

**COGNITIVE AND EMOTIONAL PROCESSES IN
PERSECUTORY DELUSIONS**

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I would like to thank the participants for agreeing to share their experiences with me. There are several who I saw at the most distressing period of their lives. This cannot be forgotten and I am very grateful.

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ABSTRACT

Reliable and detailed descriptions of the content and emotions associated with persecutory delusions have been emphasized as important for the foundation of effective theoretical development and clinical practice. Two studies have directly examined these associations in persecutory ideation (Green et al., 2006; Freeman et al., 2001), and found details of content to be associated with depression and anxiety.

The aim of this study is to partially replicate and extend previous research by exploring possible associations between specific emotions and content. Six research hypotheses were examined. It is hypothesised that the details of content such as the power of the persecutor as rated by the participant would be associated with depression and anxiety, deservedness would be associated with anger and shame and the participants' ability to cope would be associated with shame and depression.

Thirty-seven participants experiencing persecutory delusions were recruited from inpatient and outpatient locations within a specific NHS Trust. Five measures that assessed persecutory delusional content and emotional responses were completed. This included a novel assessment tool developed for this study.

Results of this study failed to support five of the six research hypotheses as no associations were found between content of persecutory delusions and specific emotions. In fact, it was found that there was a slight trend of the relationship being in the opposite direction to that predicted.

Findings of this study have a few implications for contemporary approaches to persecutory delusions. It suggests that there are gaps in our understanding and examination of persecutory delusions. Additionally it could mean that the theories of persecutory delusions which emphasize emotions should be revised.

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CHAPTER 1: INTRODUCTION

This thesis explores the precursors to, and the processes involved in the development of persecutory delusions; one of the most frequent and distressing symptoms of psychosis (Freeman, 2007). It is partially a replication of previous work regarding the role of emotion and content in persecutory delusions. In addition, there is a focus on extending the general understanding of the cognitive and emotional processes related to persecutory delusions, by broadening the range of emotions considered. To this end, a new scale was developed to capture the range of emotions to be explored.

In order to develop the argument for further investigation in this area, this phenomenon needs to be considered within the wider context of delusions. First, the discussion will include a presentation of the general background to the study. Commentary will include contemporary ways this phenomenon is examined and understood; the use of the single symptom approach, a cognitive framework for psychosis, and a clear definition of persecutory delusions. Next, models of persecutory delusions are discussed. The model of Freeman et al. (2002) in particular, will be discussed in some depth as it is considered most pertinent to the foundation of this study. The third section of this introduction will present six studies which provide empirical evidence most relevant to the background for this study, and justification for the development of the research hypotheses. The aim and purpose of this study will then be presented. To help explore the research hypotheses, a new scale was developed. Therefore, the subsequent section is a discussion of assessment measures and the rationale for developing a new scale. Finally, the study's potential contribution to knowledge of persecutory delusions will be discussed.

Relevant literature for this thesis was derived using word searches for 'delusions' and 'persecutory delusions' in the online Google search engine. The databases Psych Info (1980-2011) and Medline (1992-2011) were used to review relevant journal articles. Additional reference lists were found from relevant journal articles.

1.1. General background to the study

This section introduces a general discussion of delusions prior to considering the specific nature of the sub-type of persecutory delusions.

Delusions are generally considered to be one of the main positive symptoms of psychosis, along with hallucinations, and, less commonly, disorganised thought and speech (American Psychiatric Association [DSM-IV-TR] 2000). The term 'psychosis' in turn, refers to a collection of symptoms usually observed in the acute phase of several psychiatric disorders and conditions. They include schizophrenia, bipolar disorder, depression, dementia, Parkinson's disease and multiple sclerosis (American Psychiatric Association [DSM-IV-TR] 2000). In addition, psychosis has also been observed in individuals experiencing an adverse drug reaction or extreme stress (American Psychiatric Association [DSM-IV-TR] 2000). Persecutory delusions are the most common type of delusions, and are found in almost all of the above disorders (see Freeman, 2007, for a review).

Empirical evidence has consistently suggested a biological component in the aetiology of psychosis which leads to aberrant perceptions and salience of stimuli (van der Gaag, 2006). The efficacy of anti-psychotic drugs such as clozapine in terms of helping to alleviate the symptoms of psychosis appears to give support to the use of the medical model as an explanation for this phenomenon. However, despite helpful intervention with medication, individuals often continue to experience residual psychotic symptoms and other concerns and disabilities associated with psychosis (Freeman & Garety, 2004). Over the last three decades, our understanding of psychosis has developed further due to a focus on the psychological aspects of psychotic experiences (Freeman, 2008).

1.1.1. Contemporary approaches to understanding psychosis

Stress-vulnerability models generally agree that psychosis develops where there is a vulnerable predisposition of biological origin (Zubin & Spring, 1977). Onset may follow life events, illicit drug abuse, periods of isolation and adverse environments. More contemporary models further stipulate that the

psychotic experience also includes emotional changes and disruptions in cognitive processes (Garety et al., 2001; 2005). Other recent contributions to our understanding of psychosis come from the proliferation of work using the single symptom approach and literature on the continuum model of psychosis.

1.1.1.2. *Single symptom approach*

A general direction within mental health research has been the examination of experiences as individual symptoms rather than within a diagnostic categorisation (Freeman, Bentall & Garety, 2008). The advantages of this approach were initially noted by Persons (1986), and championed by Bentall (1990; 2001), among others. It is argued that this approach enables a detailed, fine-grained study of symptoms, recognises the continuity of clinical phenomena with normal phenomena, and avoids the misclassification of individuals that can occur when an unreliable or invalid classificatory system is used (Pearsons, 1986). In addition, knowledge gained by isolating key variables can help modify and improve the more general classification of psychosis. In line with this framework, many psychosis researchers also advocate a single symptom approach towards delusions (Freeman, 2007; Bentall et al., 2001). One consequence of such an approach to mental phenomena was the study of persecutory delusions, in relative isolation from other psychotic symptoms, as a phenomenon of interest. In addition, using this approach, individuals with psychosis can be classified in terms of their current concerns, and treated accordingly, rather than being considered as a homogenous group (Allardyce, Suppes, & van Os, 2007).

There are, however, some difficulties in adopting this approach in relation to delusions. One such difficulty is the frequent co-occurrence of symptoms such as hallucinations, grandiosity and delusions of reference (Johns et al., 2004; Maric et al., 2004; Fowler, 2007). Arguably, a focus on individual symptoms can overlook this confounding factor and this heterogeneity found in psychosis may lead to the assumption that underlying causes/processes are similar when they might not be. However, this particular approach has brought the paranoid experience into greater focus (Freeman & Garety,

2000). Researchers and/or clinicians have achieved greater clarity in deciding the elements that may be of interest, and some authors have argued that this approach has increased the understanding of persecutory thinking (Freeman, 2008). This study adopts the single symptom approach as one of the starting points for investigation of the research hypotheses given the argument of helping achieving greater clarity for the phenomenon of interest, this instance being that of persecutory delusions.

1.1.1.3. *Psychosis along a continuum*

Psychotic symptoms were traditionally considered as qualitatively distinct from normal experience. This was intrinsic to the definition for the phenomena and diagnosis (Jones et al., 2003). However, current ways of understanding psychosis includes considering these experiences along a continuum (Claridge, 1994; van Os, 1999). One implication of this approach is that similar symptoms seen in patients with psychotic disorders, can be measured in non-clinical populations, and experiencing symptoms of psychosis is not inevitably associated with the presence of disorder (van Os et al., 2009).

Results from a number of studies suggest a great overlap between the range of scores of hospitalised in-patients and individuals from the general population (Peters et al., 1999). It has been found that individuals scoring highly on schizotypal questionnaires resemble schizophrenia patients on experimental correlates such as reasoning biases and information and language processing (Linney et al., 1998; Peters, Pickering & Hemsley, 1994, Nunn & Peters, 2001). A conservative estimate of 10-15% of the general population regularly experience paranoid thoughts (Freeman et al., 2005; Verdoux et al., 1998a; Olfson et al., 2002; Cohen et al., 2004; Ostling & Skoog, 2002).

A more recent systematic review of studies of population rates of subclinical psychotic experiences, revealed a median prevalence rate of approximately 5% and a mean incidence rate of approximately 3% (van Os et al., 2009). In addition, with follow-up studies, the small difference between prevalence and

incidence rates indicate that approximately 75-90% of all psychotic experiences are transitory and disappear over time (van Os et al., 2009). This review implies that individuals experiencing symptoms of psychosis are in greater numbers than those which are included in the more constricted medical concept of schizophrenia (Peters et al., 1999).

1.1.1.4. *Cognitive framework for psychosis*

Arguably, the most influential framework for examining psychotic symptoms has been the adoption of the cognitive approach. Essentially, this approach provides a psychological description by focusing on mental processes and perceptions as a way of explaining and understanding mental distress (Garety et al., 2001). Unlike the stress-vulnerability models, the cognitive approach places emphasis on the appraisal of unusual experiences. This appraisal is then argued to transform these experiences into psychotic symptoms (Garety et al., 2001).

Specific psychological processes have been implicated in the formation and maintenance of psychotic experiences by contemporary cognitive researchers (Bentall et al., 2001; Garety et al., 2001; Garety, Freeman, Jolley, Dunn, Bebbington et al., 2005). These include theory of mind deficits, attributional biases and a 'jumping to conclusions' style of thinking. These cognitive processes bias the individual's search for explanations of their experiences, leading to fantastical conclusions (Freeman, 2007). In addition, they constrain and skew the content of such explanations. 'Theory of mind' (the ability to understand the mental states of others, ToM) deficits in understanding social situations and intention of others, have been reported in individuals with psychosis (Frith, 1992; Corcoran et al., 1995, 2003). In relation to persecutory delusions, this may result in the individual finding it harder to read others' intentions towards him or herself. Combined with a hyper vigilance to threat, negative intent is conceived and the individual feels persecuted (Frith, 2004). Due to this deficit, the individual is thought to more easily conclude that he/she is being conspired against by others, as true intentions seem unfathomable (Frith 2004; Brune, 2005). However, evidence for TOM deficits have been found to be associated more with other

symptoms of psychosis such as thought disorder and negative symptoms rather than persecutory delusions (Greig, Bryson & Bell, 2004). This suggests that this specific psychological process may not be part of the formulation and maintenance of persecutory delusions. It also strengthens the argument for the single symptom approach in considering persecutory delusions in relative isolation from other psychotic experiences.

Evidence of bias has also been found in attribution style in individuals experiencing symptoms of persecutory delusions (Garety, Hemsley & Wessley, 1991; Bentall et al., 2001). A number of studies have found that persecutory delusions are associated with an attributional style, characterised by externalising the cause of negative events to other people specifically rather than to circumstances (Kinderman & Bentall 1996a 1996b; Bentall et al., 2001).

‘Jumping to conclusions’ has been one of the most successfully replicated findings involving reasoning bias (Freeman, 2007). Empirical evidence has illustrated that a significant number of individuals experiencing delusions are hasty in their data gathering (‘jump to conclusions’), in that they gather less evidence, which is hypothesized to lead to the rapid acceptance of beliefs, even if there is limited evidence to support them (Garety & Freeman, 1999; Garety et al., 2005; van Dael et al., 2006). However, it is important to note that this is a finding not based on delusional content and this evidence is not consistent for all sub-types of delusions; including persecutory delusions (Freeman, 2007).

The above biases in cognitive processes have added to the theoretical understanding of the development of psychosis. They have also been incorporated to varying degrees within the different cognitive models of psychosis on which further study of persecutory delusions was based.

1.1.1.4.1. Cognitive models of psychosis

Four general cognitive models have emerged as explanations for the development of psychotic experiences (Frith, 1987; Garety et al., 2001;

Hemsley, 1986; 1993, Morrison; 2001). However, the cognitive framework provided by Garety et al., (2001), incorporates aspects of the other three models to provide a multi-factorial explanation of psychosis and, arguably, has gained dominance as the explanation for psychosis development.

The model for the positive symptoms of psychosis hypothesised by Garety et al., (2001) adheres to the general consensus that psychosis develops in individuals with a vulnerable predisposition (of bio psychological origin). Similar to the stress-vulnerability models, it is argued that onset often follows life events, adverse environments, illicit drug use or periods of isolation. However, there are additional emotional changes, and disruptions in cognitive processes of attention, perception and judgement. This leads to the most prominent symptoms of delusional beliefs and hallucinations (Garety et al., 2001)

The model hypothesised by Garety et al. (2001) provides a useful model for understanding the development of positive symptoms of psychosis, as two possible proximal routes to development of the phenomenon were identified, clarifying particular processes. Previous knowledge from the stress-vulnerability models and the specific cognitive changes is integrated into the model, and contributes to the further expansion of knowledge regarding psychosis. In addition, this model provides a foundation for at least one of the models of persecutory delusions (this will be discussed later in this introduction).

It must be acknowledged that whilst the cognitive framework and models of psychosis have been greatly influential, and the dominant approach in contributing to knowledge in this area, it is not without limitations. It could be argued that a cognitive approach is patient blaming with causes of distress located within the individual. Other aspects of psychosis are ignored, such as an individual's emotional response to the experience of psychosis as a major life event (Anthony, 1993; Gumley, White, & Power, 1999). Furthermore, there is robust evidence of increased rates of psychosis being associated with social factors such as urban environments (Cougnard, Marcelis & Myin-Germeys, 2007); lower socio-economic status and migrant status (Rutten,

van Os, Dominguez & Krabbendam, 2008). Such aspects cannot be accounted for within the cognitive approach to psychosis

1.1.1.5. *Emotion and Psychosis*

The cognitive model presented by Garety et al. (2001), highlights a role for emotion in the development of the psychotic experience. This is in line with one of the central ideas of the cognitive approach to psychosis, that beliefs are linked to emotions (Beck, Rush, Shaw & Emery, 1979). Birchwood (2003) argues that emotional dysfunction is pervasive in non-affective psychosis and there is additional distress (fear, anger shame) attached to the experience of psychotic symptoms.

Emotional disturbance has been consistently observed in the prodromal phase of psychosis. Some 60% to 80% of individuals in this phase are said to report symptoms of anxiety, depression and irritability in the two to four weeks prior to the appearance of positive symptoms (Broome et al., 2005a; 2005b; Freeman and Garety, 2003; Yung & Mc Gorry, 1997). Following the first episode of psychosis, more than half of patients report 'post-psychotic depression' during a period which carries a high risk of suicide (Birchwood et al., 2003). When symptoms persist, depression has been traced to the perceived power of voices (Birchwood et al., 2000) and of persecutory delusions (Freeman et al., 2001).

The cognitive model of psychosis by Garety et al. (2001), focuses on the emotion of anxiety and its contribution to psychosis. It is argued that three processes traditionally associated with anxiety disorders (information processing biases, safety behaviours and meta-cognitive beliefs) are important in the development of psychosis. Anxiety triggers hallucinations and increases delusional thoughts which will drive a search for a meaning and understanding that is consistent with affect-associated beliefs (Garety et al., 2001).

1.1.2. Summary

Arguably, contemporary ways of exploring psychotic experiences have adopted specific approaches to the phenomena. The single symptom approach as a starting point has led to individual symptoms being examined in some depth and the development of individual theoretical models (as is the case for persecutory delusions which will be discussed further) and assessment tools. The perception of psychotic symptoms along a continuum has challenged previous thought of the psychotic experience being qualitatively distinct from normal experience. Evidence has identified the phenomenon across the non-clinical population suggesting that clinical persecutory delusions are related to more every day persecutory thoughts. The cognitive framework has allowed for theoretical exploration of the possible mental processes involved in the psychotic experience and subsequent research. Current dominant cognitive theory and empirical evidence argue a case for, and support the role of multiple psychological cognitive processes in development of psychosis, and a central role for emotional factors. Despite the well documented limitations to the cognitive framework and single symptom approach, these ways of understanding the nature of psychosis, arguably, have become dominant starting points for further exploration and research of this area. The following discussion follows this trend by focusing solely on psychological approaches to delusions within a cognitive framework, and to persecutory delusions specifically.

1.2. **Delusions**

1.2.1. Defining the experience

A universal definition of delusions appears to be problematic, as there remains widespread inconsistency of definition in studies on delusions (Munro, 2008).

Within a cognitive framework, general consensus concedes that modern attempts to gain some clarity of definition for delusions began with the works of German phenomenologists. These include Bleuler (1911), Jaspers (1913)

and Kraepelin (1919). Jaspers in particular, made the distinction between 'primary' and 'secondary' delusions which has been extremely influential in psychiatry (Garety & Hemsley, 1994).

Defining delusions was taken a step further by Mullen (1979), with the assertion that a delusion is an abnormal belief that is:

1. Held with absolute conviction.
2. Experienced as self-evident truths usually of great personal significance.
3. Not amenable to reason or modifiable by experience.
4. Fantastic in content or at best inherently unlikely.
5. Not shared by those of a common social or cultural background.

[Mullen, 1979, p.36]

This definition was disputed by Garety and Hemsley (1994), as it presents a number of difficulties. They argued that one difficulty is the fact that people who experience delusions may not hold them with absolute conviction. An additional difficulty is that criteria have not been produced to assess the idea that delusions are not amenable to reason.

In an attempt to further clarify a definition for delusions, Oltmanns (1988) focused on the multi-dimensional nature of the delusional experience. It is asserted that in assessing the presence of a delusion, one should consider a list of defining characteristics or dimensions. No one item is compulsory, however, in conjunction with other items on the list, this provides greater evidence for the presence of a delusion. The list entails:

1. The balance of evidence for and against the belief is such that other people consider it completely incredible.
2. The belief is not shared by others.
3. The belief is held with firm conviction. The person's statements or behaviours are unresponsive to the presentation of evidence contrary to the belief.

4. The person is preoccupied with (emotionally committed to) the belief and finds it difficult to avoid thinking or talking about it.
5. The belief involves personal reference, rather than unconventional religious, scientific or political conviction.
6. The belief is a source of subjective distress or interferes with the person's occupational or social functioning.
7. The person does not report subjective efforts to resist the belief (in contrast to patients with obsessional ideas.)

[Oltmanns, 1988, p.5]

Empirical evidence appears to support the proposal of a multidimensional view and definition of delusions (Brett-Jones, Garety & Hemsley, 1987; Garety & Hemsley, 1994) and Harrow et al., (2004). However, the definition presented by The Diagnostic and Statistical Manual of Mental Disorders (2000) (DSM-IV-TR) appears to be most utilised within mental health (Munro, 2008). In this main psychiatric diagnostic categorisation, delusions are described as one of the 'active-phase symptoms' of schizophrenia. They are defined as:

'Erroneous beliefs that usually involve a misinterpretation of perceptions and experiences. The distinction between a belief and a strongly held idea is sometimes difficult to make and depends in part on the degree of conviction with which the belief is held despite clear contradictory evidence regarding its veracity' [DSM-IV-TR, p.299].

This definition of delusions appears to have incorporated Jasper's definition of the concept.

In addition to a definition of delusions, the DSM-IV-TR provides seven subtypes of delusional disorder: erotomanic, grandiose, jealous, persecutory, somatic, mixed and unspecified type with persecutory delusions; the latter being the most common (DSM-IV-TR, 2000). This categorization of delusions by content continues to be the most common method for considering delusions (Garety & Hemsley, 1994). However, it has been argued that psychiatric explanations of delusional formations are expressions of the

empiricist and rationalist paradigms upon which modern science is based (Gergen, 1985). The traditional psychiatric view of delusions has been questioned further within the last decade (Harper, 2004; Cromby & Harper, 2005). Experiences of paranoia have been said to be seen as simply irrational and false, a sign of pathology whose context and content are meaningless and there are grounds for rejecting each of these assumptions (Cromby & Harper, 2005).

Whilst acknowledging an alternative framework for delusions, this study has adopted the positivist cognitive approach to delusions for several reasons:

- 1) The cognitive approach has been productive theoretically in providing a solid overarching definition in which to consider delusions.
- 2) It can be argued that more research and empirical evidence has been produced to support the cognitive framework to delusions as opposed to other approaches.
- 3) This approach has been productive therapeutically in developing specific interventions such as Cognitive Behavioural Therapy (CBT) and its efficacy has been supported (Cormac et al., 2002; Kuipers et al., 1997; Tarrier et al., 1998; Wykes et al., 2008).

1.2.2. Delusions in the general population

Delusions were generally thought to be qualitatively distinct from normal experience, and this distinction should be intrinsic to the definition (Jones et al., 2003). However, there is evidence to suggest that delusions exist within the non- clinical, healthy population. The Gallup (1995) survey showed that 'false' beliefs are common in the general UK population:

- 45% believed in telepathy.
- 45% believed in the ability to predict the future.
- 42% believed in hypnotism.
- 39% believed in life after death.
- 31% believed in Ghosts.

[Social surveys/ Gallup Ltd, 1995]

Peters, Joseph and Garety (1999) using the Peters Delusions Inventory (PDI, Peters *et al.*, 1999), a questionnaire designed to measure delusional ideation in the general population, found that there was great overlap between the range of scores of those in a group with delusions and those from the general population. Freeman and Garety (2003) in their review of the rationale for separating neurosis and psychosis contend that empirical evidence is not consistent with the view that psychosis is qualitatively different from normal experience. To extend this further, Freeman (2006) performed a review of 15 studies and concluded that there is clear evidence for the existence of delusions within the general population. It is further stated that approximately 1-3% of the non-clinical population experience delusions of a level of severity comparable to clinical cases of psychosis. A further 5-6% of the non-clinical population experience delusions of less severity.

A large epidemiological Netherlands Mental Health Survey and Incidence Study (NEMESIS), found that 0.21% of the sample of non-clinical participants received a DSM-II-R diagnosis of non-affective psychosis (van Os *et al.*, 2000). A greater proportion (3.3%) had a psychiatrist-rated delusion. Further evidence appeared to demonstrate that delusional thoughts are not distinct or occur solely within the clinical population but lie on a continuum (van Os *et al.*, 2009). The above evidence appears to question a definition for delusions which incorporates the idea of being qualitatively distinct from the general population.

1.2.3. Defining persecutory delusions

As the single symptom approach was generally adopted by researchers of psychosis, persecutory delusions appeared to be identified as an important phenomenon for study (Freeman, 2008). Arguably, several factors led to this research focus. First, persecutory delusions are particularly clinically relevant. They are the most likely delusion to be acted upon (Wessely *et al.*, 1993), and the presence of a persecutory delusion is a predictor of

admission to hospital (Castle, Phelan, Wessely & Murray, 1994). Secondly, they are one of the most frequently occurring delusions (Cutting, 1997). For instance, Sartorius et al. (1986), provided evidence demonstrating that 50% of individuals with signs of schizophrenia making first contact with services experienced persecutory delusions or paranoia, and that this was the most common symptom. Third, persecutory delusions have been identified as co-occurring in 15% of cases of depression, 28% of cases of bipolar disorder, and in 30% of cases of post traumatic stress disorder (Butler et al., 1996; Goodwin & Jamison, 1990; Johnson, Horwath & Weissman, 1991; Hamner, Freuch, Ulmer & Arana, 1999). Furthermore, approximately 1–3% of the non-clinical population have been found to have persecutory delusions of a severity comparable to clinical cases. A further 5–6% of the non-clinical population have a delusion of less severity and 10-15% has some degree of paranoid thinking (Freeman, 2006).

Despite many previous attempts at defining delusions in general, none were made to define the persecutory sub-type (Freeman & Garety, 2000). There was the suggestion that early texts on schizophrenia and delusional beliefs, contain descriptions of persecutory delusions encountered in practice rather than detailed definitions, and were not specific to persecutory delusions (Freeman & Garety, 2000). Consequently, a detailed definition/set of criteria was developed by Freeman and Garety (2000). This definition uses the perception of persecutory delusions as threat beliefs/ anticipation of danger which is later made explicit in the Freeman et al. (2002) model of persecutory delusions. This definition is as follows:

Criteria A: The individual believes that harm is occurring, or is going to occur, to him or her

Criteria B: The individual believes that the persecutor has the intention to cause harm

A number of points are further clarified:

1. Harm concerns any action that leads to the individual experiencing distress

2. Harm only to friends or relatives does not count as a persecutory belief, unless the persecutor also intends this to have a negative effect upon the individual
3. The individual must believe that the persecutor at present or in the future will attempt to harm him or her
4. Delusions of reference do not count within the category of persecutory beliefs

Evidence for the validity of these criteria has been supported by the study of Startup et al. (2003). Consensualized ratings indicated that all participants of this study met Freeman and Garety's (2000) requirements for the existence of a persecutory belief.

1.2.4. Summary

In the past two decades, delusions and persecutory delusions have been explored and revisions have occurred in terms of what makes the definition for these phenomena meaningful and reliable (Freeman, 2008). Freeman and Garety's (2000) definition provides a solid, clear starting point for any research into this area. It provides a clear focus on 'harm' as an important factor in helping to distinguish persecutory ideation from other thoughts. This definition also incorporates the general definition provided by Mullen (1979). For example, an individual's belief that they will come to harm could be held with absolute conviction or not be amenable to reason or modified by experience. Given this clarity, this definition for persecutory delusions is adopted as a starting point for this study, within a cognitive model of persecutory delusions.

1.3. Models of persecutory delusions

As a foundation to this study, it is important to discuss the current theoretical understanding of persecutory delusions. Three cognitive models have been developed as possible explanations for the origins of persecutory delusions. The models focus on differing processes and emotions to varying degrees.

1.3.1. Persecutory delusions as psychological self defence

Persecutory delusions are perceived as a form of psychological self defence by Bentall and colleagues (Bentall et al., 1994; 2001; 2008). Individuals experiencing persecutory delusions are proposed to avoid the activation of negative self beliefs by making externalising, personalising attribution for negative events (Bentall et al., 1994). Through the external-personalising attributions, individuals with persecutory delusions maintain a positive view of themselves, by effectively projecting their latent negative self-representation on others. The cost of maintaining self esteem in this way, however, is that such individuals must live in a subjective world that is peopled with hostile beings (Mc Kay et al., 2005).

1.3.2. 'Poor -me', 'bad-me' paranoia

Researchers have studied further the relationship between self-esteem and persecutory delusions. Persecutory delusions are divided into two sub-types ('poor -me' and 'bad -me' paranoia) by Trower and Chadwick (1995). When 'poor-me' (PM) paranoia is experienced, the individual believes persecution is unfair and unjustified. It is hypothesised that 'poor-me' paranoia is due to neglectful caregivers and insecurity threats to self-construction, leading to higher self-esteem, lower depression and anxiety. They are likely to exhibit anger and aggression. The second sub-type 'bad -me' (BM) paranoia, refers to individuals who believe themselves to be in some way deserving of persecution. 'Bad-me' is proposed to stem from over-intrusive relationships with care givers and alienation threats to self-construction in their early years, resulting in a clinical presentation characterized by depression, anxiety and low self-esteem. Evidence has provided support for patients with PM paranoia being distinguishable from patients with BM paranoia in terms of clinical presentation (Chadwick et al., 2005).

1.3.3. Multi-factorial model

The cognitive multi-factorial model of persecutory delusions developed by Freeman et al. (2001; 2002), is similar to the general cognitive model of psychosis developed by Garety et al. (2001), as it presents similar underlying processes and pathways to the development to persecutory delusions.

Rather than view persecutory delusions as a psychological defence against underlying negative emotion and low self-esteem, as argued by Bentall and colleagues, Freeman and colleagues (2001; 2002) argue that psychological delusions reflect the emotional state of the individual. This model's inclusion of emotion in both the onset and maintenance of persecutory beliefs also sets it apart from the approaches provided by Bentall et al. (2001) and Trower and Chadwick (1995).

Similar to the general cognitive model (Garety et al., 2001); the appraisal process of anomalous experiences is central to this theoretical framework. Within this model, it is hypothesized that persecutory delusions begin with a precipitant (trigger), which may include major life events, ongoing stress, sleep disturbance, trauma or abuse of drugs (See figure 1; taken from Freeman, 2008). For individuals with a vulnerability to psychosis, this trigger will 'initiate inner-outer confusion' causing unusual experiences. As with the general cognitive model, it is proposed that the unusual experiences may result from the types of psychological dysfunction described by Hemsley (1986; 1993) and Frith (1987).

The generation of unusual experiences by the trigger is proposed to possibly occur via three routes. The precipitant may trigger anomalies directly or through cognitive biases associated with psychosis, such as jumping to conclusions. The third route is of importance and relevance to this study. It is proposed that triggering anomalies is through emotional disturbance. Emotion, in particular high levels of anxiety, is seen as the 'key' in generating persecutory ideation as;

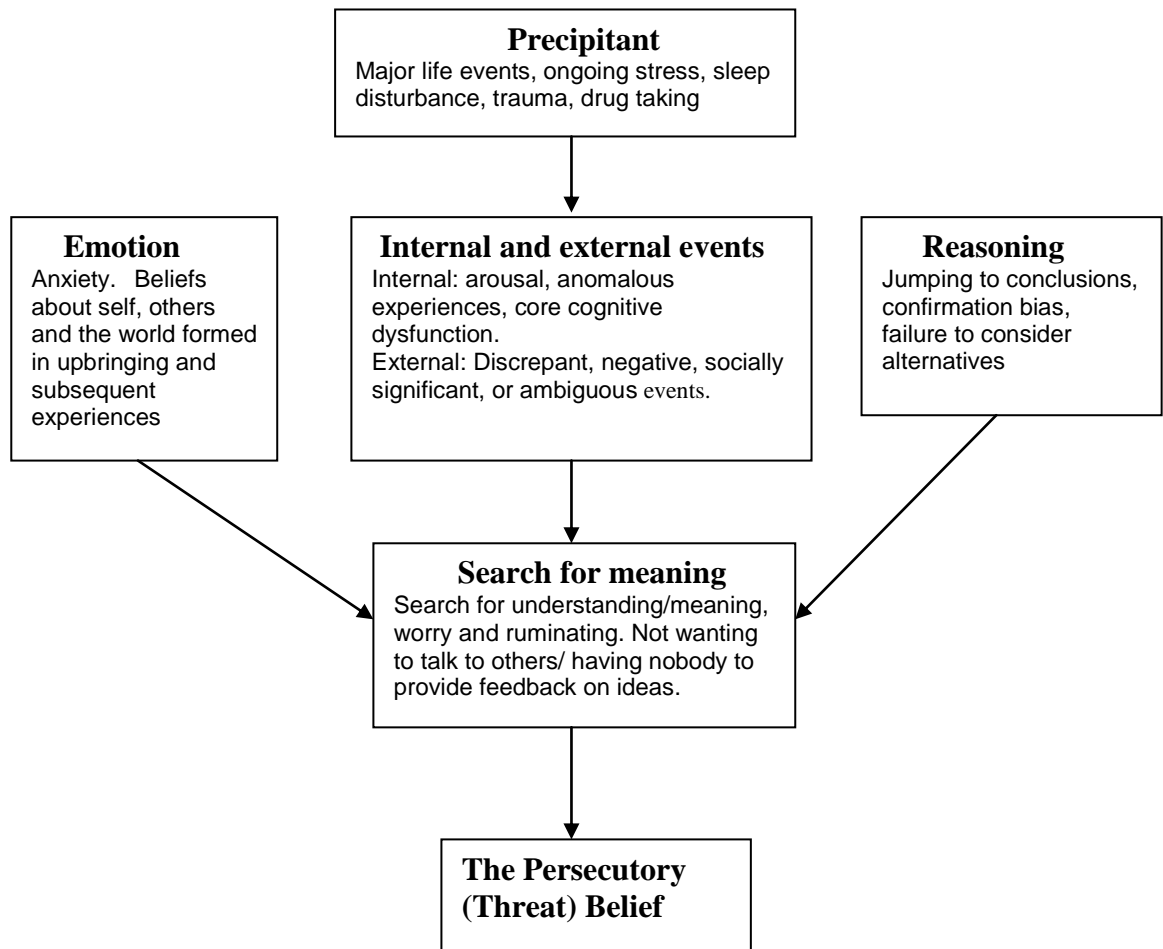
'The theme of anxiety is the anticipation of danger and it is the origin of the threat content in persecutory ideation'. [Freeman et al., 2008, p.131]

Evidence from previous studies is used to support the idea that levels of anxiety are high many years before the development of psychosis, during the prodrome and subsequently (Jones et al., 1994; Tien & Eaton, 1992; Cosoff & Hafner, 1998; Norman & Malla, 1994). It is argued that:

‘Such consistent findings of high levels of emotional distress throughout the course of delusions and hallucinations support the hypothesis that emotion has a direct contributory role to positive symptom development’ (Freeman, 2002, p.14).

In addition to the unusual experiences, cognitive biases and emotional disturbances, external events that are unusual, ambiguous, negative or neutral may also become incorporated into the search for a meaning for the triggering event. The search for a meaning is also mediated by pre-existing beliefs regarding the self, others and the world. Freeman *et al.*, (2002) propose that a persecutory belief is likely to be formed if there are pre-existing beliefs regarding vulnerability or if it is considered that harm is deserved because of previous behaviour or people and the world are perceived as hostile and threatening.

An explanation for the triggering event will be formed from the internal events, external events, cognitive biases and pre-existing beliefs. However, it is proposed by Freeman *et al.* (2002) that the explanation chosen will be further mediated by at least three other factors. The first considers an individual’s belief regarding mental illness and ‘madness’. It is argued that a persecutory belief is likely to be chosen as an explanation for unusual experiences, as this may be less distressing for the individual than believing that this is due to psychological processes internal to the self and that he/she is ‘mad’. Secondly, social factors are considered whereby an isolated individual, who is unable to revise his thoughts with others, is more likely to develop thoughts of threat. Finally, the anxious persecutory belief is more likely to develop if a person has a poor capacity to develop alternatives.



*Fig.1. Outline of factors involved in persecutory delusions development.
(Replicated in this thesis with permission, Freeman, 2008)*

1.3.4. Summary

The development of three models for persecutory delusions highlights the recent interest in persecutory delusions. All three models emphasize the importance of considering the contribution of emotion to the content and the distress associated with the delusion (Green et al., 2006).

The model of Freeman et al. (2002) differs from those of Bentall et al. (2001) and Trower and Chadwick, (1995) in one aspect which is important to this study. There are direct links between emotion and the content of delusions within the model of Freeman et al. (2002). The focus on the direct role of emotion in both the onset and maintenance of persecutory beliefs sets it

apart from the approaches provided by Bentall et al. (2001) and Trower and Chadwick (1995).

Emotion is implicated directly in Freeman et al.'s (2002) model, in having a contributory role to positive symptom development, unlike the models of Bentall and Trower and Chadwick, where emotion is involved indirectly as being a consequence of self defence. It is argued that delusions are threat beliefs which are consistent with existing ideas about the self, others and the world. Freeman et al.'s (2002) model has a different emotion (anxiety) as primary focus for the development of persecutory delusions from Bentall's, which is based around depression/low self-esteem.

One of the major limitations of Freeman et al.'s (2002) model, lies in giving anxiety a primary role, both in the development and maintenance of persecutory delusions, the possible roles of other emotions in the development of persecutions have been somewhat overlooked. However, in light of its emphasis on emotion playing a central role in the development and maintenance of delusions, the theoretical foundation for this current research study will draw on the approach of Freeman et al. (2001; 2002).

1.4. Empirical background to the study

Prior to the early 1990s, the empirical study of delusional content had been relatively neglected (Boyle, 1992). Examples of the studies which existed prior to this time include the works of Chakraborty (1964); Lucas, Sainsbury and Collins (1962); Stompe et al. (1999); and Tateyama et al. (1989). These studies' discussion was limited to looking at the type of persecutor and the nature of the threat (Green et al., 2006). However, since the publication of these studies, the content of persecutory delusions has received renewed attention.

The importance of reliable and detailed descriptions of content (such as beliefs about the power of the persecutor, deservedness, control and ability to cope) has been emphasized by Freeman and Garety (2000) and Freeman, Garety and Kuipers, (2001), as a foundation for effective

theoretical development and clinical practice. This reasoning appears to have been echoed in part by the study of Aschebrock et al. (2003), in an international survey of mental health practitioners and researchers, exploring the level of interest in the content of delusions and hallucinations. It was felt that an examination of content would increase understanding of clients' difficulties, improved in the nature of the therapeutic relationship and enhanced ability to assess risk and/or address safety issues.

Arguably, considerable research has been carried out within the complex area of persecutory delusions. However, to date, only two studies, that of Green et al. (2006) and Freeman et al. (2001), have focused on this area and considered directly the possible links between content and emotion within persecutory delusions. This is the area of interest to this current study and it bears importance and relevance to discuss these studies in some detail. In addition, four further studies (Green, 2006; Fornells-Ambrojo & Garety, 2009; Miller & Mason, 2005 and Ritsner et al., 2003) that explore emotions in association with psychosis or schizophrenia provide some evidence indirectly relevant to this study and will be presented.

1.4.1. Content and affect in persecutory delusions

The Green *et al.*, (2006) study is of particular importance since its aim was to explore the content of persecutory delusions and potential links with levels of affective disturbance. It was hypothesised, in line with the cognitive model of Freeman et al. (2002), that:

1. Individuals' beliefs regarding their persecutors and whether harm was deserved would be associated with increased depression and reduced self esteem.
2. Aspects of content relating to appraisals of threat, specifically more imminent and more pervasive threat, would be related to anxiety.
3. Less favourable and more self-diminishing content (beliefs which make individuals feel worse about them) would be linked with reduced self-esteem.

A cross-sectional investigation of 70 individuals with current persecutory delusions was conducted and a detailed description of persecutory content was made. Standardised measures were employed in addition to conducting interviews. These included Beck's Depression Inventory (BDI-II, Beck, Steer, & Garbin, 1988b), Beck's Anxiety Inventory (BAI, Beck, Epstein, Brown & Steer, 1988a), Rosenberg Self-esteem Scale (Rosenberg, 1965) and the Psychotic Symptom Rating Scales (PSYRATS, Haddock et al., 1999).

Findings indicated that depression was positively, and self-esteem inversely, correlated with ratings of beliefs in the persecutor's power. The power differences between persecutor and the participant also correlated significantly with depression. Higher depression scores were also noted for participants who believed their persecution was deserved compared to those who did not. Self-diminishing beliefs were related to lower self-esteem, and to greater depression and delusional distress, but not to greater anxiety. Surprisingly, there was no evidence to suggest that appraisals of threat as imminent and pervasive were related to higher anxiety.

In terms of limitations, causal relationships could not be determined by the correlational data of this study. Secondly, in basing the study on transcriptions of pre audio taped interviews baseline assessments, it was impossible to gather more detail on content than what had been provided. In spite of the limitations, this study provided direct empirical evidence, highlighting the importance of content and the association with emotions.

1.4.2. Developing the understanding of belief maintenance and emotional distress

Freeman et al.'s (2001) study first made explicit the conceptualisation of persecutory delusions as threat beliefs that share with anxiety disorders a theme of 'anticipation of danger'. Using a cross sectional investigation this study assessed 25 individuals experiencing persecutory delusions for the belief content and emotional distress. It was hypothesised that depression

and anxiety would be linked with the power of the persecutor. Four aspects of content were explored: the power of the persecutor, whether persecution was deserved, participants' perceived control over the situation and how well would they cope should the threat occur. This information was gathered using the Details of Threat (DoT) questionnaire developed for the study. Standardised emotional disorders measures were utilised. They included the Beck Depression Inventory (BDI) (Beck, Steer & Garbin, 1988b) and the Beck Anxiety Inventory (BAI), (Beck, Epstein, Brown & Steer, 1988a).

Evidence from this study suggested that various aspects of content were associated with levels of depression, self-esteem and anxiety. Higher levels of depression were associated with the belief that persecution was deserved. Individuals who thought that harm was deserved also showed lower self esteem.

This study also provided evidence for the hypothesis that anxiety is associated with aspects of the appraisal of the threat; in particular, if the threat was judged to be more imminent, more pervasive, with no likelihood of rescue, then higher levels of anxiety were expected. Findings confirmed that the more pervasive the threat, the higher the anxiety. The presence of perceived rescue resulted in lower levels of anxiety (Freeman et al., 2001). In addition, results indicated that higher levels of delusional distress were associated with higher ratings of the awfulness of the threat, and that there was a correlation between imminent harm and delusional distress.

The studies of Green et al. (2006) and Freeman et al. (2001) have contributed to the area of persecutory delusions by examining an area where, arguably, there was a gap in knowledge. The importance of content, as stated by Freeman and Garety (2000), was explored in association with emotions. The two studies examined directly the associations between content of persecutory delusions and emotions, and have provided important information on the details of content and associated emotion. Using the framework of Freeman et al. (2001; 2002), which places emphasis on the role of anxiety, the focus of examination by Green et al. (2006) and Freeman

et al. (2001) has been on the role of anxiety and depression in relation to the details of persecutory delusions; other emotions were not considered. The following studies have considered the possible role of alternative emotions linked with other aspects of paranoia or the wider diagnostic category.

1.4.3. Additional studies

The study of Fornells-Ambrojo and Garety (2009), investigated attributions and emotions, in a sample of people with early psychosis experiencing persecutory delusions. The starting point for this study was Trower and Chadwick's (1995) theory of two types of paranoia ('poor-me' and 'bad-me', as described earlier in this introduction). The emotion of anger was the focus of research. It was hypothesised that anger is the key emotion in 'poor-me' paranoia because of the belief that the persecution is deserved.

It was found that the 'poor-me' paranoia group showed higher levels of anger, anxiety and depression than the non-clinical control group. Despite the focus of study being on attributional bias and not delusional content in relation to anger, it is of relevance to this study in highlighting that emotions other than anxiety or depression could also be relevant to persecutory delusions.

The study of Green (2006) also explored attributional style in relation to paranoia and anger. It was hypothesised that higher levels of anger would be associated with higher levels of trait paranoia, particularly ideas of persecution. As predicted, it was found that dimensions of anger were associated with high trait paranoia across the measures.

In terms of limitations, this study may not have been epidemiologically representative, as it consisted mainly of students with higher levels of education. Secondly, the analysis involved multiple comparisons, thus, increasing the probability of chance findings. Results should, therefore, be interpreted with caution. Nevertheless, this study has provided further evidence to suggest that emotions such as anger may feature more prominently in persecutory delusions.

The study of Miller and Mason (2005) explored feelings of shame and guilt in 71 patients in the first episode of schizophrenia (considered the first five years of illness in this study). It was reported that feelings of shame and guilt were common, which often persisted despite successful treatment of psychotic symptoms. However, emotions were considered within the diagnostic category of schizophrenia rather than considering the individual symptoms and did not comment on shame and guilt for persecutory delusions. This current study differs from the study of Miller and Masson (2005) in two important ways. First, this study is interested specifically in the possible contributions of shame and guilt to the sub type of persecutory delusions. In adopting the single symptom approach rather than the diagnostic category like the study of Miller and Mason (2005), more clarity will be gained for exploring the research hypotheses. Secondly, this study differs in the methodology utilised. Their study was based on observations from direct clinical practice with no quantitative data taken from the patient. This study is quantitative in methodology, obtaining data from directly interviewing participants.

There has been a prolific amount of literature in various areas, within and outside mental health, documenting the association between individuals' ability to cope and depression. One study was found to directly explore an individual's ability to cope in relation to schizophrenia. Ritsner et al. (2003) argued the importance of the aspect of 'coping' with symptoms as a predictor of levels of distress and general quality of life. This study examined the quality of life and coping with schizophrenia symptoms with 161 hospitalised patients with a DSM-IV diagnosis of schizophrenia, schizoaffective and mood disorders. It was found that the ability to cope accounted for 25% of the variance in quality of life scores, compared with 15% for psychological distress and 3% for general psychopathological symptoms. It was concluded that the ability to cope with symptoms and associated distress substantially contributed to quality of life appraisal in schizophrenia. Arguably, this study highlighted the importance of the participants' perception of the ability to cope in relation to their quality of life. However, this study did not consider

the symptoms of schizophrenia individually but rather as a diagnostic category.

1.4.4. General summary

To summarise, the single symptom and cognitive approaches have shown to be useful frameworks acting as a foundation and catalyst for generating large amount of discussion and research on delusions and, more specifically, the subtype persecutory delusions. Cognitive models have emphasized the centrality of appraisals, and the importance of considering the role of emotions, in the development and maintenance of persecutory delusions.

The studies exploring the associations between content (such as appraisals about the threat) and emotions have provided somewhat inconsistent evidence. For example, the study of Freeman et al., (2001) found there was a weak trend for higher evaluation of the power of the persecutor to be associated with high levels of depression. However, the study of Green et al., (2006) found a significant correlation in that respondents who felt more powerful in the face of persecution had lower scores on the BDI. Anxiety has been implicated as the primary emotion associated with thought content in persecutory delusions (Freeman, 2007). However evidence for this association in the freeman et al. (2001) study was weak. In addition, the study of Green et al., (2006), found no evidence of thought content in persecutory delusions related to higher anxiety. This inconsistent support for the associations between appraisals of content and emotions suggests that a replication of particular studies is warranted.

Studies such as that of Fornells-Ambrojo and Garety (2009), Green (2006), Miller and Mason (2005) and Ritsner et al. (2003) did not explore investigate the role of emotions with reference to the content of persecutory delusions. However, they do suggest that further exploration of the role of other emotions apart from anxiety and depression such as anger and shame is warranted with reference to persecutory delusions. It is clear that, in clinical presentation, individuals exhibiting symptoms of persecutory delusions experience a range of emotions, in addition to depression and anxiety, which

include anger and shame. This is potentially related to the perceived deservedness of their experiences and their ability to cope with the experiences. Although the Trower and Chadwick (1995) self defence theory alludes to this shame with the 'bad- me' sub type of paranoia, no study has explored the possible links that the emotions of shame and guilt may have with the content of threat beliefs. An extension of studies is, thus, also warranted to explore further the emotions which have not been examined in depth with reference to persecutory delusions. Furthermore, given the seeming importance of the ability to cope with symptoms of schizophrenia to the individual's overall quality of life (as reported by the Ritsner et al., 2003, study), it was felt important to extend the examination of this aspect, and consider any relationship with the individual symptom of persecutory delusions. Additionally, it was felt important to consider associations between the individual's ability to cope with the threat belief with emotions as this may impact the individual's overall quality of life.

1.5. Aim and purpose of the study

The main aim of this study was to replicate and extend previous findings in the area of persecutory delusions, examining in greater detail the possible direct associations between the content of persecutory delusions and particular emotions. Previous studies have focused on the associations between delusions and the specific emotions of anxiety and depression. In addition to anxiety and depression, this study explores the possible associations of other emotions, namely anger, shame and guilt considering a multi-emotional contribution to the development of persecutory delusions.

Steps were taken to ensure that this area of persecutory delusions and the research hypotheses had not been explored previously by other researchers. Specialist clinical psychologists within the area of persecutory delusions who have published within the last five years were consulted. Sources of information were gathered and reviewed from electronic sources (see References)

Freeman's theory of delusions, which includes a prominent role for anxiety, is the point of departure for discussing the role of other emotions in this study. Freeman's theory highlights anxiety as the anticipation of danger as the origin of the individual's threat belief arising from precipitants such as major life events, ongoing stress, sleep disturbance, trauma and drug taking. In addition to anxiety, the emotion anger in the sense of having been offended, wronged or denied may also be a key contributor to the development of the threat belief. This may arise from precipitants based on past experiences, not of significant life events but continuous experiences of feeling wronged such as feeling discriminated against or experiencing racism. In addition to reasoning biases, anger could lead to a search for a meaning external to the self and persecutory threat belief.

Depression has been explored as a possible emotion resulting from threat beliefs. The feelings of shame and guilt may also be a similar consequence of threat beliefs. Although Trower and Chadwick (1995) poor me/ bad me paranoia theory alludes to shame with the bad-me sub type of paranoia, no study has explored the possible links the emotions of shame and guilt may have with the content of threat beliefs. This study explores these possible links. This study's focus is also different from Trower and Chadwick's (1995) approach to paranoia and the relationship of thought content to affect. A distinction is made between poor me/bad me paranoia. However, similar to Freeman's (2002) hypotheses, there is one primary emotion linked to thought content. This study's focus is based on the hypotheses that a range of emotions are linked to thought content in persecutory delusions.

1.5.1. Research questions and hypotheses

The main research question was:

What are the specific relationships between different aspects of content of delusions and specific emotions?

1.5.2. Hypotheses

Replication

This study considered previous hypotheses the regarding the power of the persecutor and depression/ anxiety (Freeman et al., 2001; Green et al., 2006). Based on the findings of Freeman et al. (2001) and Green et al. (2006) and the theoretical model of Freeman et al. (2002), two replication hypotheses are presented:

Hypothesis 1: The power of the persecutor will be positively correlated with depression.

Hypothesis 2: The power of the persecutor will be positively correlated with anxiety.

Extension

This study explored further the role of anger and shame, and their possible associations with specific appraisals in persecutory delusions. This study also explored the ability to cope with threat beliefs and possible associations with depression and shame in relation to persecutory delusions. In light of the findings of Green (2006) and Trower and Chadwick's (1995) 'poor me', 'bad me' subtypes, and based on clinical observations, the following hypotheses were tested:

Hypothesis 3. Deservedness of threat will be inversely correlated with anger.

Hypothesis 4: Deservedness of threat will be positively correlated with shame.

In light of the findings of the Miller and Mason (2005) and Ritsner et al.'s (2003), studies, the following hypotheses were tested:

Hypothesis 5: The ability to cope will be negatively correlated with shame

Hypothesis 6: The ability to cope will be negatively correlated with depression.

To help explore the research hypotheses of this study, a new measure was developed to assess emotions associated with persecutory delusions. Therefore, it is important and relevant to discuss the assessment of persecutory delusions and the justification of a new measure.

1.6. Assessing persecutory delusions

It has been argued that assessing persecutory ideation is not without its challenges and some of these have been addressed by Freeman et al. (2008). One challenge is that one cannot rule out the possibility that a thought is realistic rather than paranoid, and that suspicions are justified. This is a particular concern for self report assessments since they can rely only on a judgement based upon the content of the belief, the evidence given and the context. In addition, it is stated that assessment of paranoia by self report questionnaires will overestimate the presence of unfounded paranoid thinking (Freeman et al., 2008). However, despite these challenges, evidence suggests self-report positive symptom measure scores are correlated with those from interviewer assessments (Preston & Harrison 2003; Liraud et al., 2004; Watson et al., 2006). In addition, self-report measures of paranoid thinking have been found to be associated with the occurrence of unfounded paranoid thinking in experimental conditions (Freeman et al., 2005a, 2005b 2008; Valmaggia et al., 2007). This evidence suggests that self report measures are reliable and can be useful tools for gathering data with reference to persecutory delusions.

1.6.1. Assessment measures for delusions and persecutory delusions

Various measures have been designed by researchers to capture differing aspects of delusions. General psychiatric one-dimensional measures such as the Positive and Negative Syndrome Scale (PANSS; Kay, 1991), the Brief Psychiatric Rating Scale (Overall and Gorham, 1962), and the Scale for the Assessment of Positive Symptoms (SAPS; Andreasen, 1984) have been used most frequently to assess delusions in clinical groups as well as co-

occurring symptoms such as hallucinations and grandiosity. The multi-dimensional Psychotic Symptom Rating Scales (PSYRATS; Haddock et al., 1999; Drake et al., 2007) assesses delusional conviction, preoccupation, distress and disruption. This is considered an improvement on the above measures (Freeman et al., 2008).

Scales more specific to persecutory ideation have also been developed. The Paranoia Scale (PS) (Fenigstein & Vanable, 1992) was designed to assess non-clinical paranoid thoughts in college students. This questionnaire assesses mistrust and resentment and not thoughts that are clearly persecutory (Freeman et al., 2008). The Paranoia/Suspiciousness Questionnaire (PSQ) (Rawlings and Freeman, 1996) was developed on non-clinical participants from an interest in the concept of schizotypy and aimed to measure a broad concept of paranoid/suspiciousness. It is argued that this scale assesses more than paranoid thoughts and reflects a broader conceptualisation of paranoia than the Paranoia Scale (Freeman et al., 2008). The Paranoid Thoughts Scales (G-PTS) (Green et al., 2006) is an assessment tool based upon the definition of persecutory ideation by Freeman and Garety (2000). It includes content which is clearly persecutory, with clinical and non-clinical items and assesses several dimensions of paranoid experience.

Although symptom-based research has brought paranoid experience into greater focus and made clearer which elements a researcher and/or clinician may be interested in assessing, there is much development work needed on measurement (Freeman, 2008). To date, only two questionnaires have been developed specifically for individuals with persecutory delusions within a clinical setting. The Safety Behaviours Questionnaire- Persecutory Beliefs (SBQ) (Freeman et al., 2001) assesses the strategies that individuals use to protect themselves, which prevent the fears from being disconfirmed (Freeman et al., 2001, 2007). The Details of Threat Questionnaire assesses the content of persecutory thoughts to identify the most distressing aspects of the experience (Freeman et al., 2001). The starting point for the development of this measure was based on the definition by Freeman and

Garety (2000) where persecutory delusions are understood as threat beliefs. Specific items on this measure include; delusional conviction, delusional distress, power of the persecutor and the imminence of threat.

As evidence has indicated a close relationship between paranoia and affect (Fowler et al., 2006b; Startup et al., 2003; 2004; Startup et al., 2007), scales assessing delusions and persecutory delusions are often used in conjunction with other instruments which assess emotional disorder. Such measures may include Beck's Depression Inventory (BDI), Beck's Anxiety Inventory (BAI) and Distress Anxiety Stress Scales, (DASS; Lovibond & Lovibond, 1995). However, the above questionnaires are very global in design and do not comment specifically or make any connection to persecutory delusions. There is no assessment tool available measuring a range of aspects of emotional distress (such as anxiety, depression, anger and shame) associated with persecutory delusions in the one measure.

1.6.2. The BSER Scale

The Belief Specific Emotional Response scale (BSER) is a novel self report assessment tool, in the early stages of development. The starting point for the development of this measure was based on the definition by Freeman and Garety (2000) where persecutory delusions are understood as threat beliefs. The aim for its design was to specifically measure a wide range of emotions of relevance to the content of persecutory delusions within a clinical population. The BSER scale differs from other measures of affect in that items were selected which were most relevant to those with delusions; anxiety, depression, anger, shame and guilt.

The BSER scale differs from other measures of affect in that items were selected which were most relevant to those with delusions; anxiety, depression, anger, shame and guilt. Considering specific emotions with this scale is important in attempting to discover which emotions play an important contributory role to the development of persecutory delusions. It will help confirm or refute the research hypotheses of this study.

In addition to the Safety Behaviours Questionnaire and Details of Threat Questionnaire, the BSER scale will be the third measure developed for the clinical population for individuals with persecutory delusions. The BSER scale is novel in this area as it is not a global assessment of emotional problems such as the BDI and BAI. Rather, it is a tool to assess emotions particularly in relation to persecutory delusions. In its specificity, this scale reiterates the single symptom approach to phenomena in design and is the only scale to address the importance of the association between emotions and persecutory delusions as argued in the cognitive model by Freeman et al. (2002).

1.7. Potential contribution of study

The current study has the potential to provide further evidence for the cognitive models of persecutory delusions that posit direct links between content of delusions and emotions. In addition, it may offer a more thorough understanding of the associations between specific appraisals (such as deservedness of threat) and specific types of emotions not previously investigated, such as anger and shame. These findings may then have the potential to inform psychological interventions for delusions.

1.7.1 Contribution to knowledge represented by the study

It can be argued that the area of persecutory delusions has been extensively researched. However, due to the complexity of the paranoid experience, the field of study for this area is vast, with a number of areas that have not yet been fully explored. As stated earlier, only two studies examine the specific area of interest of this study (Green et al., 2006; Freeman et al., 2001).

Therefore, further exploration will contribute and add to the knowledge and understanding of this area and persecutory delusions in general.

1.7.2. Verification and systematic replication.

As there are few studies regarding content and emotions within persecutory delusions, it was felt useful to verify the results of the previous studies

through systematic replication. The theory (cognitive /single symptom/ multi-factorial approach) acting as foundation for this study remains identical to previous studies. Two of the measures have also been used in this study as in previous studies: the Details of Threat questionnaire (Freeman, 2001) and the Social Avoidance and Distress scale (Watson and Friend, 1969). Using this method, some of the previous predictions based on Freeman et al. (2002) multi-factorial cognitive model for persecutory delusions will be tested. Through replication, results from this study will contribute to knowledge by adding to the few studies which highlight the importance of emotions and content in persecutory delusions.

1.7.3. Extension

As stated previously in this introduction, the cognitive model for persecutory delusions alludes to several factors involved in the development of persecutory delusions, which includes emotions. The interest of this study is the role of emotions in this model. Freeman et al. (2002) focus on the emotions of anxiety, and, to a lesser extent, depression, as primary emotions. However, there is some evidence indicating that other emotions such as anger and shame can also be relevant in persecutory delusions. This study, therefore, will contribute to the knowledge of persecutory delusions by extending the focus of emotions to include a broader range.

1.7.4. Improving measurement.

The BSER scale (although still in development), is the only scale to assess a range of emotions that are relevant to threat beliefs in persecutory delusions. Having an assessment instrument which captures this, will help in understanding factors that may contribute to the paranoid experience and add to the research methodology of the phenomenon.

CHAPTER 2: METHOD

2.1 Ethical approval

Ethical approval was obtained from the University of East London's Ethics Committee and a London based NHS Research Ethics Committee. In addition, this study was granted approval from the local Research and Development Department (See Appendices A-C for approval documents)

2.2. Design

This study was cross sectional, designed to explore possible relationships between content and emotions in individuals who experience persecutory delusions. The study employed seven measures assessing threat beliefs and emotional responses of the participants.

2.3. Participants

As illustrated in Figure 2, 67 participants were referred for this study. Five individuals were considered not suitable for the study due to lack of persecutory threat beliefs. Twenty-five individuals refused to participate in the study. Of these, 23 were from in-patient wards (16 from the psychosis specialist unit, 8 from acute wards and 1 from the forensic unit) and 2 from two out-patient research registers; the Psychological Interventions Clinic for outpatients with Psychosis (PICuP), and the Social, Hope and Recovery Project (SHARP).

Thirty-seven individuals agreed to participate in the study. Of the 37 individuals, 29 individuals were recruited from the in-patient units (20 from the psychosis specialist unit, 6 from the acute wards and 3 from the forensic unit) and 8 were recruited from the two out-patient registers

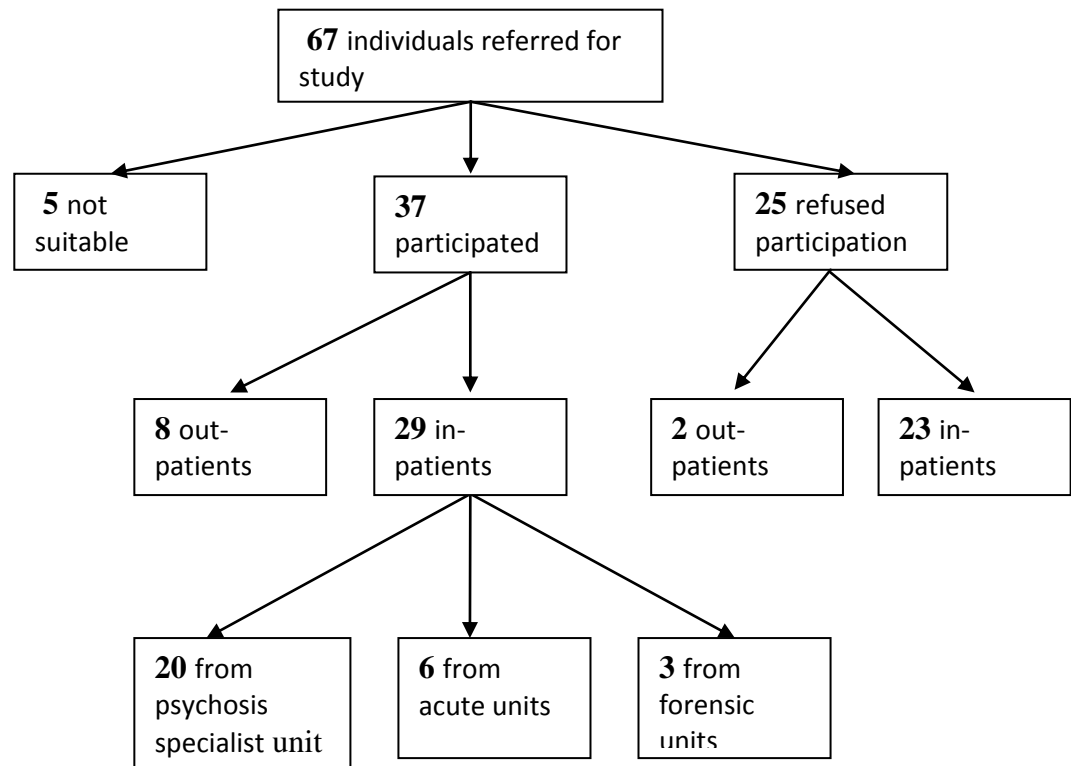


Figure 2. Recruitment pathway for participants

2.3.1. Inclusion criteria

The presence of positive symptoms of psychosis was assessed by an initial mental state examination. The presence of persecutory delusions was established by the first question of the Details of Threat Questionnaire and had to meet criteria A and B as specified by Freeman and Garety (2000):

Criteria A: The individual believes that harm is occurring, or is going to occur, to him or her.

Criteria B: The individual believes that the persecutor has the intention to cause harm.

This was ascertained in the opening clinical interview. The presence of persecutory delusions was also verified by a review of the potential participant's medical notes.

2.3.2. Exclusion criteria

Individuals were not considered for participation in the study:

1. If there was an insufficient level of the English language to participate in the study.
2. In individuals were too distressed to be engaged, were acutely psychotic and/or were unable to give informed consent as stated by their Responsible medical officer. .

2.4. Measures

Five measures were used in this study (Please see Appendix D-H)). They were chosen to address the research questions in capturing the details of threat beliefs in persecutory delusions and associated emotional distress. The following provides a description of measures.

2.4.1. Measure of content.

2.4.1.2. *Details of Threat Measure (DoT)*

The interest of this study was the content of persecutory delusions. Of the two questionnaires which are specific to persecutory delusions, The Details of Threat measure (DoT) (Freeman et al., 2001) was decided to be the most appropriate. This measure contains 17 questions that obtain specific details of threat beliefs of persecutory delusions for each participant (Please see Appendix D), namely: the perceived power of the persecutor, deservedness of threat and the ability to cope.

The test-retest reliability for the DoT measure is low, ranging $r=.62$, $p=.07-.89$, when threat will occur to $r=-.46$, $p=-.82-.19$, distress, (Freeman et al., 2001). However, the low reliability reflects real changes in delusional beliefs rather than measurement error, since delusions fluctuate over time (Brett-Jones et al., 1987; Buchanan et al., 1993; Garety et al., 2005; Freeman, 2008; Freeman & Garety, 2000; Freeman, Garety & Kuipers, 2001). More importantly, this measure was reported to have good validity (Freeman et al., 2001). Internal consistency for this measure is not reported.

2.4.2. Emotion Measures

2.4.2.1. *Beck's Depression Inventory (Beck, Steer & Garbin, 1988b)*

This measure is a 21 question multiple choice self-report inventory that is one of the most widely used instrument for measuring the severity of depression (please see Appendix E for a copy of this measure). Each item is scored on a 3-point scale from 0-3, and item scores are summed to give a total score. Scores range from 0-63, with higher scores indicating higher levels of depression (0-13, minimal; 14-19, mild; 20-28, moderate; 29-62 severe). The BDI has been extensively tested for content validity, concurrent validity and construct validity. It has also been extensively tested for reliability and internal consistency (Beck et al., 1987). A high correlation ($r=.91$) between the BDI and the Calgary Depression Scale for Schizophrenia (Addington, Addington & Maticka-Tyndale, 1993) has been reported by Birchwood et al. (2000) suggesting that the BDI could be used for assessing depression in psychosis.

2.4.2.2. *Beck's Anxiety Inventory (Beck, Epstein, Brown & Steer, 1988a)*

This measure consists of 21 items, each describing a common symptom of anxiety, designed to discriminate anxiety from depression (please see Appendix F for a copy of this measure). Each item's response format is based on a 0-3 scale (i.e., 0 'not at all'; 1, 'mildly'-it did not bother me much; 2, 'moderately'-it was very unpleasant but I could stand it; and 3, 'severely'-I could barely stand it). Item scores are summed to create a total score ranging between 0-63. Higher scores indicate higher anxiety. (0-9, normal; 10-18, mild; 19-29, moderate; 30-63, severe). This measure has also been extensively tested for validity and reliability (Beck et al., 1987).

2.4.2.3. *Social Avoidance and Distress Scale (SAD) (Watson and Friend, 1969)*

This is a 28 true/false item self-report scale designed to measure avoidance and distress experiences in social situations (please see Appendix G for a copy of this measure). Higher scores (the cut-off score for social anxiety is reported as 15) represent higher levels of social anxiety. Leary (1991)

reported the SAD has good reliability (Cronbach's alpha is reported as .90) (Cronbach, 1951). Watson and Friend (1969) reported that this measure demonstrated sufficient concurrent validity and adequate test-retest reliability after a one month interval ($r=.68$).

2.4.2.4. *The Belief Specific Emotional Response Scale (BSER)*

The Belief Specific Emotional Response scale (BSER) is a self report assessment tool developed for this study to be used for clinical groups (please see appendix H for a copy of this measure). It was designed to specifically measure emotions in relation to the content of persecutory delusions.

The BSER was developed to assess on a very general level the four most prominent emotions (depression, anxiety, anger, and shame; please see Appendix H) in relation to threat beliefs. Using a similar approach to Brown et al. (2000) in terms of scale development, emotions were chosen based on recurring themes in previous theoretical literature on the role of emotion in persecutory delusions. They were also chosen due to empirical studies postulating an association between content and specific emotions (Freeman et al., 2001; Bentall et al., 1994; Trower & Chadwick, 1995; Startup et al., 2003; Green et al., 2006).

Additionally, the emotions explored were based on emotional themes encountered during the researcher's previous clinical experience of this population.

The BSER scale was initially designed with 50 words which were categorised into 5 subscales. The words were obtained from a number of published sources. Shame, depression and anxiety were selected from emotional Stroop tasks (Williams, Mathews & MacLeod, 1996). Guilt words were obtained from Harder and Zalma (1990) and Zuckerman et al. (1983). Anger words were obtained from the Multiple Affect Adjective Check List (MAACL) hostility scale (Zuckerman et al., (1983). All words were checked for frequency levels in the British language (Hofland & Johansson, 1982).

Participants were asked to rate the emotions based on the following instructions; '*Some or all of these words may describe the way you feel when you think about whom or what is threatening you. Please read the following words carefully and indicate with a tick the words which best describe the way you feel*'. The instructions were adapted partially from the BAI. The ratings were made on a five point Likert scale ranging from 0 (not at all) to 5 (very much).

The initial scale was piloted with five participants who experienced persecutory delusions. The words that were rated most frequently were kept. This scale and selection of items were reviewed further by two clinical psychologists who have researched and published prolifically in the area of persecutory delusions. They were involved in reducing the number of words from 50 to 25.

Based on the responses from the participants, a 25 word Belief Specific Emotional Response Scale (BSER) with five subscales was established. The words for each subscale are as follows;

1. Shame words: *ashamed, ridiculed, humiliated, mocked, embarrassed.*
2. Anger words: *angry, annoyed, irritated, furious, enraged.*
3. Depression words: *miserable, depressed, hopeless, despair, gloomy.*
4. Anxiety words: *panicked, anxious, frightened, worried, scared, nervous.*
5. Guilt words: *guilty, regretful, remorseful, wicked, blame worthy.*

The value assigned to an item on this measure ranged from 0- 4. Participants could obtain a maximum score of 20 for each subscale. A score of 10-19 was considered as moderate to severe, 1-9 considered mild and 0 none. This new BSER measure was incorporated into the interview for the study.

Overall internal consistency, internal consistency for each subscale, test-retest reliability and validity for this scale is reported in the results section of this thesis.

2.5. Additional information

A number ID was assigned to each individual who participated in the study. The codes and corresponding names were kept in a locked cabinet accessible only to the researcher. Demographic information was taken from each participant's clinical file upon completion of the interview, and stored anonymously into a computer database using the number ID. This information included age, gender, ethnicity, diagnosis and section status.

2.6. Procedure

2.6.1. In-patient recruitment

Recruitment from in-patient units occurred from one specialist psychosis unit, two acute wards and one forensic unit within SLAM. The Responsible Medical Officer (RMO) was asked via letter from the researcher for consent for interview and to recommend service users who experienced persecutory delusions within the last two weeks or had a diagnosis of schizophrenia, schizo-affective disorder or delusional disorder (please see Appendix I for a copy of the consent form). The RMO would then identify potential participants personally or refer the researcher to members of his/her team on the given ward who could offer more assistance.

The manager for the given in-patient unit was also contacted to request permission to visit the ward and for the most suitable times to interview participants. Ward managers in question notified the staff (mental health nurses, occupational therapists, nursing assistants) on the given day that identified potential participants through diagnosis and/or personal knowledge of the given patients' experiences.

Potential participants were then approached by the researcher, accompanied by a staff member to discuss the study briefly and to ask permission to

interview. If agreed by the patient, an information sheet was given with further information about the study (Please see Appendix J for a copy of the information sheet). The purpose and procedure of the study was explained fully to the participant prior to the interview. It was made explicit that the patient could discontinue the study at any time. If patients wished to participate, a consent form was filled (Please see Appendix K for a copy of the consent form). The consent form retained the participants' name only.

The interview occurred in a quiet room on the unit as designated by members of staff. Participants were given £10.00 as reimbursement for their time.

2.6.2. Out-patient recruitment

Two out-patient services (PICuP and SHARP) were identified as having research registers where service users had given consent to be approached by researchers to participate in studies. The researcher of the current study first requested permission from the Responsible Medical Officers to approach patients on their research register for interview. Once agreed, administrators of the two research registers identified possible suitable service user from the registers for the current study. Potential participants from the out-patient's unit were written to and invited to take part in the current study. The initial invitation consisted of an information sheet providing a basic outline of the research. This was followed up by a telephone call by the researcher a week later. If the service user agreed, a time and date was arranged. Interviews occurred in a designated room in the out-patients' service base. Out-patient participants were also paid £10.00 as reimbursement for their time.

2.6.3. Interview process

Prior to the interview with each participant, the study was discussed by the researcher with the given individual. They were informed of the issues which were to be raised to ensure that they were fully aware of the content of the

study. The researcher was present in the location of the interview with participants of the study.

Twenty-seven participants preferred the researcher to write their verbal answers on the questionnaires for them. This was performed in front of the given participant. The remaining participants completed the questionnaires personally. They were able to ask questions or seek clarification for the measures. Once completed, a debriefing period occurred where the participant was able to further discuss any issues in regards to the study.

The interviews took approximately one hour for the participant going through the measures in one sitting. The order of the measures was fixed. The Details of threat Questionnaire was completed first, followed by the BSER scale. The BDI, BAI and the SAD scale were then administered. Eight participants (all inpatients) had more than one sitting to complete the interview. Six participants had two sittings to complete the interview with a one hour break between interviews. The researcher returned two to three days later to the specialist psychosis unit to complete the interview with two participants as they wished continue the interview another day.

2.7. Data analysis

Analyses were conducted using SPSS version 18 (PASW Statistics 18). Cronbach's alpha coefficients were calculated to assess the internal consistency of the BSER scale.

2.7.1. Statistical strategy

Prior to conducting and statistical analyses, the data were examined to determine if they met the criteria for the use of parametric statistics (i.e., normal distribution). This was done by considering the skewness and kurtosis of each variable. As stated by Field (2009), tests of skew and kurtosis are sample size dependant and one of the sterner cut-offs is anything above +/-1 is not normally distributed. In addition, normal distribution was considered visually with the use of bar charts (see order of

appendices). The data was not normally distributed and therefore non parametric analyses were carried out (Siegal &Castellan, 1998) to test the research hypotheses. One-tailed tests were used when there were clear directional hypotheses (Kimmel, 1957). A significance level of $p \leq .05$ was used and $.05 < p < .1$ are reported as trends.

CHAPTER 3: RESULTS

This chapter presents first the demographic, clinical details and descriptive statistics of the sample. This will be followed by testing of the experiential hypotheses of the study. Next, the consistency, reliability and validity of the BSER measure will be presented. Finally, a concise presentation of relevant contextual descriptive data will be discussed.

3.1. Basic demographic and clinical data.

Of the thirty-seven participants who took part in the study, seventeen participants were male and twenty participants were female. The mean age of the group was 37.5 (S.D. =9.41, range = 20-54, median 36).

Predominantly, the ethnicity of the group was white British (N=27). The second largest group in terms of ethnicity were clients of Black African Caribbean origin (N=4). Other ethnicities were represented within the clinical sample with less frequency.

In terms of clinical setting, twenty-nine participants were in-patients and eight participants were out-patients. All were medicated. Twenty-five of the participants were held under Section 3 of the Mental Health Act (N=25). Twelve of the participants were informal. The majority of the group had a diagnosis of schizophrenia (N=18). The second most common diagnosis was paranoid schizophrenia (N=11). Please see Table 1 for full details of demographical and clinical data.

Table 1.

Demographical and Clinical Data (N=37)

	Number (n) 37	Percentages %
Male	17	45.9
Female	20	54.1
Black African Caribbean	4	10.8
Black African	1	2.7
Black British	1	2.7
Indian	2	5.4
Iraqi	1	2.7
White British	27	73.0
White Spanish	1	2.7
In-patient	29	78.4
Out-patient	8	21.6
Informal	12	32.4
Sectioned	25	67.6
Schizophrenia	18	48.6
Paranoid schizophrenia	11	29.7
Treatment resistant schizophrenia	3	8.1
Schizo affective disorder	3	8.1
Schizoid personality disorder	1	2.7
Unspecified psychosis	1	2.7

3.1.2. Descriptive statistics

Since there are very few studies exploring the detailed phenomenology of persecutory delusions as discussed in the introduction, and the hypotheses analysed in this study are based on content, it was determined to be important to present some basic descriptive data on responses to the items on the Details of threat (DoT) questionnaire and affect in this group. A summary of individual participants' persecutory threat beliefs are presented in the order of appendices. This information was taken from participants' responses to question 1. Of the Details of Threat Questionnaire (DoT). Further information is presented in Table 2.

3.1.2.1. Persecutory delusion content.

Table 2.

Descriptive statistics for the Details of Threat Questionnaire.

	Power of persecutor	Certainty of harm	Hours under threat	Awfulness of threat	Deserved threat	Threat being unfair	Control of threat	Coping with threat
N valid	37	37	37	37	37	37	37	37
missing	0	0	0	0	0	0	0	0
Mean	7.68	90.81	12.43	8.70	1.49	6.46	3.57	4.57
Std. Deviation	2.37	15.92	8.40	2.41	2.26	3.99	3.26	3.67
Median	8	100	12	0	0	8	3	4
Mode	10	100	24	10	0	10	0	0
Minimum	0	45	1	0	0	0	0	0
Maximum	10	100	24	10	10	10	10	10
Skewness	1.285	1.82	.009	2.29	2.263	.745	.552	.177
Kurtosis	2.076	2.406	1.561	4.88	4.882	1.108	.719	1.359

The overall scores on the DoT questionnaire are presented above in Table 2. Further details of threat are given in the order of appendices. Some details, however, are relevant to the research hypotheses and will be presented here. These include details with reference to the persecutor, deservedness of threat and ability to cope. Seven participants (18.9%) who felt persecuted specifically identified their persecutors. This could include family, friends, ward staff, other patients on the ward and neighbours. Persecutors also included strangers to the participants such as ‘the Dolling Brothers’. A further five participants (13.5%) identified non-human or paranormal persecutors. Examples of the non-human or paranormal persecutors include ‘E.T.’, ‘Aliens’, ‘God’, ‘the mental health system’. Five participants (13.5%) felt there was a more generalised organised conspiracy against them. One such example is participant no. 35 who felt threatened that a system was trying to control his mind so that he could ‘*become a father and abide by their rules*’. Nine participants (24%) identified their persecutors as ‘voices’ which could not be identified and threatened harm. This point will be explored in the discussion chapter of this thesis as it reflects the co-occurrence of symptoms.

In terms of power and deservedness appraisals, 23 participants (62.1%) rated the persecutor of the persecutor as high (8 and above- question 9 in the Details of Threat questionnaire) with 12 participants (32.4%) obtaining the maximum score of ten for this question. Twenty-five participants (67.6%) reported that they did not feel they deserved the harm (rating of 0 on item 12 of the DoT questionnaire). These participants would fit the 'poor-me' paranoia description (Trower & Chadwick, 1995). Two participants (5.4%) reported that they felt the harm was deserved (rating of 10 on item 12 of the DoT questionnaire fitting the 'bad-me' paranoia description (Trower & Chadwick, 1995). Of the remaining participants, nine participants (24.3%) obtained low scores for deservedness of threat (rating between 1 and 5 on item 12 of the DOT questionnaire and one participant obtained a score of 7.

In terms of coping, nine participants (24.3%) rated their ability to cope as zero. A further eight participants (21.6%) rated their ability to cope between one and three. This leads to a total sum of 45.9% rating their ability to cope as three and below.

3.1.2.2. *Assessment of emotional distress*

In addition to the phenomenology of persecutory delusions, the data in relation to emotional responses by participant is also extremely relevant to the investigation of the given hypotheses of this study. Table 3 below illustrates the descriptive statistics for this clinical group with reference to the responses from the standardised emotion measures.

Table 3.

Descriptive Statistics for Standardised Emotion Measures

	Beck Depression Inventory	Beck Anxiety Inventory	Social Avoidance and Distress Scale
Mean	14.76	16.00	12.24
Std. Deviation	8.5	10.50	8.0
Range	1-30	3-35	1-26

Depression was common in this group. Further examination highlighted that three participants (8.1%) had severe depression ($BDI \geq 29$); nine (24.3%) had moderate to severe depression ($20 \leq BDI \leq 28$); eight (21.6%) had moderate to mild depression ($14 \leq BDI \leq 19$) and fifteen (40.5%) had no significant depression ($BDI \leq 15$) (cut-offs taken from, Beck, Steer and Brown (1996)).

Anxiety was also frequent within this group. Five participants (13.5%) had severe anxiety ($30 \leq BAI \leq 63$); 13 (35.1%) had moderate to severe anxiety ($19 \leq BAI \leq 29$); 3 (8.1%) had mild to moderate anxiety ($10 \leq BAI \leq 18$) and 15 (40.5%) fell within the normal range for anxiety ($9 \leq BAI \leq 0$).

Social avoidance and distress was also found, but less frequently than depression and anxiety; 11 participants (29.7%) scored 15 and above for this scale (the cut-off score for social anxiety). Two participants (5.4%) scored 26 out of a possible 28 points indicating very high social anxiety. However, 17 (45.9%) participants scored 10 and below with 3 participants scoring one point.

3.1.2.3. *BSER Measure*

3.1.2.3.1. Internal consistency

Cronbach's α was used to evaluate the internal consistency of the new measure designed for the study- Belief Specific Emotional Response Scale (BSER) scale (Cronbach, 1951). Field (2009) reports a value of .8 or higher indicative of good internal consistency. The BSER scale had good internal consistency with an overall Cronbach's α = .849. The subscales also had good internal consistency ranging from .886 (anxiety) to .941 (anger). See Table 4. for the internal consistencies of the BSER subscales.

Table 4.

Cronbach's α for BSER Subscales

Anger	Sadness	Anxiety	Shame	Guilt
.941	.931	.886	.940	.934

3.1.2.3.3. Test-retest reliability

Eight participants repeated the BSER scale over a period of two weeks so that test-retest reliability could be determined. The total mean score on the first occasion was 60.62 (S.D.=15.01) and 52.52 (S.D.= 16.17) on the second occasion. Pearson's correlation illustrated good test-retest reliability [r = .56. p = .001].

3.1.2.3.3. Validity

Spearman's rho's test was used to consider associations between the specific subscales representing different emotions (sadness, anxiety, and shame) and standardised questionnaires (BDI and BAI). The BDI scores and the BSER sadness scale were positively correlated (Spearman's r = .55, p < .01) and BAI and the BSER anxiety subscale were also correlated (r = .38, p < .05).

3.1.2.3.4. BSER descriptive subscale data

The scores within the subscales of the BSER scale were considered (See Table 5. Below).

Table 5.

Descriptive Data for BSER Subscales

	Mean	S.D.	Range	Skewness	Kurtosis
Total BSER Score	42.29	17.47	18-83		
Subscale scores					
Anger	10.29	7.2	0-20	.108	1.392
Sadness	9.86	6.47	0-20	.120	1.163
Anxiety	11.8	6.27	0-20	.300	.659
Shame	4.75	6.02	0-20	.865	.651
Guilt	5.56	6.69	0-20	.920	.397

As seen in Table 5, the subscale anger was not normally distributed. More detailed examination of this subscale highlighted that 8 (21.6%) participants obtained the maximum score of 20 for anger. Fifteen (40.5%) participants obtained scores between 10-19 and 7(18.9%) participants between 1and 9. Six (16.2%) participants obtained a score of zero.

Similar to the BDI scores, the BSER sadness subscale revealed relatively high scores. This subscale was not normally distributed. Further investigation illustrated that 3 (8.1%) participants obtained the maximum total score of 20 for this subscale. Nineteen (51.3%) participants obtained scores between 10 and 19, and 10 (27%) participants obtained scores between 1and 9. Five (13.5%) participants scored zero.

As found with the BAI, there were some high scores within the anxiety subscale. This subscale was normally distributed. Seven (18.9%) participants obtained the maximum score of 20. Eighteen (48.6%) participants obtained scores between 10 and 19, and 8 (21.6%) scored between 1and 9. Four (10.8%) participants scored zero.

The subscale of shame was normally distributed. Further investigations illustrated that eighteen (48.6%) participants obtained a score of zero. Eight (21.6%) participants scored between 1-9 and 10 (27%) participants scored between 10 and 19. One (2.7%) participant obtained the maximum score for shame.

The subscale guilt was normally distributed. Further examination found that seventeen participants obtained a score of zero. Eight (21.6%) participants scored between 1 and 9, and 10 (27%) participants scored between 10 and 19. Two (5.4%) participants obtained the maximum score of 20 for guilt.

3.1.2.4. *Intercorrelations of BDI, BAI and BSER subscales*

Table 6. presents a correlation matrix of the intercorrelations of the BDI, BAI and BSER subscales.

From a visual scan of the correlation matrix, and considering the coefficients greater than 0.3, there are some correlations between the BDI and BAI with some of the BSER subscale scores. The BDI correlates with the BSER subscale Totalsadn. (total sadness score) ($r=.536$). The BAI correlates with the BSER subscale Totalanx (total anxiety score) ($r=.408$). The BDI and BAI are correlated ($r=.373$) and in a similar pattern the BSER subscales of Totalsadn and Totalanx are correlated ($r=.522$). The BAI and BSER subscale Totalsadn are correlated ($r=.338$). Similarly, the BDI and BSER subscale Totalanx are correlated ($r=.423$). One further correlation is highlighted; the BDI and the BSER subscale Totalguilt were correlated ($r=.301$). As seen in Table 6., there are no further correlations.

The above correlations suggest that the patterns of correlations between the BDI, BAI and the BSER subscales of sadness and anxiety might be accounted for by the same underlying emotions. It also suggests that the BSER subscales of sadness and anxiety measure similar underlying dimensions of emotions. This presents further evidence for the validity of the BSER scale as a measure.

Table 6.

Correlation Matrix of the Intercorrelations of Total BDI, BAI and BSER subscale scores.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Totalang	1.000						
(2) Totalsadn	.142	1.000					
(3) Totalanx	-.161	(.522)	1.000				
(4) Totalguilt	-.018	.128	.105	1.000			
(5) Totalshame	.162	.246	.066	.240	1.000		
(6) TotalBDI	.041	(.536)	(.432)	(.301)	.095	1.000	
(7) BAITot	-.024	(.338)	(.408)	.221	-.070	(.373)	1.000

Correlations greater than .30 are shown in parentheses.

3.2. Experimental Hypotheses

3.2.1. Hypotheses

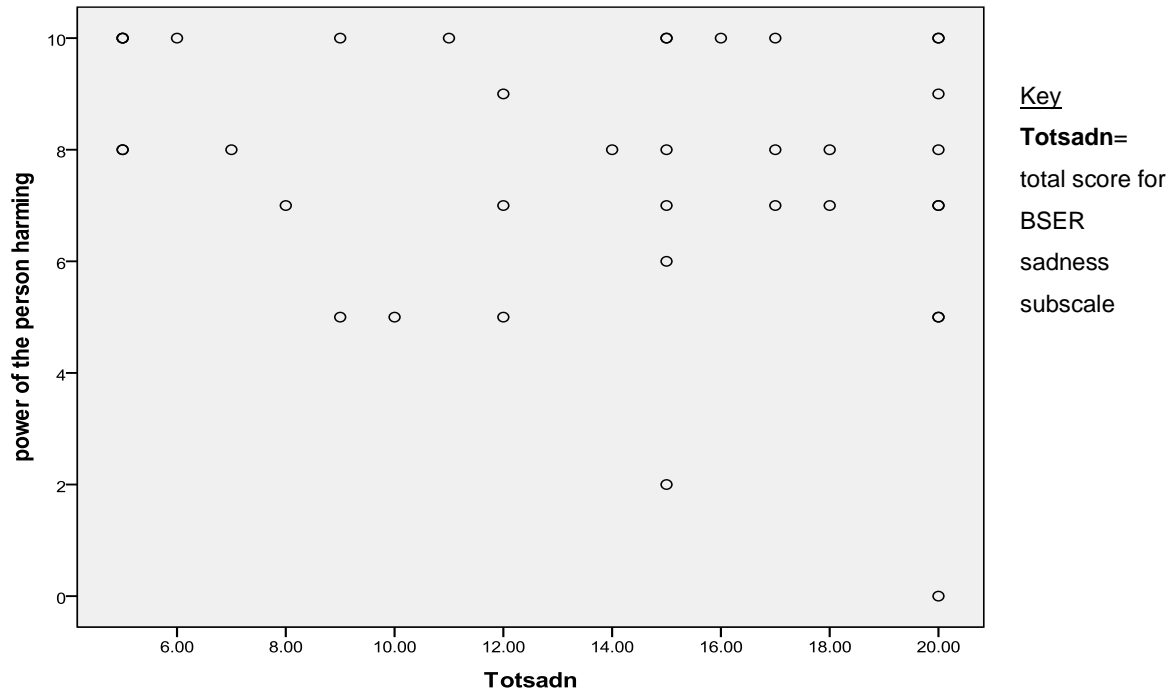
Hypothesis 1: It is predicted that the power of the persecutor will be positively correlated to depression.

To determine whether power of the persecutor is associated with depression, scores on the Details of Threat question 9. were correlated using Spearman Rho with both BDI and BSER sadness subscale scores. There was no significant association between the power of the persecutor and depression either for BDI ($\rho = .39$, $p > 0.01$) or BSER sadness subscale ($\rho = -.24$, $p = .153$).

Surprisingly, in both cases the correlation was negative, indicating that the higher the depression the lower the perceived power, which is in the opposite direction to the hypothesis. A visual inspection of a scatter plot of the scores for the BSER sadness subscale and perceived power (since this was the larger correlation) was conducted to examine the data further (see scatter plot 1).

Scatter Plot 1.

Distributions between power of the persecutor and depression.



As can be seen in Scatter plot 1, thirteen participants obtained maximum scores for either power of the persecutor or sadness. Eight participants obtained the maximum score for the power of the persecutor. However, contrary to the hypothesis of this study and that of previous studies, their sad scores varied from minimum to maximum scores. In fact, one participant had the maximum score for sadness but felt that the persecutor had no power. Only one participant achieved the maximum score for power of the persecutor and sadness.

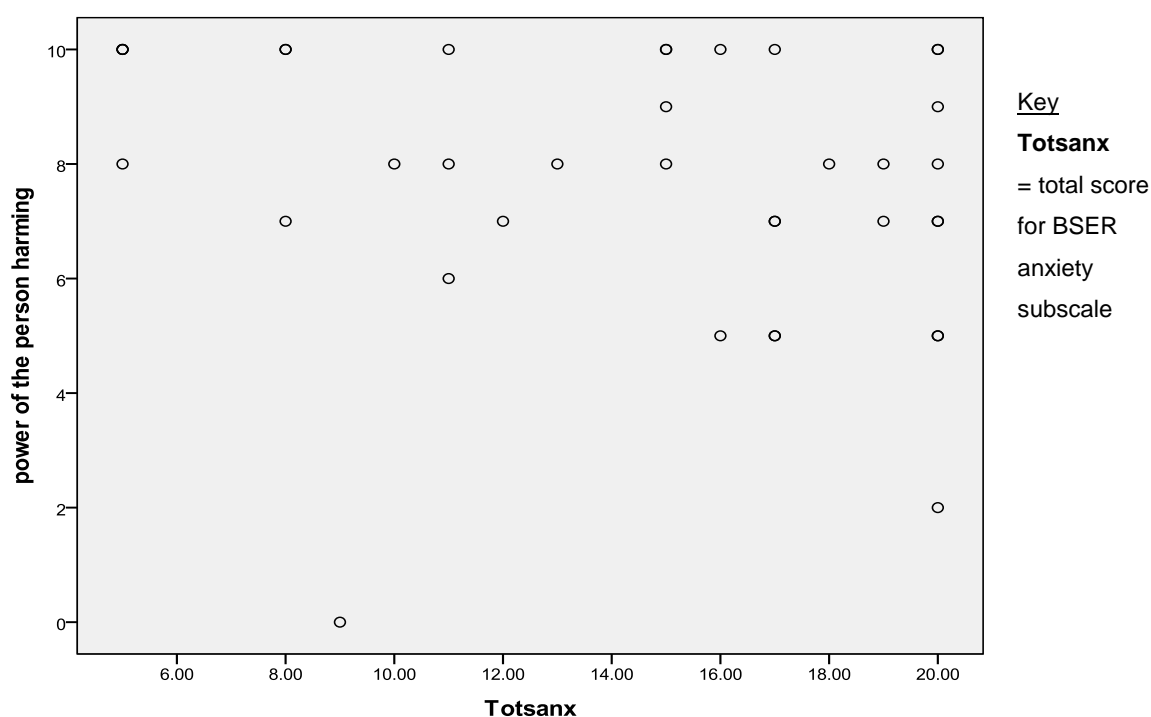
Of the 24 participants who did not rate maximum scores for either variable, five scored 5 or below for the power of the persecutor. However, the sad scores for this group varied from low scores to high scores. Reasons for these unusual findings will be explored in the discussion.

Hypothesis 2: It is predicted that the power of the persecutor scores will be positively correlated with anxiety and social anxiety.

To determine whether the power of the persecutor was associated with anxiety, Spearman Rho correlations were carried out between the Details of Threat question 9 and the BAI, the BSER anxiety subscale, and SAD total scores. There were no significant associations between the power of the persecutor and anxiety on either the BAI ($\rho = -.17$, $p = .30$), the BSER anxiety scale ($\rho = -.316$, $p = .06$), or social anxiety ($\rho = .04$, $p = .42$; 1-tailed test). However, contrary to the hypothesis, both the correlations with BAI and with BSER anxiety were negative, indicating that higher perceived power was associated with lower anxiety. A visual inspection of a scatter plot of the scores was carried out to have a closer look at this finding (see scatter plot 2; only the BSER anxiety subscale is shown as it was the correlation with the highest magnitude). These findings will be explored further in the discussion.

Scatter plot 2.

Distributions between power of the persecutor and anxiety.



Scatter plot 2 demonstrates a similar pattern to that of scatter plot 1. Nine participants obtained the maximum scores for the power of the persecutor. However, their levels of anxiety varied from extreme anxiety at the far top right of the scatter plot to the far top left of the scatter plot. The scatter plot illustrates most participants (with the exclusion of two) had high scores of 5 or above in terms of the power of the persecutor. However, they had variable levels of anxiety. This finding will also be explored further in the discussion of this thesis.

Hypothesis 3: It is predicted that the deservedness of threat scores will be positively correlated to the BSER anger scores.

It was found that there was no significant association between deservedness of threat and anger ($\rho=.01$, $p=.28$; 1-tailed test).

Hypothesis 4: It is predicted that the deservedness of threat scores will be positively correlated with shame scores.

To determine whether deservedness of threat is associated with shame, scores on the Details of Threat question 12 were correlated with BSER shame subscale scores. The correlation was not significant ($\rho=.18$, $p=.144$; 1-tailed test).

Hypothesis 5: It is predicted that the ability to cope will be negatively correlated with shame scores.

Scores on the Details of Threat question 11 were correlated with self-reported shame scores on the BSER shame scores, using Spearman's Rho. It was found that there was no significant correlation between coping and shame (BSER shame scale: $\rho=-.05$, $p=.39$; 1-tailed tests).

Hypothesis 6: The ability to cope will be negatively correlated with depression.

Scores on the Details of Threat question 11 were correlated with both BDI total scores and BSER sadness subscale scores using Spearman's Rho. As predicted it was found that there was some association between coping and

depression on both scores (BDI: $\rho = -.36$, $p = .014$; BSER sadness scale: $\rho = -.53$, $p < .001$; 1-tailed tests).

3.3. Contextual descriptive data

Due to the surprising findings for hypotheses 1 and 2, where the correlations were in the opposite direction to the predictions, it was determined important to explore the data a little further. Some of the additional variables from the Detail of threat measure were explored to provide contextual descriptive data. Rather than choosing to explore multiple possible relationships, the power of the persecutor and depression in relation to other variables were considered given the seemingly robust evidence from previous studies.

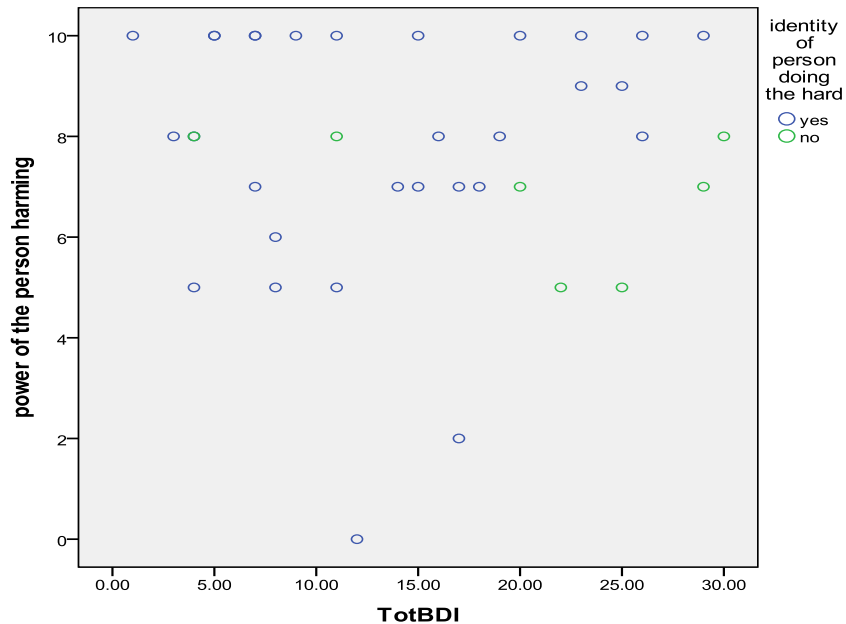
Two relevant items from the Details of threat measure were explored in relation to the power of the persecutor and depression as possible confounding variables.

3.3.1. Identity of the persecutor in relation to power of the persecutor and depression

The descriptive data for the identity of the persecutor have been presented above in this results section. This variable was inspected visually in a scatter plot in relation to the scores from power of the persecutor and BDI scores (see scatter plot 3).

Scatter plot 3.

Identity of the persecutor in relation to power and depression scores



Key: **TotBDI** = Total score for BSI-R subscale sadness

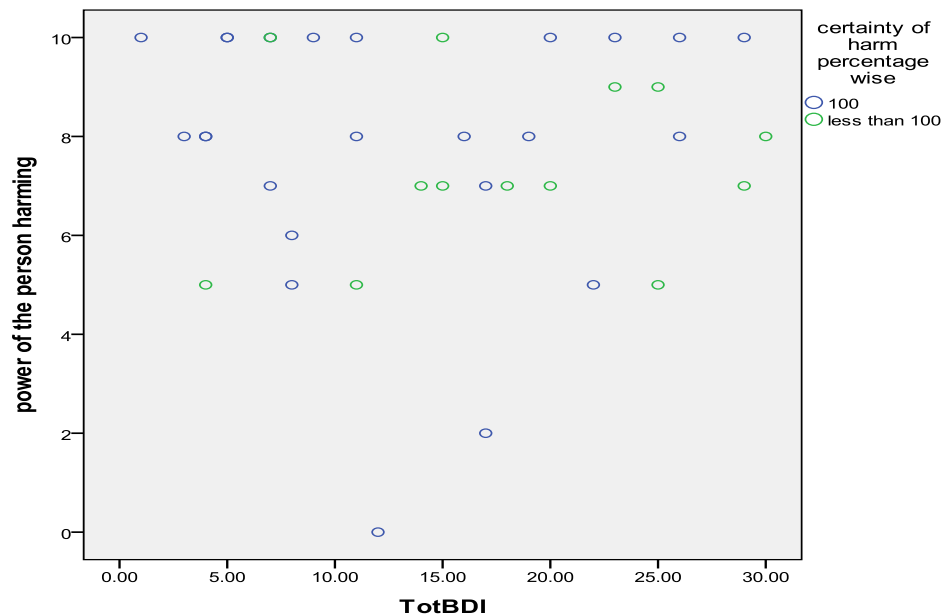
As illustrated on scatter plot 3, 30 of the 37 participants (81%) had some idea of the identity of the persecutor. As stated previously in this results section, this could be individuals, non-human or paranormal persecutors. However, from this scatter plot, this knowledge appears to have no bearing on their level of depression or perceived power.

3.3.2. Certainty of harm in relation to power of the persecutor and depression

It is also possible that participants' perceived certainty of harm could have affected the relationship between perceived power and depression. Twenty-four (65%) of the 37 participants rated their certainty of harm as 100%, with the remaining 13 (35%) rating their certainty of harm as over 50% but less than 100%.

Scatter plot 4.

*Certainty of harm in relation to power of the persecutor
and depression.*



Key: **TotBDI** = Total score for BSER sadness subscale

As illustrated on scatter plot 4, certainty regarding harm did not seem to have a clear relationship with the power of the persecutor or depression.

CHAPTER 4: DISCUSSION

As stated in the introduction, the current study is a replication and extension of previous research within the field of persecutory delusions. The aim was to explore emotional experiences associated with the content of persecutory delusions (such as appraisals of the threat belief) by broadening the range of emotions explored. In terms of conceptualization, the starting point was a cognitive, single symptom approach, based on the multi-factorial cognitive model of Freeman et al. (2002). In addition, clear criteria based on the definition of Freeman and Garety (2000), were used to ensure that persecutory delusions were studied and to avoid the inclusion of other delusions.

The current study set out to test a number of predictions regarding associations between content of persecutory delusions and emotions. The clinical sample for this study was larger than that of (Freeman et al., 2001) and participants were interviewed directly unlike the study by Green et al. (2006). In addition to the standardised generic emotional disorders measures, a new measure developed for the study was utilized, which was specific to emotions related to persecutory delusions.

In this final chapter, the findings of the current study are evaluated. Following this, there will be a discussion in relation to the existing theoretical approaches as described in the introduction. A discussion of the limitations of this study, as well as its contributions to the general knowledge of relationships between persecutory delusions to emotions will be considered. The implications for theory and practice will follow. Recommendations for future research will be outlined. Finally, I will conclude this thesis by reflecting on the process of conducting this research.

4.1. Evaluation of findings in relation to research hypotheses

4.1.1. Replication hypotheses.

One aim of this study was to replicate the findings of Green et al. (2006) and Freeman et al. (2001). Both studies predicted that beliefs regarding the

power of the persecutor would be associated with depression. Green et al. (2006) found that respondents who felt more powerful in the face of persecution had lower scores on the BDI, while Freeman et al. (2001) reported a trend for higher evaluation of the power of the persecutor to be associated with higher levels of depression. The present study did not replicate these findings, with no significant associations being found between the power of the persecutor and depression. This was the case for both BDI scores and the BSER depression subscale; interestingly, there was some suggestion that the higher the depression score, the lower the perceived power, which is the opposite direction to what was predicted. The same pattern was found in relation to associations between power appraisals and anxiety scores.

The lack of a significant relationship and slight trend in the opposite direction to that which was expected, is unlikely to be due to a lack of power issue, since the study of Freeman et al. (2001) found significant effects with a smaller sample of 25 participants. In addition, significant effects were found in this study when the variables of depression and coping were examined. Therefore, the findings are likely to be due to alternative reasons. One possibility may be related to differences in demographic characteristics of the participants between the studies.

One possibility is that the participants in the studies differed in some aspects. Examining the anxiety and depression scores of the three studies, it can be seen that the study of Green et al. (2006) had a reported mean BDI of 25.0 (S.D. =13.5) and BAI 22.9 (S.D. =13.4). The Freeman et al. (2001) study reported a mean BDI of 23.2 (S.D.= 12.9) and BAI 23.5 (S.D. =13.8). The participants in this study had a mean BDI of 14.7 (S.D. = 8.5) and BAI of 16.0 (S.D. =10.5). This suggests that the clinical sample of this study were the least depressed and least anxious of the three groups (see order of appendices comparison of the three studies' descriptive statistics for standardised emotion measures).

Furthermore, in the study of Freeman et al. (2001), 56% of the participants obtained a maximum score of 10 on the Details of Threat measure for power of the persecutor, compared to 32% of this study, indicating that there was a greater propensity to report high levels of power in the Freeman et al. (2001) study.

Given the above comparison to the previous studies, it is possible that the present findings could be in part attributed to the participants in this study being less depressed and anxious, as well as fewer of them having maximum scores for the power of the persecutor. However, this is not a complete explanation for the findings, since it would not explain the direction of the relationship being in opposite direction to that which was predicted.

Further examination of the findings using scatter plots highlighted an interesting pattern in regards to the distribution of scores. A number of participants had maximum scores for the power of the persecutor, indicating that they felt that their persecutor was very powerful. However, contrary to expectations, they obtained low scores for depression or anxiety. In essence, this particular subset of participants believed that the persecutor was powerful but these high power ratings were not associated with high scores on anxiety or depression.

Additional examination of the results followed the analysis of the research hypothesis questions. Potential confounding variables which may have influenced the outcome were explored. These variables included the identity of the persecutor, certainty of harm and hours under threat were considered with reference to the power of the persecutor and depression. However, these appeared to have no bearing on the relationship between the power of the persecutor and emotion scores.

Arguably, there may be several possible reasons for this. This particular group of participants may have firm threat beliefs, but, the expected associated distress due to the appraisal of beliefs may be diminished, or negated due to multiple mediating factors not accounted for or explored in

this study. One factor could be the in-patient versus out-patient status. Seventy-eight percent of the clinical sample of the study were in-patients. In comparison, this was the highest percentage of all three studies (comparing with the studies of Green *et al.*, (2006) and Freeman *et al.*, (2001)). As in-patients, it is possible that participants felt a level of security which reduced their emotional distress despite their firm beliefs.

A further factor affecting the findings could be the duration of illness. Information was not collected regarding the duration of time participants had held their threat beliefs. Participants could have held their threat beliefs for a long period of time, and initially could have felt anxious. However, after a period of time, it may be that whilst the delusions remained, the associated distress reduced. Additional limitations of this study will be presented in further detail later in this discussion.

Examination of distribution scores highlighted a further subset of participants who obtained scores of high anxiety and depression but felt that their persecutors held low power against them. Arguably, this subset of participants could have been depressed and anxious, irrespective of their delusion. However, this is not supported by the fact that the BSER measure assessed emotions specifically related to delusions, and the same pattern was obtained as with the BDI and BAI.

4.1.2. Extension hypotheses.

Bearing in mind Trower and Chadwick's (1995) theory of two types of paranoia, the extension hypotheses were that anger and shame would be linked to beliefs about deservedness of the threat. Contrary to expectations, this study found no significant associations between deserved threat and either anger or shame.

Participants did report the emotions of anger and shame. However, similar to the BDI and BAI scores, the participants scored lower on shame and anger than might have been expected. It is possible that some of the factors

discussed above may also have affected these findings. One such example may be the duration of illness. Participants, at the initial onset of their psychotic experience, may have felt high levels of anger and shame as reported by Miller and Mason (2005). However, after a period of time, as with depression and anxiety, it is possible that whilst the beliefs regarding the deservedness of threat remained, the associated anger and shame reduced. This could be one possible explanation for the results.

Participants' status as in-patients or out-patients may have also affected the findings. It is possible, that for the majority of the participants (78% of the clinical sample), being an in-patient helped with the decreased levels of shame, anger and their ability to cope, as other patients with similar experiences to themselves were observed with differing levels of emotional responses and coping.

A further possibility involves the methodology of the study. It is possible that the measures used for anger and shame (the scores from the BSER subscales), taken from a questionnaire which was not validated, may not have been adequate assessment of these emotions. This limitation will be discussed later in this section.

The findings of this current study did support the sixth hypothesis as the ability to cope with threat beliefs was negatively correlated with depression. This is not surprising given the proliferation of work linking the ability to cope with depression in numerous general areas of study. In addition, this association in part supports the argument of Ritsner et al. (2003), is highlighting the importance of coping with psychotic symptoms, to the levels of emotional distress and general quality of life. The current study suggests that in considering individual symptoms such as persecutory delusions, the importance of ability to cope with also plays an important factor in emotional distress. However, it could be argued that perhaps it is not the threat belief directly which causes emotional distress, but participants' secondary appraisal of coping with the threat belief that influences their levels of emotional distress.

4.1.3. Details of threat beliefs

Despite the failure to support five of the six research hypotheses, the current study did highlight some patterns with reference to details of persecutory delusions which were consistent with the results of the previous studies, exploring content and emotion directly. For example, two of the main appraisals explored in this study, with regard to details of threat were similar to the study of Freeman et al. (2001). Both studies found high levels of belief in the power of the persecutor. Sixty-two percent of the participants for this study rated high levels of belief in the power of the persecutor. This percentage is close to that of the Green et al. (2006) study (68%) and the Freeman et al. (2001) study (58%). The percentages for the deservedness of threat were also relatively close. Half (50) % of participants in the Freeman et al. (2001) felt that the threat was not deserved whilst more than half (67%) of the current study also felt that the threat was not deserved. This suggests that the current study was able to in part, replicate to some extent similar findings in terms of details of threat beliefs.

4.2. Integrating findings of study to contemporary approaches to persecutory delusions

4.2.1. Definition of persecutory delusions

The findings of this study appear to suggest that the criteria of Freeman and Garety (2000) as outlined in the introduction is applicable to this group. First, all participants of this study had the belief that harm is occurring or was to occur imminently. Secondly, all participants held the belief that their given persecutor had the intention to cause them harm. This is important, as the findings of this study could be said to provide further evidence and support for the criteria as a useful and meaningful starting point for the exploration of persecutory delusions. In addition, it could be said to support the conceptualisation of persecutory delusions as threat beliefs by Freeman and colleagues.

4.2.2. Single symptom approach

The adoption of the single symptom approach in this study did have advantages. Detailed, fine grained study of threat beliefs and isolation of key variables such as the power of the persecutor was possible as a result of using this approach. However, the findings of this study also highlighted the possible disadvantages of using this approach to examine persecutory delusions and associated emotional distress.

As stated in the introduction, one limitation of the single symptom approach is that it does not take into account the co-occurrence of symptoms, which was common in this study. For instance, 24% percent of the sample of the current study reported voices with reference to their threat beliefs. The co-occurrence of symptoms was also found in the studies of Freeman et al. (2001) and Green et al.(2006) and other studies as reported in the introduction. One of the challenges lies in determining whether the group of participants in this study felt threatened because of what the voices say or their interpretation of the experience. For example, considering participant 24's threat belief;

‘Voices are telling me they will hurt people if I don't do what they want’.

It was impossible to ascertain whether the participant felt threatened because they believed they/their family would be hurt, or felt threatened by the entire experience. There was also the presence of grandiose delusions in the clinical sample (24%). With reference to this, this study could not control for the common co-occurrence of symptoms such as auditory hallucinations or delusions of grandeur. The findings, indicating presence of other types of delusions, suggest perhaps persecutory delusions do not substantially set themselves apart from other types of delusions. In addition, it could be argued that persecutory delusions probably involve most of the same basic mechanisms as non-persecutory delusions. However, this possibility highlights one of the dangers of the single symptom approach as

stated in the introduction; that heterogeneity of symptoms leads to the assumption that underlying causes/processes are similar when they might not be. It has been argued that the single-symptom approach may need to be broadened to account for the occurrence of multiple positive symptoms of psychosis (Freeman et al., 2001).

4.2.3. Cognitive approach

As stated in the introduction, the central tenet in the cognitive approach to clinical phenomena is the idea that beliefs are linked to emotions.

Contemporary approaches to persecutory delusions, in particular Freeman et al.'s (2002), assert that particular emotions play a fundamental role in persecutory ideation development and maintenance. However, if (as the findings of this current study suggests) content of threat beliefs are not associated with specific emotions, it could have two implications. It could mean that emotions do not play such a focal role in delusion formation and maintenance. Consequently, this could mean that the theories of persecutory delusions which emphasize emotions should be revised.

4.2.4. Contemporary models

As described in the introduction of this thesis, Trower and Chadwick (1995) postulated a theory of persecutory delusions as a defence against depression and low self-esteem. This was extended further to make a distinction of two types of paranoia: 'poor-me' and 'bad-me'. With reference to this approach, this study found very few cases (5.4%) of 'bad-me', paranoia. Additionally, mixed findings have been reported in previous studies regarding the possibility of two types of paranoia (Fornell – Ambrojo & Garety, 2005; Freeman et al., 2001). It could be argued that perhaps these sub-types are not plausible as underlying trait psychological processes (Green et al., 2006).

The multi-factorial model of persecutory delusions by Freeman et al. (2002) posits that delusions reflect the emotional state of the individual. Emotional states of anxiety and depression, all have direct associations with persecutory threat beliefs, and are factors in causing the development and

maintenance of paranoia. As described in the introduction, Freeman et al. (2002) place particular emphasis on the role of anxiety in terms of generating persecutory ideation. Anxiety helps lead the individual to search for a meaning and the selection of an explanation leading to a threat belief. This study, in particular in relation to research hypothesis 2, did not provide evidence to support this model. Anxiety was not found to have any significant correlations with content. Support for this model in general has been found in the studies of Freeman et al. (2001) and Green et al. (2003). However, these studies did not provide evidence to illustrate any particular focal role for anxiety in terms of delusional belief.

4.3. Limitations

Like all studies, this study has its limitations and given the present findings, it becomes more relevant to discuss these possible challenges. However, it is important to reiterate that this study is regarding only a very small part of the story of persecutory delusions and emotions, and does not provide an exhaustive account of the possible factors which could be implicated in the formation and maintenance of paranoid thinking. Similar to the study of Green et al. (2006), it does not attempt to establish any causal links between emotion, cognition and paranoia. It is entirely possible that there are many pathways to emotional dysfunction with reference to persecutory beliefs that this study has not explored. For example, studies examining 'theory of mind' (Brune, 2005; Corcoran et al., 1995; 2003; 2008), and cognitive bias (McGhie & Chapman, 1961; Moritz & Woodward, 2004; 2006b), in relation to schizophrenia could also provide some insight into the role of emotions in persecutory delusions.

4.3.1. Study design

One difficulty in the study design in general concerns the diagnostic heterogeneity of the sample. Most individuals had a diagnosis of schizophrenia. However other individuals within the sample had diagnoses of schizo-affective disorder, schizoid personality disorder and unspecified psychosis. This could be considered by those who adopt a diagnostic or syndrome approach a methodological flaw, thereby limiting conclusions that

can be drawn. However, this study is based on the approach of Freeman et al. (2002), of persecutory delusions, which adopts a single symptom approach and conceptualises persecutory delusions as threat beliefs. This study was interested in exploring cognitive and emotional correlates to these beliefs. Consequently, participants were selected on the criteria of having threat beliefs and not based on diagnosis. It does logically follow that conclusions are made only in terms of what can be learnt about the 'threat beliefs' and not what can be generalised about syndromes.

4.3.2. Measures

It could be argued that there were not enough measures employed and they were not sophisticated enough to perhaps capture a significant effect. For example, the Novaco Anger Scale (Novaco, 1994) and Guilt Inventory (Kugler & Jones, 1992), could perhaps have been used in addition to the standardised emotion measures and BSER scale to explore the emotions associated with persecutory delusions. However, given the clinical group under study, it would be highly unlikely that participants would be willing to participate fully or completely in long complex interviews with multitude of measures.

It should be noted that a novel scale, the BSER, was used in this study, has not been previously validated, which could have affected findings. In addition, the general limitations of self-report measures should also be considered. Black and Wilson (1996) argued that many concepts are difficult to accurately assess using self-report measure. In addition, self-report measures have an underlying assumption that individuals can and will report their symptoms accurately (Derogatis & Meliseratos, 1983). This can be extended to questionnaire design methodology in general. Brown et al. (2009) notes that general criticisms of questionnaire-based research:

'Share a concern about whether scores on putative cognitive measures have been shown conclusively to reflect variations in the underlying target phenomena or, indeed whether they actually measure cognition.' [p.942, Brown *et al.*, 2009]

Specific to persecutory delusions, as stated in the introduction of this thesis, self report measures are particularly vulnerable to the problem of differentiating between realistic and unrealistic suspicions (Freeman *et al.*, 2008). The BSER scale as well as the Details of Threat questionnaire does not question the plausibility of the paranoid thought. To consider an example, it is entirely possible that participant number 34 may be correct in some way in the assertion that the Dolling brothers are harming his family. Further assessment would be required with other possible measures to distinguish plausible from implausible thoughts.

However, it can be argued that self report measures do have distinct advantages. It has been reported that self- report is a well validated method for assessing thoughts (De Vellis, 2003). Derogatis and Meliseratos (1983) note that in gathering information directly from the individual experiencing the symptoms, exclusive information is provided that is unavailable through other methods. In addition, self-report measures are quick and easy to administer, and are a useful way of eliciting a large amount of information (Morlan & Tan, 1998).

In line with the argument noted by Brown *et al.* (2009), it could be questioned whether the BSER scale actually measures levels of emotional responses to threat beliefs. It could be argued that there is the central underlying assumption (as with most measures) that the BSER scale is actually measuring what it claims to assess, and that there is little basis to assume that participants' scores reflects varying levels of emotions. However, as reported in the results section of this thesis, the BSER subscales of sadness and anxiety were positively correlated with the BDI and the BAI. This gave face validity to at least the two subscales of the BSER scale and gave some confidence that it could be used in addition to the standardised emotional disorder measures to confirm or refute the experimental hypotheses. Devising the BSER scale for the study that it is applied to is not without its flaws. As a Likert scale, the scoring for this measure was arbitrary and the value assigned the items has no unique mathematical property. In order to provide the necessary details for this study, the scoring was determined by

the author of this thesis and the supervisory clinical psychologists. Consequently, it could be argued that the findings of this study could be in part due to researcher bias.

4.3.3. Recruitment of participants

Given the intrinsic paranoia attached to this sample group, recruiting a representative sample of individuals with persecutory delusions was a challenge. Obtaining informed consent from individuals with persecutory beliefs for research purposes is difficult. Twenty-five participants approached refused to participate in the current study, as reported in the methods section of this thesis. Many of the individuals who refused to participate in this study were reported by the mental health professional of the various clinical settings to be the most suspicious and paranoid. It could be argued that the recruitment may have introduced selection biases, particularly by recruiting only those who were willing and well enough to participate.

4.4. Contribution to knowledge represented by the study

Despite the limitations, and the findings which did not support the research hypotheses, this small exploratory study has made a modest contribution to our understanding of the general area of persecutory delusions.

First, it has provided further additional information in relation to the content of persecutory delusions, an area, as stated in the introduction, that has not been widely researched. For example, the information with reference to the power of the persecutor (most participants rating the power of the persecutor highly) suggests maybe this variable should be examined further.

Secondly, this study suggests that there are gaps in our understanding and examination of persecutory delusions. The cognitive model of Freeman et al. (2002), presents a multifactorial account of the development of persecutory delusions, which hypothesizes specific relationships between emotion, cognitive biases and anomalous experiences. It could be argued that this study, in not supporting the hypotheses, highlights that more research is

required to explore and unpack all the possible variables which could be implicated in the development of persecutory delusions.

The presence of the co-occurrence of symptoms in this study as stated earlier, questions the extent to which persecutory symptoms can be explored in isolation. A third argument for this study's contribution is that it provides evidence and adds to the general theoretical debate regarding the limitations and utility of the single symptom approach. It can be argued that the limitations of this approach in the theoretical inability to explore the influence of various symptoms halts any further advancement of knowledge to this area in a particular direction.

In terms of research methodology, this study demonstrates that a multi-dimensional approach perhaps ought to be increasingly considered with more sophisticated and current measures.

In addition to contributing to knowledge, it could also be argued that this study has contributed to assessment procedures by developing a novel measure, for this particular area of study. Although still in development, it shows promise by capturing similar data to standardised measures. It has been shown to have good reliability and internal consistency. It could be for routine clinical assessment, with further development and exploration of this measure with larger groups to assess its validity.

Finally, it can be argued that indirectly, this study also questions the limitations of the single symptom and cognitive approach to emotional distress. In attempting to explain the failure to support the research hypotheses, it could be said to perhaps give evidence for further debate regarding alternative approaches to explore the paranoid experience such as the social constructionist approach (Harper 2004; Cromby & Harper, 2005), a grounded theory construction (Boyd & Gumley, 2007) or the recovery model (Mahler, Tavano, Gerard & Baber, 2001; Anthony, 1993; Deegan, 1988).

4.5. Implications

The findings of this current research study may have potential research and clinical implications.

The study's failure to support the hypotheses may mean that further thought and study is required with regards to the cognitive approach to persecutory delusions. It could mean that the cognitive approach does not provide a full enough understanding of the psychotic experience, and as stated earlier, alternative explanations need to be considered.

Within the assessment stage, perhaps using measures such as the Detail of Threat Questionnaire could help to obtain further details of areas other than those explored in this study, such as power of the persecutor, deservedness of threat, control and coping with the existence of the threat, which were found to be highly salient for the participants in this study.

There has been increased agreement that psychological therapy should be informed by considering the interplay between emotion and psychosis (Birchwood & Trower, 2006; Birchwood 2003). In current interventions, such as Cognitive Behavioural Therapy (CBT), symptoms of emotional disturbance are emphasized as important aspects of the subjective experience in psychosis, as well as the symptoms that define psychosis itself (Fowler, Garety & Kuipers; 1995). Reducing the emotional distress associated with psychotic symptoms as well as challenging delusions are aims of therapy for psychosis. From the findings of this study, it is apparent that negative emotions are found in participants with persecutory beliefs, confirming that they need to be considered as targets for interventions.

Beliefs in regards to the power of the voice have been related to voice distress by Birchwood et al. (2000); Chadwick and Birchwood, (1995a; 1995b) and Gilbert et al. (2001). It is argued that addressing such beliefs is critical to the success of approaches such as CBT in reducing voice distress. Evidence for this has been found in a randomised controlled trial where CBT targeted command hallucinations. Results indicated a reduction in conviction

in beliefs about the power and superiority of the voices, depression and distress and compliance with the voice's commands (Trower et al., 2004). This study also found evidence of participants believing that their persecutors were powerful but not an association with emotion. However, exploring the beliefs of powerlessness in comparison to the persecutor and others in general, may lead to a reduction in the belief of the extent of the power of the persecutor.

4.6. Recommendations for future research

The limitations of this study should be addressed in future research.

Longitudinal studies with larger samples than this study, could help disentangle possible interactions between persecutory delusions and other symptoms such as auditory hallucinations. There is also the impact of culture on content which could be explored in future studies. The study of Suhail and Cochrane (2002) found phenomenological differences of delusions and hallucinations in Pakistani patients living in Pakistan, Pakistani patients living in Britain and British White patients. Associations have also been noted between the content of life events or traumatic experiences and the content of psychotic experiences (Hardy et al., 2005; Raune et al., 2006). A longitudinal study could help establish further the potential contribution of such factors to delusional content. In addition to this, they could help explore the hypothesis by Freeman and Garety (2003) that emotions and delusions share common mechanisms.

The co-occurrence of symptoms such as auditory and grandiose hallucinations with persecutory delusions, suggests possible potential theoretical links with models such as the cognitive model for hallucinations (Beck & Rector, 2003), which could be examined in the future. For example, one area of study would be to explore whether persecutory delusions develop for the most part to explain unusual experiences.

Alternative appraisals in relation to content of persecutory delusions and emotional distress might also be important to consider. For example, the study of Watson et al. (2006) considered the *perception of illness* as an

appraisal for individuals who experience psychosis. It was found that negative illness perceptions in psychosis clearly related to depression, anxiety and self esteem. Using the single symptom approach, it would very interesting to consider this appraisal in relation to the content of persecutory delusions. For example, it would be interesting to explore whether a negative or positive perception of illness in persecutory ideation affect the power of the persecutor for the given individual.

The BSER Scale was able to illustrate the range of possible emotions in persecutory delusions in this study. This measure could potentially be particularly useful in guiding later interventions even in the absence of conclusive findings for this current study. The BSER scale could be administered initially to measure a wide range of emotions (including depression and anxiety) in one measure, and perhaps to ascertain which emotion is most prominently associated with the content of persecutory delusions. Once identified, measures which assess specifics of a given emotion, such as the BDI for depression, could be administered. With further testing, its use may also be extended in relation to phenomena other than persecutory delusions.

4.7. Final reflections

In concluding this thesis, I would like to highlight the fact that conducting this research reminded me of the importance of the role of the clinical psychologist as an active researcher helping to improve our understanding of mental distress and inform clinical practice and wider society. This study continued to remind me of how truly distressing the content and associated emotions of persecutory delusions can be for individuals. Conducting this research has only further heightened my enthusiasm and interest for this particular area of mental health and reaffirmed my career decision, ultimately to work with individuals who experience psychotic symptoms. The novel BSER measure is in the early development stages. It is hoped that it will be a useful assessment tool for clinical services, with further assessment of its validity.

This study is a starting point in attempting to unpack particular factors which may contribute to the paranoid experience, in particular possible associations between content and emotions. It is a small exploratory study. However, it can be argued that it opens up the field for more detailed, sophisticated funded research.

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Appendix A: NHS Ethical Approval

National Research

Ethics Service

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School of Psychology
University of East London
Stratford Campus
Water Lane
London E15 4LZ

Study Title: Cognitive and emotional processes in persecutory delusions
REC reference number: 09/H0713/51
Protocol number: 1

Thank you for your letter of 01 October 2009, 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 Chair.

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, subject to the conditions specified below.

Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

For NHS research sites only, management permission for research (“R&D approval”) should be obtained from the relevant care organisation(s) in accordance with NHS research governance arrangements. Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at <http://www.rdforum.nhs.uk>. *Where the only involvement of the NHS organisation is as a Participant Identification Centre, management permission for research is not required but the R&D office should be notified of the study. Guidance should be sought from the R&D office where necessary.*

Sponsors are not required to notify the Committee of approvals from host organisations.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Approved documents

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

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.

After ethical review

Now that you have completed the application process please visit the National Research Ethics Service website > After Review

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

The attached document “*After ethical review – guidance for researchers*” gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email referencegroup@nres.npsa.nhs.uk.

09/H0713/51

**Please quote this number on all
correspondence**

Yours sincerely
Chair

Enclosures: "After ethical review – guidance for researchers" SL- AR2 for
other studies

Copy to:

Appendix B: Local trust research and development ethical approval

Research and
Development Office

Anneline Flood
Trainee Clinical Psychologist
School of Psychology
University of East London
Stratford Campus
Water Lane
London E15 4LZ

29 March 2010

Dear Ms Flood,

**Trust Approval: R&D2010/026 Cognitive and emotional processes in
persecutory delusions**

I am writing to confirm approval for the above research project at [redacted]. This approval applies work in [redacted] and Specialist National directorates and relates only to the specific protocol and informed consent procedures described in your R&D Form. Any deviation from this document will be deemed to invalidate this approval. Your approval number has been quoted above and should be used at all times when contacting this office about this project.

Amendments, including the extension to other Trust Directorates, will require further approval from this Trust and where appropriate the relevant Research Ethics Committee. Amendments should be submitted to this R&D Office by completion of an R&D Amendment form together with any supporting documents. A copy of this is attached but is also available on the R&D Office website.

(http://admin.iop.kcl.ac.uk/randd/downloads/RD_Approval_Amendment_Form.doc)

I note that the University of East London will be taking on the role of Sponsor for this study.

Approval is provided on the basis that you agree to adhere to the Department of Health's Research Governance requirements including:

- Ethical approval must be in place prior to the commencement of this project.
- As Chief Investigator and/or Principal Investigator for this study you have familiarised yourself with, and accept the responsibilities commensurate with this position, as outlined in the Research Governance Framework

• (http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_4122427.pdf).

• Compliance with all policies and procedures of the Trust which relate to research, and with all relevant requirements of the Research Governance Framework. In particular the Trust Confidentiality Policy.

• Co-operating with the Trust R&D Office's regular monitoring and auditing of all approved research projects as required by the research governance framework, including complying with ad hoc requests for information.

• Informing the Trust's Health and Safety Coordinators and/or the Complaints Department or of any adverse events or complaints, from participants recruited from within this Trust, which occurs in relation to this study in line with Trust policies. Contact details are available from the R&D Office if required.

• Sending a copy of any reports or publications which result from this study to the Trust Departments involved in the study if requested.

• Honorary Contracts must be in place prior to patient contact for all relevant members of the research team. Advice on this will be provided by the R&D Office at the point of obtaining R&D approval and on an ongoing basis for new members of staff joining the research team.

• Sending a copy of the annual reports and end of project notification submitted to ethics.

Failure to abide by the above requirements may result in the withdrawal of the Trust's approval for this research.

If you wish to discuss any aspect of this research approval with the R&D Office, please contact _____ instance.

I wish you every success with this study.

Yours sincerely

PP

Enc. R&D Approval Amendment Form

Appendix C: UEL Ethics Approval



Dr K. Gannon
School of Psychology
Stratford

ETH/10/78

01 February 2013

Dear Dr Gannon,

Application to the Research Ethics Committee: Cognitive and emotional processes in persecutory delusions (A Flood)

I advise that the University Research Ethics Committee has now approved the above application on the terms previously advised to you. The Research Ethics Committee should be informed of any significant changes that take place after approval has been given. Examples of such changes include any change to the scope, methodology or composition of investigative team. These examples are not exclusive and the person responsible for the programme must exercise proper judgement in determining what should be brought to the attention of the Committee.

In accepting the terms previously advised to you I would be grateful if you could return the declaration form below, duly signed and dated, confirming that you will inform the committee of any changes to your approved programme.

Yours sincerely

Debbie Dada

Administrative Officer for Research

d.dada@uel.ac.uk

02082232976

Research Ethics Committee: ETH/10/78/0

I hereby agree to inform the Research Ethics Committee of any changes to be made to the above approved programme and any adverse incidents that arise during the conduct of the programme.

Signed:.....Date:

Please Print Name:

Appendix D: Details of Threat Interview

DETAILS OF THREAT INTERVIEW – 2nd REVISION

This interview has a number of questions about the harm that you believe is going to happen or is happening.

1. What exactly is the type of harm that you expect to happen or that is happening (i.e. what is the threat?).....

.....
.....
.....

[Please use probes: "can I just check... is it that others are trying to make other people think badly of you" (social threat); "... is it they are trying to cause you to feel distressed or unwell in your mind?" (psychological threat); "...is it that they are trying to cause you bodily injury?" (physical threat)]

Please make assignment to threat belief category on the basis of this question.

If the type of harm cannot be identified, please classify into "unknown" category.

If more than one belief identified, please classify on the basis of the most prominent belief, but note below the other beliefs:]

.....
.....
.....

2. Do you know who it is that is trying to harm you? Yes / Maybe / No (Please circle)
If your answer was 'yes' or 'maybe', who do you think it might be

.....
.....
.....

3. Have you heard or seen the persecutor?

Heard : Never / In past / Currently (in the last month) (Please circle)

Seen: Never / In past / Currently (in the last month) (Please circle)

[Please rate whether or not these were anomalous experiences:

Voices : Yes/No

Visions: Yes/No]

4. Has the persecutor taken control of your actions or thoughts in some way?
Never / In past / Currently (in last month) (Please circle)

If yes, please specify what the control

was:.....
.....

5. When do you think the harm is most likely to happen? Please circle one of the time periods below:

It has been happening recently / 0-7days / 1 week to one month / 1 month to 6 months / 6 months or longer

6. Where will the harm most likely occur? Please circle one of the options:

Inside my home / Outside my home / Both in or outside of my home / on the ward / outside the ward/ if other please specify

7. In the 24 hours of a day, how many of these hours are you under

threat?.....

8. How sure are you that the harm is happening? Please give a percentage estimate of the strength of your belief (0-100%)

[For the next 9 questions, please place the rating scale of 1-10 in front of the patient. For each separate question place the appropriate labels at each end of the scale]

9. How powerful is the person(s) trying to harm you? Please circle a number below:

No 0 1 2 3 4 5 6 7 8 9 10 Extremely
Powerful powerful

10. If the threat did happen, how awful would it be? Please circle a number below:

Not 0 1 2 3 4 5 6 7 8 9 10 Extremely
awful awful

11. How well would you cope if the threat did occur? Please circle a number below:

Could not 0 1 2 3 4 5 6 7 8 9 10 Would cope
Cope at all extremely well

12. Sometimes people who think harm is going to happen think that they may deserve this harm. Do you feel as if you deserve to be harmed in the way you have talked about? Please circle a number below.

Not at all 0 1 2 3 4 5 6 7 8 9 10 Totally
Deserved Deserved

13. How unfair is it that this is occurring to you? Please circle a number below:

Not at all 0 1 2 3 4 5 6 7 8 9 10 Extremely
Unfair Unfair

14. How likely is it that factors beyond your control could lead to you being rescued from this harm? For example, something to do with the person trying to harm you or something to do with other people that may result in the threat not occurring. Please circle a number below:

Not at all 0 1 2 3 4 5 6 7 8 9 10 Extremely
Likely likely

15. Overall, how much control do you have over the situation? Please circle a number below:

No 0 1 2 3 4 5 6 7 8 9 10 Total
Control control

16. Do you ever feel as if you are or destined to be someone very important? Please circle a number below:

Don't believe 0 1 2 3 4 5 6 7 8 9 10 Believe it is
It's true absolutely true

17. Do you ever feel that you are a very special or unusual person? Please circle a number below:

Don't believe 0 1 2 3 4 5 6 7 8 9 10 Believe it is
It's true absolutely true

Appendix E: BDI Scale

BDI-II

DATE:~

NAME:~

On this questionnaire are groups of statements. Please read each group of statements carefully. Then pick one statement in each group which best describes the way you have been feeling the **PAST WEEK, including TODAY**. Circle the number beside the statement you picked. If several statements in the group seem to apply equally well, circle each one. Be sure to read all the statements in each group before making your choice.

- 1/.
0 I do not feel sad.
1 I feel sad.
2 I am sad all the time and I can't snap out of it.
3 I am so sad or unhappy that I can't stand it.
- 2/.
0 I am not particularly discouraged about the future.
1 I feel discouraged by the future.
2 I feel I have nothing to look forward to.
3 I feel the future is hopeless and that things cannot improve.
- 3/.
0 I do not feel like a failure.
1 I feel I have failed more than the average person.
2 As I look back on my life, all I can see is a lot of failures.
3 I feel I am a complete failure as a person.
- 4/.
0 I get as much satisfaction out of things as I used to.
1 I don't enjoy things the way I used to.
2 I don't get real satisfaction out of anything anymore.
3 I am dissatisfied or bored with everything.
- 5/.
0 I don't feel particularly guilty.
1 I feel guilty a good part of the time.
2 I feel quite guilty most of the time.
3 I feel guilty all of the time.
- 6/.
0 I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.
- 7/.
0 I don't feel disappointed in myself.
1 I am disappointed in myself.
2 I am disgusted with myself.
3 I hate myself.

- 8/.
0 I don't feel I am any worse than anybody else.
1 I am critical of myself for my weaknesses or Mistakes.
2 I blame myself all the time for my faults.
3 I blame myself for everything bad that happens.
- 9/.
0 I don't have any thoughts of killing myself.
1 I have thoughts of killing, but I would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.
- 10/.
0 I don't cry anymore than usual.
1 I cry more now than I used to.
2 I cry all the time now.
3 I used to be able to cry, but I can't cry even though I want to.
- 11/.
0 I am no more irritated now than I ever am.
1 I get annoyed or irritated more easily than I used to.
2 I feel irritated all the time now.
3 I don't get irritated at all by the things that used to irritate me.
- 12/.
0 I have not lost interest in other people.
1 I am less interested in other people than I used to be.
2 I have lost most of my interest in other people.
3 I have lost all my interest in other people.
- 13/.
0 I make decisions about as well as I used to.
1 I put off making decisions more than I used to.
2 I have greater difficulty in making decisions than before.
3 I can't make decisions at all anymore.

Total :~

- 14/.
 0 I don't feel I look any worse than I used to.
 1 I am worried that I am looking old or Unattractive.
 2 I feel that there are permanent changes in my appearance that make me look unattractive.
 3 I believe that I look ugly.
- 15/.
 0 I can work as well as before.
 1 It takes an extra effort to get started at doing something.
 2 I have to push myself very hard to do anything.
 3 I can't do any work at all.
- 16/.
 0 I can sleep as well as usual.
 1 I don't sleep as well as I used to.
 2 I wake up 1-2 hrs earlier than usual and find it hard to get back to sleep.
 3 I wake up several hours earlier than I used to and cannot get back to sleep.
- 17/.
 0 I don't get more tired than usual.
 1 I get tired more easily than I used to.
 2 I get tired from doing almost anything.
 3 I am too tired to do anything.

- 18/.
 0 My appetite is no worse than usual.
 1 My appetite is not as good as it used to be.
 2 My appetite is much worse now.
 3 I have no appetite at all anymore.
- 19/.
 0 I haven't lost much weight, if any, lately.
 1 I haven't lost more than 5 lbs.
 2 I haven't lost more than 10 lbs.
 3 I haven't lost more than 15 lbs.
 (I am purposely trying to lose weight ☐)
- 20/.
 0 I am no more worried about my health than usual.
 1 I am worried about physical problems such as aches & pains; or upset stomach; or constipation.
 2 I am very worried about physical problems & it is hard to think of much else.
 3 I am so worried about my physical problems that I cannot think about anything else.
- 21/.
 0 I have not noticed any recent change in my interest in sex.
 1 I am less interested in sex than I used to be.
 2 I am much less interested in sex now.
 3 I have lost interest in sex completely.

Total (page 2) _____

Total (page 1)	_____
Total (page 2)	_____
Total ~ (1+2)	_____
Assessing Nurse ~	_____

Appendix F: BAI Scale

BAI

NAME:~ _____ DATE:~ _____

Below is a list of common symptoms of Anxiety. Please carefully read each item in the list. Indicate how much you have been bothered by each symptom during the PAST WEEK, INCLUDING TODAY, by placing an X in the corresponding space in the column next to each symptom.

	NOT AT ALL	MILDLY. It did not bother me much.	Moderately. It was very unpleasant but I could stand it.	Severely. I could barely stand it.
1. Numbness or Tingling.				
2. Feeling Hot.				
3. Wobbliness in Legs.				
4. Unable to Relax.				
5. Fear of the Worst Happening.				
6. Dizzy or Lightheaded.				
7. Heart Pounding or Racing.				
8. Unsteady.				
9. Terrified.				
10. Nervous.				
11. Feelings of Choking.				
12. Hands Trembling.				
13. Shaky.				
14. Fear of Losing Control.				
15. Difficulty Breathing.				
16. Fear of Dying.				
17. Scared.				
18. Indigestion or Discomfort in Abdomen.				
19. Faint.				
20. Face Flushed.				
21. Sweating (not due to heat).				

.....

Appendix G: Social Avoidance and Distress Scale

Social Avoidance and Distress (SAD)

Please indicate whether or not the following statements apply to you by ticking True (if the statement applies to you) or False (if the statement does not apply to you).

1. I feel relaxed even in unfamiliar social situations.
2. I try to avoid situations which force me to be very sociable
3. It is easy for me to relax when I am with strangers
4. I have no particular desire to avoid people
5. I often find social occasions upsetting
6. I usually feel calm and comfortable at social occasions
7. I am usually at ease when talking to someone of the opposite sex.
8. I try to avoid talking to people unless I know them well.
9. If the chance comes to meet new people, I often take it.
10. I often feel nervous or tense in casual get-togethers in which both sexes are present.
11. I am usually nervous with people unless I know them well.
12. I usually feel relaxed when I am with a group of people.
13. I often want to get away from people.

True	False

Appendix H. Belief Specific Emotional Response Scale

Belief Specific Emotional Response Scale

Some or all of these words may describe the way you feel when you think about whom or what is threatening you. Please read the following words carefully and indicate with a tick the words which best describe the way you feel.

This threat makes me feel....

	Not at all	a little	somewhat	quite a lot
very much				
Angry				
Annoyed				
Irritated				
Furious				
Outraged				

	Not at all	a little	somewhat	quite a lot
very much				
Miserable				
Depressed				
Hopeless				
Despair				
Gloomy				

	Not at all	a little	somewhat	quite a lot
very much				
Anxious				
Frightened				
Worried				
Nervous				
Terrified				

	Not at all	a little	somewhat	quite a lot
very much				
Guilty				
Regretful				
Remorseful				
Wicked				
Blameworthy				

very much Not at all a little somewhat quite a lot

Ashamed					
Ridiculed					
Humiliated					
Mocked					
Embarrassed					

Thank You For Your Co-operation

Appendix I: Consent form for Responsible Medical Officer

Dear.....

Re: Study investigating cognitive and emotional processes in persecutory delusions.

Researcher: Anneline Flood, Trainee Clinical Psychologist, University of East London.

Supervisors: Ken Gannon, Research Director, University of East London.

Dr Emmanuelle Peters, Institute of Psychiatry

Dr Daniel Freeman, Institute of Psychiatry

Persecutory delusions have been argued to be the most frequently occurring delusions (Cutting, 1997), most likely to be acted upon (Wessely et al, 1993) and are a predictor of admission to hospital (Castle et al, 1994). It has also been argued that associations between emotion and the content of delusional beliefs may contribute to the maintenance of delusions (Birchwood, 2003; Freeman and Garety, 2003).

I am conducting a study considering the possible direct associations between specific emotions and threat beliefs (in terms of content and further appraisals) in persecutory delusions.

The study takes the form of a clinical interview consisting of five questionnaires;

Details of Threat Questionnaire (Freeman et al, 2001)

Beck's Depression Inventor (BDI) (Beck et al. 1979)

Beck's Anxiety Inventory (BAI) (Beck et al. 1988)

Social Avoidance and Distress Scale (Watson and Friend, 1969)

The interview will take approximately one hour. It is voluntary participation and the patients can terminate the interview at any time once started.

Identifying specific relationships between types of threat beliefs, appraisals and emotional responses will lead to better formulations and guide interventions to be used by staff and specialists within the NHS. The study is particularly relevant to further refining treatments such as Cognitive Behaviour Therapy as recommended by the NICE guidelines as therapists

could focus on the possible links between the emotional state of the clients and the content of their beliefs in reducing distress.

I would very much like your permission to interview any suitable patients in your care. Please complete the consent form below and return the slip in the envelope provided.

I*give consent/do not give consent for patients in my care (please list names below) to participate in this study.

Names of patients to be approached for consideration of this study.

.....

.....

*please delete as appropriate.

Date:.....

Should you require any further information in regards to this project please do not hesitate to contact me 062245@UEL-Exchange.uel.ac.uk.

Thank you,

Yours sincerely,

Anneline Flood, Trainee Clinical Psychologist.

Appendix J: Information sheet for potential participants

PARTICIPANT INFORMATION SHEET

My name is Anneline and I would like to invite you to take part in my research study. Before you decide, I would like you to understand why the research is being done and what it would involve for you.

PART ONE

What is the purpose of the study?

I am carrying out a study looking at the different ways people feel they are in danger and how this makes them feel. People who feel they are in danger may feel anxious, depressed, angry, guilty or ashamed. This study may help to show some clear links between the danger and these feelings.

Why have I been invited?

Your care co-ordinator thought that you might be interested in taking part in this study as you may sometimes feel that you are in danger.

Do I have to take part?

It is up to you to decide to join the study. I will describe the study and go through this information sheet. If you agree to take part, I will then ask you to sign a consent form. You are within your rights to withdraw at any time without giving a reason. This will not affect the standard of care you receive.

What will happen to me if I take part?

Before the interview, I will speak with you about any concerns you may have about the study. You will be asked to complete seven short questionnaires I will be available if you need to ask any questions about the questionnaires. The questionnaires will ask you about the danger you experience and how this makes you feel.

The interview will not last longer than an hour. It will take place in a private area. After the interview is completed, I will speak with you again to discuss any concerns you have about the questions asked.

As a re-imbursement for your time, you will receive a £10.00 voucher.

If the information in Part 1 has interested you and you are considering participation, please read the additional information in Part 2 before making any decision.

PART TWO

What are the possible disadvantages of taking part in this study?

There is a very small possibility that speaking about feeling in danger may make you uncomfortable. Should this occur, the interview will be stopped immediately. You will have the opportunity to speak to myself or someone else if you prefer about your discomfort.

What are the possible benefits of taking part in this study?

I cannot promise the study will help you directly but the information I get from this study will help understand people who will feel the same when they feel they are in danger.

What will happen if I don't want to carry on with the interview?

You are within your rights to withdraw at any point during the interview without explanation. This will not affect your care.

What if there is a problem?

If you have a concern about any aspect of this study, you should ask to speak to the researcher who will do their best to answer your question. If you remain unhappy and wish to complain formally, you can do this by contacting

Will my taking part in this study be kept confidential?

All information which is collected about you during this study will be kept strictly confidential. Your name and personal details will be completely anonymous.

What will happen to my completed questionnaires?

Your completed questionnaires will be held with questionnaires completed by other participants secure in a locked cabinet within my university until we study the answers. My supervisors and I will have sole access to your completed questionnaires. Once I have studied the answers, the questionnaires will be shredded.

The results of the study will be published and you will access to this information. You will not be identified in any publications.

Who is organising and funding the research?

The University of East London is the sponsor of this study.

Who has reviewed the study?

All research in the NHS is looked at by an independent group of people called a Research Ethics Committee to protect your interests. This study has been reviewed and given a favourable opinion by the Great Ormond Street Hospital/Institute of Child Health Research Ethics Committee.

Further information and contact details

I will contact you within 48hrs once you have read this information to find out whether you are interested in participating in the study. Should you want to speak to me before then you can email me on

U0622453@UEL-Exchange.uel.ac.uk.

APPENDIX K: Consent form for participants

CONSENT FORM

Study Number

Client Identification Number

Title of Project

Name of Researcher

1. I confirm that I have read and understand the information sheet dated for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

☐

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

☐

3. I understand that relevant sections of the data collected during the study may be looked at by individuals from the NHS Trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.

☐

4. I agree to take part in the study.

☐

Name of patient

Date

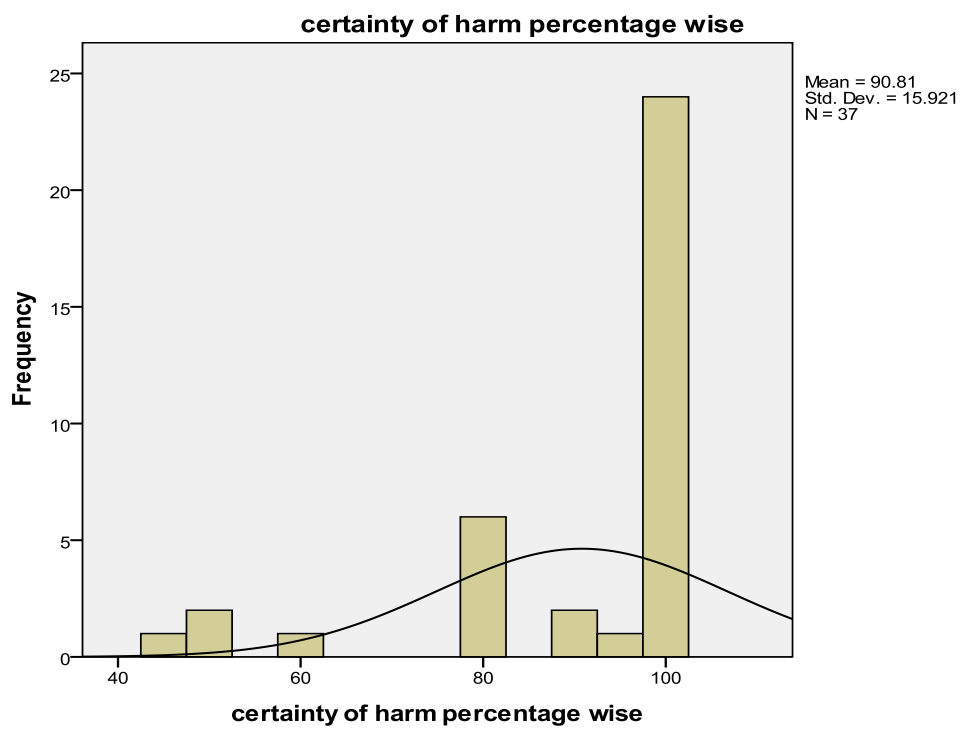
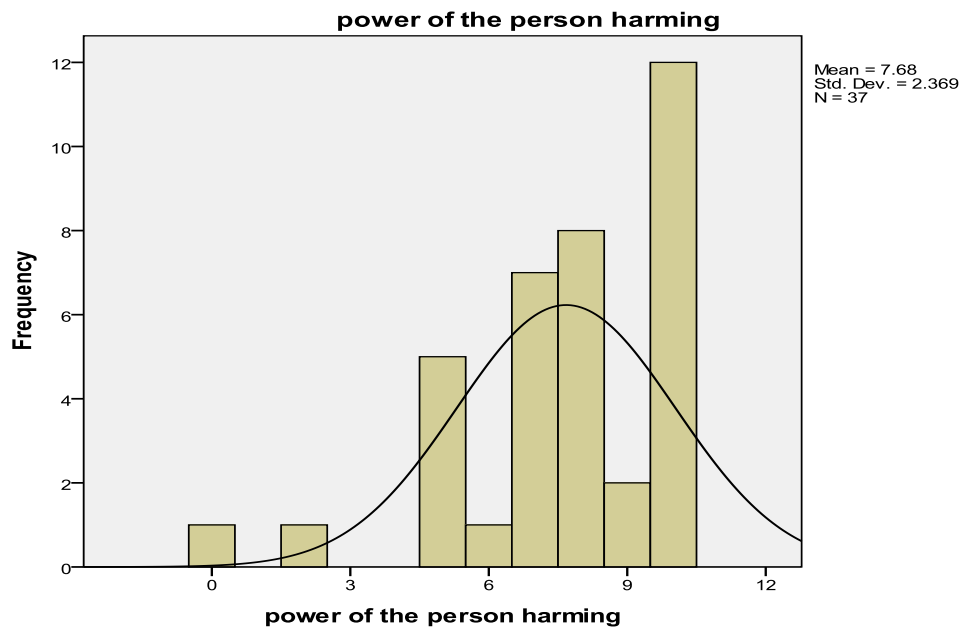
Signature

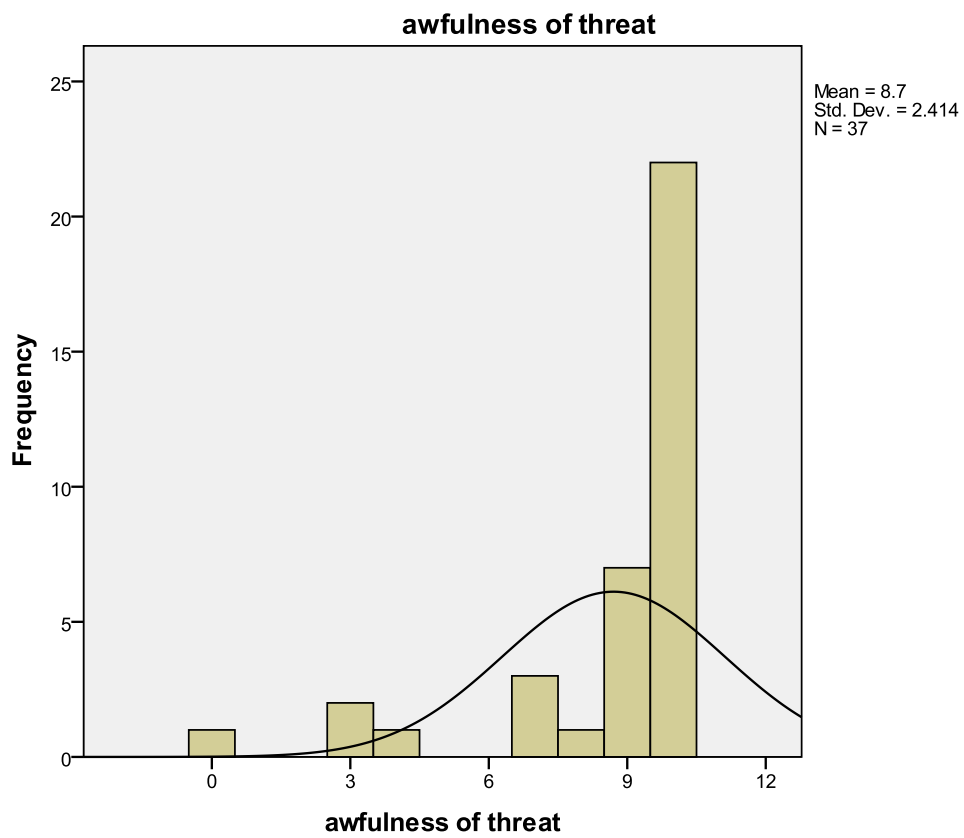
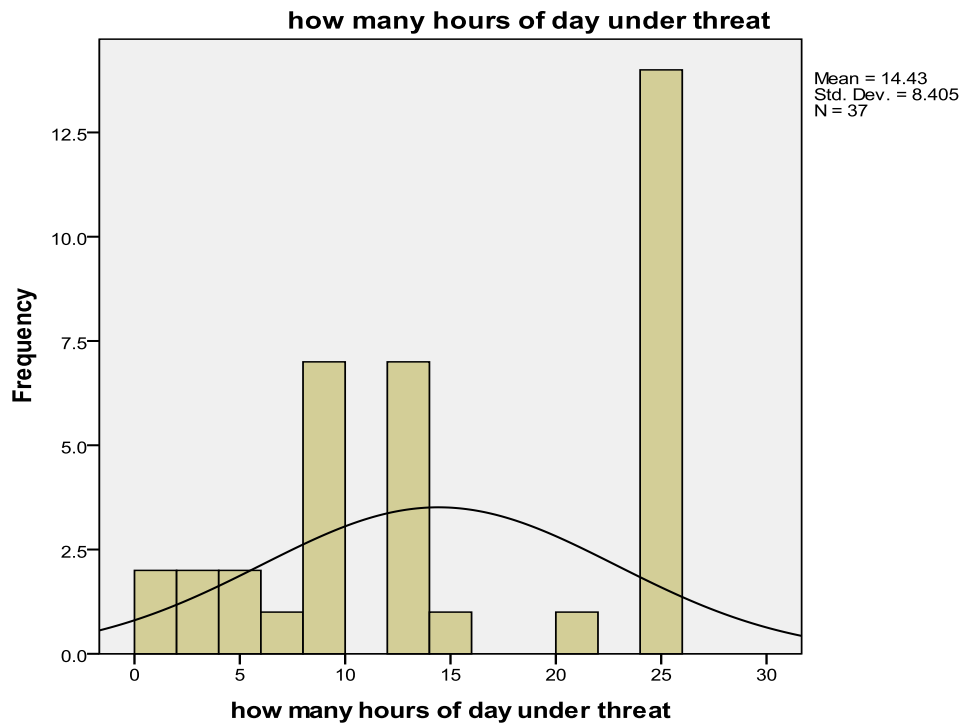
-
Name of person
taking consent

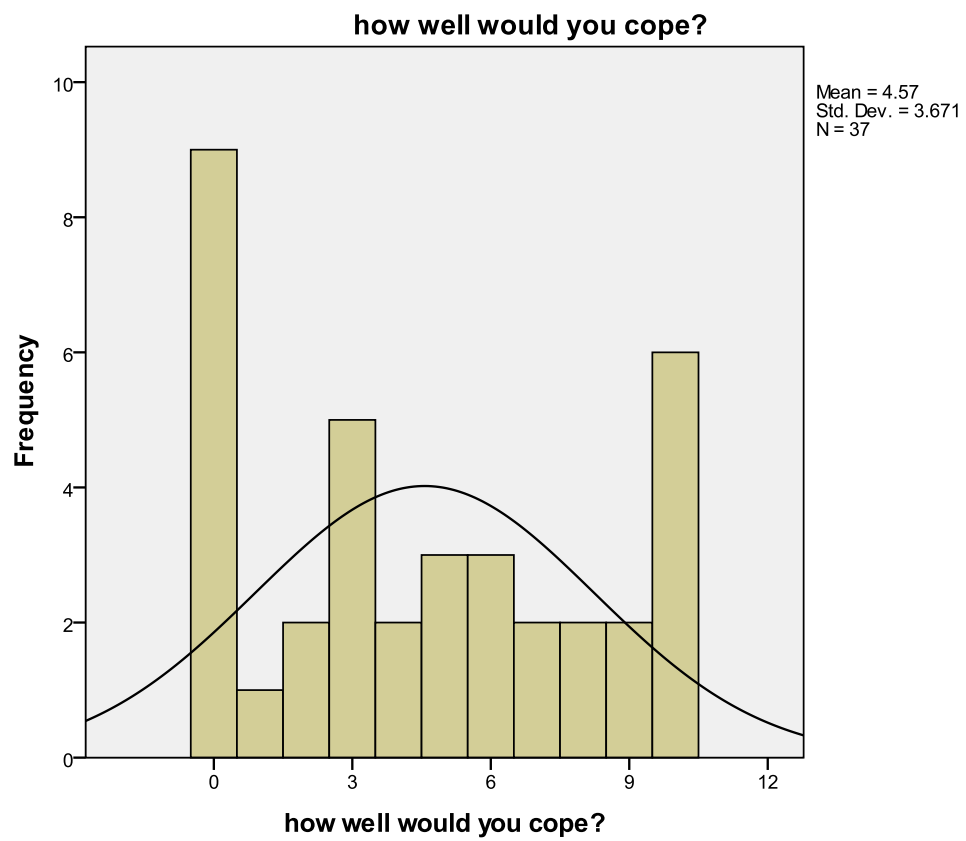
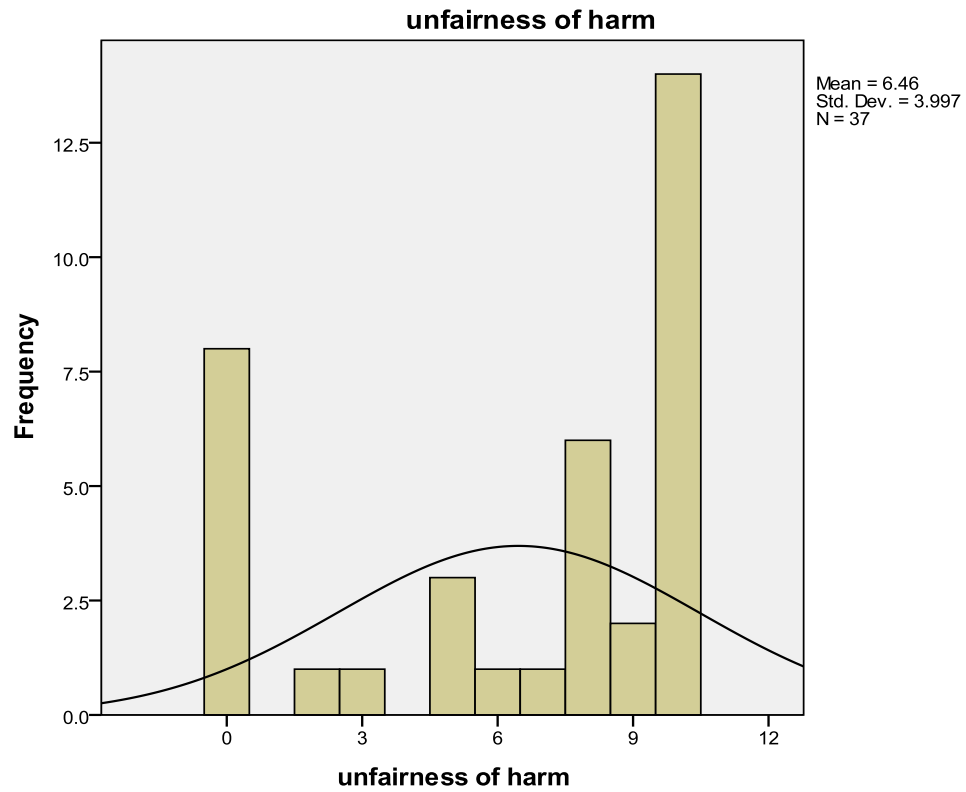
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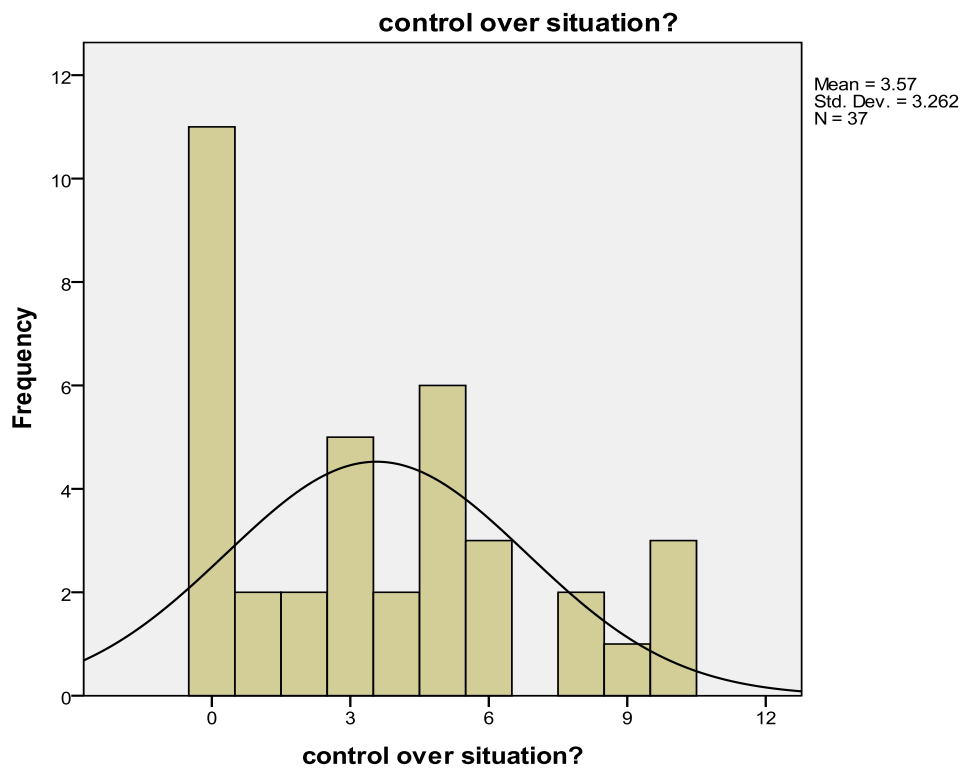
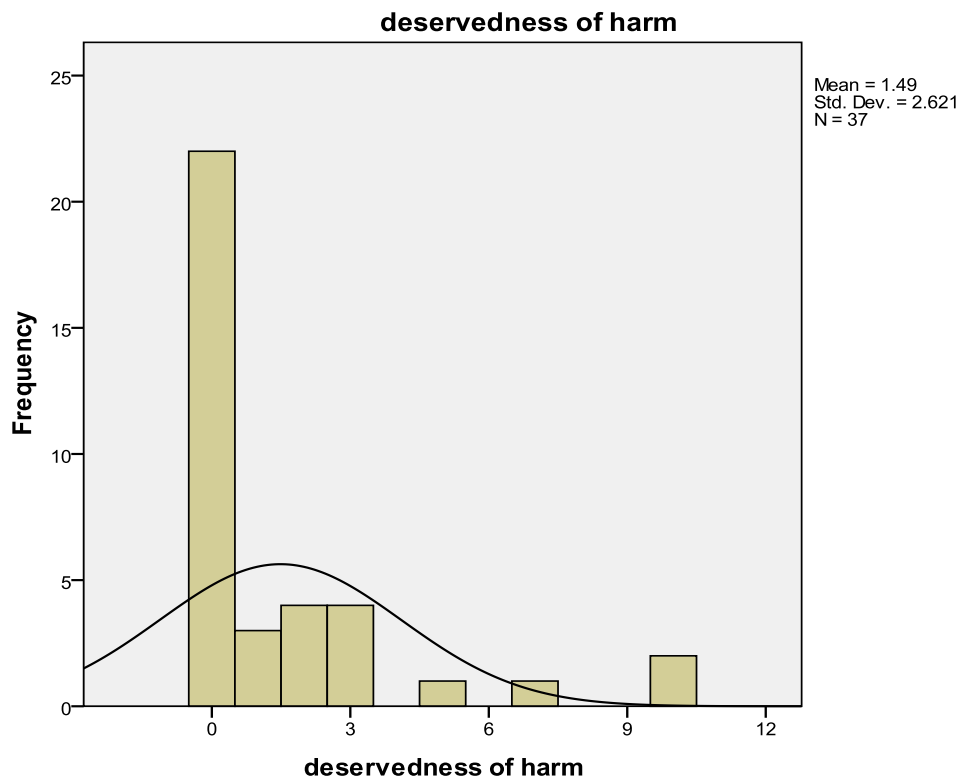
Signature

Appendix L: Bar charts of skewered data









Appendix M. *Summary of the participants' persecutory beliefs*

No.	Belief
1.	People are watching me, always saying things about me
2.	Under surveillance and interfering with family and social relationships
3.	Ward staff are trying to strangle me on ... ward ¹
4.	Sometimes I feel that I will be physically harmed
5.	My ex partner is following me. Walking down the road, people will harm me
6.	Voices are talking about me, cussing me constantly
7.	I feel threatened by people physically in general
8.	People have future technology that can read my mind.
9.	I am being constantly harassed verbally by the kids on the estate
10.	The mental health system and the OT is trying to get me
11.	I hear bird noises which puts pressure on my eyes; they are flying and torturing me.
12.	I will be killed and resurrected 1000 times for my crimes as a Nazi soldier, blow for blow, life for life
13.	Voices are telling me to commit suicide, trying to drive me to commit suicide. voices are messing with my mind.
14.	Germans, Ankas, Ugandans are taking over Europe. They will kill me off
15.	Belinda, Andrew, Okwai are raping me all the time. The heroin in my cigarettes are sending me mad
16.	Voices in my head are telling me to kill myself and my mother
17.	There's poison in the water, in the milk, they are trying to kill me
18.	Holly is threatening me, stalking me
19.	Voices keep coming up in my throat and are trying to choke me
20.	Voices are getting to me. They are very critical
21.	I'm haunted by people who have attacked me in the past
22.	Nine voices are bothering me when I watch TV or listen to the radio.
23.	One person wants to kill me to benefit another on this ward
24.	Voices are telling me that they will hurt people if I don't do what they want
25.	God is punishing me by trying to throw me into a well
26.	Millie is trying to get me to kill myself, trying to make me think ugly thoughts
27.	The voices say if I don't do things, I'll get shot. Something will happen to my kids if I don't do as they say
28.	ET keeps winding me up
29.	The voices tell me to do stuff, they take over my thoughts.
30.	I feel that everyone is raping me, the nurses; they are out to get me
31.	People are trying to kill me, to poison me, to take over my body
32.	They are taking my babies away, keeping me in hospital
33.	People are penetrating my mind, trying to harm me
34.	The Dolling brothers are harming my family, getting in at night and drugging them
35.	The system is trying to harm me, trying to control my mind so that I can become a father and abide by their rules
36.	People are using me as a donor, taking my organs without my permission
37.	Aliens at night come to my room to take me away to other planets.

¹ Specific name of ward identified by participant has been removed.

Appendix N *Details of Content for clinical sample*

Details of threat beliefs	Participants' responses (%) N=37
Harm Occurring	
Yes	100%
No	0%
Pervasiveness of threat	
On ward	62.1%
Outside of ward	13.5%
Inside of home	5.4%
Anywhere	18.9%
Time Scale	
Happening	40.5%
0-7days	35.1%
A week to six months	18.9%
Certainty of harm (100%)	69%
Identity of persecutor known?	
yes	81.0%
no	18.9%
High power of persecutor	62%
Do not deserve threat (rating zero)	67.6%
Deserve threat (rating zero)	5.4%
Awfulness of threat (maximum score)	54%
Unfairness of threat	
Extremely unfair	37.8%
Not at all unfair	21.6%
Coping with threat (rating three and below for not coping at all)	44.9%

Appendix O: Comparing details of studies directly relevant to study

	Current Study	Green et al. (2006)	Freeman et al. (2001)
N	37	70	25
Male	17	50	16
Female	20	20	9
In-patient	78.4%	64.3%	60%
Out-patient	21.6%	35.7%	40%
Details of Content %			
High power of the persecutor	62	68	58
Low deservedness of threat.	67	-	48
'Poor –me'	67.6	50	-
'Bad-me'	5.4	8.1	-
Inability to cope	45.9	-	-
Conspiracy	13.5	81.7	28
Emotion scores (mean)			
BDI	14.7 (S.D. =8.5)	25.0 (S.D.=13.5)	23.2 (S.D. 12.9)
BAI	16.0 (S.D. =10.5)	22.9 (S.D. 13.4)	23.5 (S.D.=13.8)
Other Delusions%			
Auditory	24	92.6	40
Grandiose	24	32.4	20

