make attempts to find a new job?
(e.g. go to the Job Centre, look in the newspaper.)

Almost never	Rarely	Sometimes	Often

Appendix 3.6. - The Visual Analogue Scale

Please tick one the boxes below that best describes how anxious you are feeling NOW at the beginning of the study

☐	☐	☐	☐	☐
Not Anxious (0)	Slightly Anxious (1)	Moderately Anxious (2)	Very Anxious (3)	Extremely Anxious (4)

Please tick one the boxes below that best describes how anxious you are feeling NOW at the end of the study

☐	☐	☐	☐	☐
Not Anxious (0)	Slightly Anxious (1)	Moderately Anxious (2)	Very Anxious (3)	Extremely Anxious (4)

Appendix 3.7. - The Social Interaction and Anxiety Scale

SIAS

For each question, please circle a number to indicate the degree to which you feel the statement is characteristic or true of you. The rating scale is as follows:

0	=	Not at all characteristic or true of me
1	=	Slightly characteristic or true of me
2	=	Moderately characteristic or true of me
3	=	Very characteristic or true of me
4	=	Extremely characteristic or true of me

	Not at all	Slightly	Moderately	Very	Extremely
1. I get nervous if I have to speak to someone in authority (teacher, boss)	0	1	2	3	4
2. I have difficulty making eye contact with others	0	1	2	3	4
3. I become tense if I have to talk about myself or my feelings	0	1	2	3	4
4. I find it difficult mixing comfortably with the people I work with	0	1	2	3	4
5. I find it easy to make friends of my own age	0	1	2	3	4
6. I tense up if I meet an acquaintance in the street	0	1	2	3	4
7. When mixing socially, I am uncomfortable	0	1	2	3	4
8. I feel tense if I am alone with just one person	0	1	2	3	4
9. I am at ease meeting people at parties etc.	0	1	2	3	4
10. I have difficulty talking with other people	0	1	2	3	4
11. I find it easy to think of things to talk about	0	1	2	3	4
12. I worry about expressing myself in case I appear awkward	0	1	2	3	4
13. I find it difficult to disagree with another's point of view	0	1	2	3	4
14. I have difficulty talking to attractive persons of the opposite sex	0	1	2	3	4
15. I find myself worrying that I won't know what to say I in social situations	0	1	2	3	4
16. I am nervous mixing with people I don't know well	0	1	2	3	4
17. I feel I'll say something embarrassing when talking	0	1	2	3	4
18. When mixing in a group I find myself worrying I will be ignored	0	1	2	3	4
19. I am tense mixing in a group	0	1	2	3	4
20. I am unsure whether to greet someone I know only slightly	0	1	2	3	4

Thank you for you help

Appendix 3.8. - The Hintings Task

Hinting Task.

Instructions.

I'm going to read out a set of 10 stories involving two people. Each story ends with one of the characters saying something. When I've read the stories out I'm going to ask you some questions about what the character said.

Here's the first story. Listen carefully to it.

Name: Sex: Age: Quick:

Story	Response 1 and score	Response 2 and score
long, hot journey		
dirty bath		
treacle toffees		
creased shirt		
flat broke!		
project at work		
birthday present		
ornaments		
train set		
heavy cases		

George arrives in Angela's office after a long and hot journey down the motorway. Angela immediately begins to talk about some business ideas. George interrupts Angela saying:

"My, my! It was a long, hot journey down that motorway!"

QUESTION: What does George really mean when he says this?

ADD: George goes on to say:
"I'm parched!"

QUESTION: What does George want Angela to do?

Gordon goes to the supermarket with his mum. They arrive at the sweetie aisle. Gordon says:

"Cor! Those treacle toffees look delicious."

QUESTION: What does Gordon really mean when he says this?

ADD: Gordon goes on to say:
"I'm hungry, mum."

QUESTION: What does Gordon want his mum to do?

Melissa goes to the bathroom for a shower. Anne has just had a bath. Melissa notices the bath is dirty so she calls upstairs to Anne:

"Couldn't you find the Ajax, Anne?"

QUESTION: What does Melissa really mean when she says this?

ADD: Melissa goes on to say:
"You're very lazy sometimes, Anne!"

QUESTION: What does Melissa want Anne to do?

Rebecca's birthday is approaching. She says to her Dad:

"I love animals, especially dogs."

QUESTION: What does Rebecca really mean when she says this?

ADD: Rebecca goes on to say:
"Will the pet shop be open on my birthday,Dad?"

QUESTION: What does Rebecca want her dad to do?

Donald wants to run a project at work but Richard, his boss, has asked someone else to run it. Donald says:

"What a pity. I'm not too busy at the moment."

QUESTION: What does Donald really mean when he says this?

ADD: Donald goes on to say:
"That project is right up my street."

QUESTION: What does Donald want Richard to do?

Jessica and Max are playing with a train set. Jessica has the blue train and Max has the red one. Jessica says to Max:

"I don't like this train."

QUESTION: What does Jessica really mean when she says this?

ADD: Jessica goes on to say:
"Red is my favourite colour."

QUESTION: What does Jessica want Max to do?

Betty and Michael moved into their new house a week ago. Betty has been unpacking some ornaments. She says to Michael:

"Have you unpacked those shelves we bought, Michael?"

QUESTION: What does Betty really mean when she says this?

ADD: Betty goes on to say:
"If you want something doing you have to do it yourself!"

QUESTION: What does Betty want Michael to do?

Patsy is just getting off the train with three heavy cases. John is standing behind her. Patsy says to John:

"Gosh! These cases are a nuisance."

QUESTION: What did Patsy really mean when she said this?

ADD: Patsy goes on to say:
"I don't know if I can manage all three."

QUESTION: What does Patsy want John to do?

Appendix 3.9. - The Consent Forms

Appendix 3.9.1. - Consent form for Early Intervention Participants

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Course Director: Prof Gillian Hardy

Clinical Practice Director: Ms Joyce Scaife
Course Administrator: Carole Gillespie
Prof Nigel Beail

Patient Identification Number:

CONSENT FORM

Title of Project: The Influence of Mental Health on the Types of Words a Person Looks At and the Judgements We Make

Name of Researcher: **Margo Ononaiye**

Please Initial Box

1. I confirm that I have read and understand the information sheet dated 28/07/06 (version 4) for the above study and have had the opportunity to ask questions. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected. ☐

3. I understand that confidentiality may be broken if anything is said during the course of the interview which gives rise to concern about my safety or the safety of others. ☐

4. I agree to take part in the above study and to receive £5 towards my travel expenses ☐

Name of Service User	Date	Signature
Researcher	Date	Signature

N.B. One copy for the participant, one copy for the researcher and one copy to be kept in the Early Intervention Team's notes for the participant

Appendix 3.9.2. - Consent form for Control Participants

THE UNIVERSITY OF SHEFFIELD
Clinical Psychology Unit
Department of Psychology

Doctor of Clinical Psychology (DClin Psy) Programmes (Pre-registration and post-qualification)
Clinical supervision training and NHS research training and consultancy

Clinical Psychology Unit
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Unit Director: Prof Graham Turpin
Assistant Unit Director : Prof Pauline Slade
Course Director: Prof Gillian Hardy

Clinical Practice Director: Ms Joyce Scaife
Course Administrator: Carole Gillespie
Prof Nigel Beail

CONSENT FORM

Title of Project: The Influence of Mental Health on the Types of Words a Person Looks At and the Judgements We Make

Name of Researcher: **Margo Ononaiye**

Please Initial Box

1. I confirm that I have read and understand the information sheet dated 28/07/06 (version 4) for the above study and have had the opportunity to ask questions. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected. ☐

3. I agree to take part in the above study and to receive £5 towards my travel expenses ☐

Name of Participant	Date	Signature

Name of Researcher	Date	Signature

N.B. One copy for the participant & one copy for the researcher

Appendix 3.10. - The Information Sheets

Appendix 3.10.1 – Information Sheet for Early Intervention Participants

INFORMATION SHEET

Title: **The influence of mental health on the types of words a person looks at and the judgements we make.**

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask the researcher if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

What is the purpose of the study?

Thank you for considering taking part in this study. The purpose of this study is to provide a deeper understanding of the processes that underlie our attention and how we make judgements in relation to our current status of mental health.

Why have I been chosen?

Participation in this study is on a purely voluntary basis and will include approximately sixty participants who may or may not be experiencing mental health problems.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. The study involves being interviewed by a researcher, completing some questionnaires, performing a simple computer task and judgement task. If you decide to take part you are still free to withdraw at any time and without giving a reason and this will not affect the standard of care you receive.

What will happen to me if I take part and what will I have to do?

The study involves one visit to meet with the researcher in a private room. The researcher will interview you using a questionnaire that assesses your mental health. You will also be asked to complete some questionnaires that measure your current levels of social anxiety, depression, social functioning and anxiety. Next, you will perform a computerised task. This task involves a series of word pairs being presented briefly on the screen and on certain trials a black dot will replace the words. You must press the spacebar when and if you see a black dot. It is important to note that some of the word pairs will contain words that will be socially or physically threatening in

nature. Following this, the researcher will read out a set of 10 short stories and you will be asked to judge what it is the person wants in the story. The study takes approximately 1 1/2 hours and your travel expenses will be paid.

What are the possible advantages and disadvantages of taking part?
There is no intended clinical benefit to you from taking part in the study. But the information from this study may help us to work better with people who experience psychosis.

Will taking part in this study be kept confidential?
All information that is collected about you during the study will be kept strictly confidential and can only be accessed by the researcher and the early intervention team who will be notified that you have agreed to participate in the study. Please note that confidentiality may be broken if anything is said during the course of the interview which gives rise to concern about your safety or the safety of others.

What happens to the results of the research study?
This is an educational study and the results of the study may be published in a Clinical psychology thesis and a peer reviewed psychological journal. If the results are published you will not be identified in any report/publication. If you would like a brief summary of the findings please let the researcher know.

What if something goes wrong?
In the unlikely event of you experiencing any emotional distress during this study, please let the researcher know and they will stop immediately. You should arrange to see your care-coordinator in the early intervention team to discuss any mental health issues that you may have. You can also contact the supervisors of this study, Professor Graham Turpin (g.turpin@sheffield.ac.uk) or Dr Georgina Rowse (g.rowse@sheffield.ac.uk). Self-help leaflets on social anxiety, anxiety and depression will be available, however there are no special compensation arrangements associated with taking part in this study.

Who is organising and reviewing the research?
The University of Sheffield are the organisers and the study will be reviewed by North Sheffield Local Research Ethics Committee

Who should I contact for further information?
Margo via your Early Intervention Team or Email m.ononaiye@sheffield.ac.uk

Appendix 3.10.2 - Information Sheet for Control Participants

INFORMATION SHEET

Title: **The influence of mental health on the types of words a person looks at and the judgements we make.**

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask the researcher if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

What is the purpose of the study?

Thank you for considering taking part in this study. The purpose of this study is to provide a deeper understanding of the processes that underlie our attention and how we make judgements in relation to our current status of mental health.

Why have I been chosen?

Participation in this study is on a purely voluntary basis and will include approximately sixty participants who may or may not be experiencing mental health problems.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. The study involves being interviewed by a researcher, completing some questionnaires, performing a simple computer task and judgement task. If you decide to take part you are still free to withdraw at any time and without giving a reason.

What will happen to me if I take part and what will I have to do?

The study involves one visit to meet with the researcher in a private room at the University of Sheffield. The researcher will interview you using a questionnaire that assesses your mental health. You will also be asked to complete some questionnaires that measure your current levels of social anxiety, depression, social functioning and anxiety. Next, you will perform a computerised task. This task involves a series of word pairs being presented briefly on the screen and on certain trials a black dot will replace the words. You must press the spacebar when and if you see a black dot. It is

important to note that some of the word pairs will contain words that will be socially or physically threatening in nature. Following this, the researcher will read out a set of 10 short stories and you will be asked to judge what it is the person wants in the story. The study takes approximately 1 hour and you will be paid £5 towards your travel expenses.

What are the possible advantages and disadvantages of taking part?
There is no intended clinical benefit to you from taking part in the study. But the information from this study may help us to work better with people who experience psychosis.

Will taking part in this study be kept confidential?
All information that is collected about you during the study will be kept strictly confidential and can only be accessed by the researcher

What happens to the results of the research study?
This is an educational study and the results of the study may be published in a Clinical psychology thesis and a peer reviewed psychological journal. If the results are published you will not be identified in any report/publication. If you would like a brief summary of the findings please let the researcher know.

What if something goes wrong?
In the unlikely event of you experiencing any emotional distress during this study, please let the researcher know and they will stop immediately. You can contact the supervisors of this study, Professor Graham Turpin (g.turpin@sheffield.ac.uk) or Dr Georgina Rowse (g.rowse@sheffield.ac.uk). Self-help leaflets on social anxiety, anxiety and depression will be available, however there are no special compensation arrangements associated with taking part in this study.

Who is organising and reviewing the research?
The University of Sheffield are the organisers and the study has been reviewed by North Sheffield Local Research Ethics Committee

Who should I contact for further information?
Margo on Email m.ononaiye@sheffield.ac.uk