Investigating Psychological Processes in Paranoia

Rosie Beck B.Sc.

Richard P. Bentall Ph.D., William Sellwood, Ph.D., James Kelly, Clin.Psy.D.

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Thesis Overview

This introductory section serves to establish the aims and format of the research and provide clarity in terms of its structure. This section is not intended for publication. A summary of the subject area is provided, followed by a breakdown of the thesis and summary of the component parts. This section, as with sections 3 and 5, is formatted in the style described by the Publication Manual of the American Psychological Association, 6th edition. (APA, 2010). The papers for submission are presented in the style accepted by their target journals.

1.1. Processes in Paranoia

Recent approaches in psychosis research focus on the continuous, dimensional expression of single 'symptoms' (e.g. Freeman, Garety, Kuipers, Fowler & Bebbington, 2002; Slade & Bentall, 1988), rather than the traditional biomedical classification of 'disorders'. This approach addresses the shortcomings of the diagnostic approach (Persons, 1986) through its ability to more adequately identify and describe mechanisms contributing to the development and maintenance of psychosis, characteristics which the diagnostic approach lacks (Bentall, 2004). Paranoia is one such symptom which has been investigated in both clinical and non-clinical (general population) samples. Paranoia, in essence, is a state of mind where one believes one is the target of harm or exploitation from malevolent others. Paranoia can be described as a self-focused style of thinking whereby ambiguous situations are interpreted with the suspicion that others have malevolent intentions which are directed towards oneself (Fenigstein, 1997). The meaning of the term might have become diluted and obfuscated due to its frequent use in daily life. Even among professionals its clinical meaning can be unclear. Freeman and Garety (2000) distinguish persecutory delusions from ideas of reference and provide a suitable definition for clarity.

Table 1

Criteria for a delusion to be classified as persecutory

Criteria A and B must be met:	
A.	The individual believes harm is occurring, or is going to occur, to him or her
B.	The individual believes that the persecutor has the intention to cause harm
There are a number of points for clarification:	
I.	Harm concerns any action that leads to the individual experiencing distress
II.	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
III.	The individual must believe that the persecutor at present or in the future will attempt to harm him or her
IV.	Delusions of reference do *not* count within the category of persecutory beliefs

Paranoid ideation has been argued to exist on a continuum in the general population, with persecutory delusions toward clinical 'caseness' (Fenigstein & Vanable 1992; Freeman et al., 2005; Rutten, van Os, Dominguez & Krabbendam, 2008).

Theories of paranoia have certain commonalities. Central to the theories are: the notion of the 'self', the idea that life experiences contribute to feelings of social threat, and that these are managed through (inherently social) cognitive, emotional and behavioural processes intended to protect the individual. The mechanisms operating in paranoia are well-researched and important cognitive and emotional facets (e.g. self-esteem, jumping to conclusions bias, theory of mind deficits) have been brought together with sophisticated analyses (e.g. Bentall et al., 2009). However, there remain a number of psychological processes which are believed to be important in paranoia, but the levels to which they may differ in clinical paranoia, non-clinical paranoia and individuals with no paranoia is unclear. One theory posits that beliefs about whether persecution is deserved can distinguish people

with paranoia into one of two types: 'poor me' (in which there is a sense of unfair victimization) and 'bad me' (in which persecution is believed to be a deserved punishment). There is some evidence for this distinction and it is possible that deservedness beliefs play a role in distinguishing clinical from non-clinical paranoia (Melo, Corcoran, Shryane & Bentall, 2009; Moutoussis, Williams, Dayan & Bentall, 2007). Furthermore, "third wave" approaches in cognitive-behaviour therapy, characterized by "…a focus on second order and contextual change, an emphasis of function over form, and the construction of flexible and effective repertoires" (Hayes, 2004, p.639), bring novel processes which have also been found to be implicated in paranoid beliefs (Mills, Gilbert, Bellew, McEwan & Gale, 2007; Udachina et al., 2009) or psychotic phenomena more generally (Eicher, Davis & Lysaker, 2013; Goldstone, Farhall & Ong, 2011).

1.2. "Poor Me" and "Bad Me" as Two Types of Paranoia: An Empirical Review of the Quantitative Literature

The first paper presented is a systematic review and narrative synthesis. The review addressed the question: "Do people who believe their perceived persecution is deserved consistently differ in psychological profile (as described by Trower and Chadwick, 1995) from those who do not?" The rationale for the review was to bring together the fragmented empirical support for a theory of two types of paranoia (Trower & Chadwick, 1995). The authors made a number of predictions of psychological processes differentially associated with poor me and bad me states. These have received partial support through numerous studies testing some of their hypotheses. Some findings are consistent across studies but others are more variable or unclear.

Findings of the review discuss the various outcomes, requirements for future research and clinical implications as well as considering the 'fit' of the results with various models of paranoia. Strengths and limitations of the review are also discussed.

Systematic methods were advantageous for reviewing the subject area as, 1) there were a fitting number of relevant empirical studies and 2) comparisons of their designs and methods illuminated methodological differences. This was of importance to answer the research question which pertained to variability in findings. The search strategy, means of quality assessment, extraction and synthesis were presented with transparency to provide unbiased conclusions and ensure accurate replication could be conducted.

1.3.Bridging Section

This section aims to set the context for the empirical paper and clarify its association with the literature review.

1.4. Empirical Study: Psychological Processes in Clinical and Non-Clinical Paranoia

Following the review paper is a cross-sectional empirical study. The study addressed the lack of research to examine the differences between clinical and non-clinical paranoia (mentioned in the review paper more specifically in relation to poor me and bad me paranoia). There are a number of psychological processes which are believed to be important in paranoia, but the degree to which these are present in clinical paranoia (defined as persecutory delusions experienced by currently paranoid users of mental health services) and non-clinical paranoia (defined as the level of paranoia experienced by the clinically paranoid group in the general population who have never accessed services). The processes of interest were deservedness, attachment anxiety/avoidance, anger, depression, anxiety, submissiveness, self-attacking (a hostile form of self-criticism), self-compassion and experiential avoidance (keyed in positively as ‘psychological flexibility’). It was predicted that there would be significant differences between the clinical and non-clinical groups for deservedness, attachment, depression and anxiety and experiential avoidance. It was also predicted that experiential avoidance would be the best predictor of persecution in a

regression model which controlled for depression. Results of the study are discussed with its limitations, strengths and clinical implications.

1.5. Concluding Section

The concluding section aims to review and expand upon the two papers, discussing their findings in relation to the wider area of research and disseminating findings. The discussion is comprised of the following sections:

1.5.1. Extended discussion. The extended discussion will provide a general overview of the review and empirical study, their methodological limitations and describe their links to the work of other researchers. The relevance and implications of the papers for clinical practice, theory and further research are discussed, as well as mention of the process of undertaking the research and related issues.

1.5.2. Participant feedback. It is considered good practice to provide feedback to participants of research. In order to provide feedback to the study participants a lay summary is provided. This is written in a style accessible to a lay audience, describing the rationale, findings and implications of the study. It is intended this feedback will be disseminated to the study participants via e-mail or post, depending on their preference as declared on intake to the study.

1.5.3. Research protocol. A protocol for a follow-on study addresses some of the limitations of the empirical study. The proposed study aims to develop the field further, through the assessment of the important variables from the empirical study, and the addition of theoretically and empirically-indicated measures. Where the empirical study investigated non-clinical and clinical paranoia, the future study will compare poor me and bad me clinically paranoid groups and non-paranoid controls on the processes of interest.

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Understanding paranoia in terms of the "poor me" and "bad me" typology: How relevant is deservedness to paranoia?

Rosie Beck BSc[1]

William Sellwood PhD[1]

James Kelly ClinPsyD[2]

Richard P. Bentall PhD[13]

[1]Department of Psychological Sciences, Whelan Building, University of Liverpool, Quadrangle, Brownlow Hill, Liverpool, L69 3GB

[2]Lancashire Care NHS Foundation Trust, Early Intervention Service, The Mount, Whalley Road, Accrington, BB5 5DE

[3]Institute of Psychology, Health and Society, University of Liverpool, Waterhouse Building, Block B, 2nd Floor, Brownlow Street, Liverpool, L69 3GL

Correspondence: Rosie Beck, rbeck@liv.ac.uk

Abstract

Background: It has been suggested that there exist two types of paranoia, “poor me” and “bad me”. The validity of this distinction has not been reviewed systematically.

Objective: Here we review the evidence for the two types theory of paranoia. Empirical data investigating the existence of both poor me and bad me types, as suggested by Trower and Chadwick (1995) was included.

Method: A keyword search was conducted on electronic databases and search engines. A manual search of the reference lists of retrieved papers supplemented this. We evaluated the eligibility of retrieved articles, abstracted data and evaluated methodological quality.

Findings: Fifteen empirical studies which measured clinically and non-clinically paranoid individuals’ beliefs about the deservedness of their persecution were reviewed and considered in the context of contemporary theories of paranoia. Few empirical studies investigated the two types theory as a primary aim; some were exploratory and involved few participants. Most were cross-sectional in design. Categorization of the two types and measurement of deservedness varied between studies.

Conclusion: Support was found for some predictions. However the two types, as measured by subjective deservedness judgements, are not static and are unlikely to represent distinct phenomena. Clinical implications are discussed.

Key words: paranoia, delusions, poor me, bad me

Introduction

Paranoia involves the distrust of others, the belief that others have the malicious intent to harm them in some way, high self-focussed attention and safety behaviours, including avoidance (Fenigstein, 1997; Freeman & Garety, 2000; Freeman, Garety & Kuipers, 2001). Paranoid thinking is found across diagnoses: in Schizophrenia spectrum disorders, Depressive disorders and Bipolar Affective disorders. Paranoid thinking has been closely linked to social anxiety (Freeman et al., 2008) and is fairly common in the non-clinical population (Bebbington et al., 2013; Freeman et al., 2005). Psychological processes, for example, the constructs of self, attributional style and self-esteem have been thought to be implicated in the genesis or maintenance of persecutory delusions. However, these processes have been inconsistently associated with paranoid beliefs. In identifying poor me and bad me subtypes, in which the bad me type believe they deserve persecution and the poor me type do not, Trower and Chadwick (1995) provide a potential framework for understanding variability in the relationship between these processes and paranoia. If the poor me and bad me distinction can be confirmed, it is pertinent to consider whether the subtypes can be explained in terms of these psychological processes. In this review we consider this typology and whether the distinction is supported by empirical evidence.

Contemporary Theories of Paranoia

The literature on paranoia has drawn on multiple theoretical influences, including the psychology of self-construction. Central to most theories of paranoia is the idea that it is a response to (real or perceived) threats to the self. For example, Zigler and Glick (1988) proposed that paranoia may be a type of ‘camouflaged’ depression, a mechanism which serves to protect the self from “a breakthrough into depressive thought” (Zigler & Glick, 1984, pp.57). This model assumes depression to be a state which might be defended against through psychological processes. In this account, paranoid individuals might be expected to

report no or low levels of depression. However, studies have reported that, when experiencing paranoia, people are often depressed (e.g. Fowler et al., 2012).

In a cognitive model of paranoia, Bentall, Kinderman and Kaney (1994) built on earlier, psychoanalytically-inspired accounts (e.g. Colby, Faught & Parkinson, 1979) and argued that excessively external attributions for negative events by paranoid service-users function to reduce self-blame and preserve self-esteem. They drew on self-discrepancy theory (see Higgins, 1987) and research on the self-serving bias (the near-ubiquitous tendency for people to make more internal attributions for positive than for negative events; Miller & Ross, 1975) to describe how paranoia is recruited for self-protection. An exaggerated form of the self-serving bias in people with paranoia is hypothesized in order to defend against negative self-esteem through reducing the perceived discrepancy between 'actual' and 'ideal' selves, keeping negative self-representations from conscious representation. This model was subsequently revised by Bentall, Corcoran, Howard, Blackwood and Kinderman (2001) in a dynamic account that emphasizes the two-way interaction between attributional processes and self-representations, as described below.

An alternative account suggests that negative emotional states engender paranoid thinking, because affected individuals believe others to share the negative assumptions that they hold about themselves, with the consequence that their low self-esteem is evident in the content of their paranoid beliefs (Freeman, Garety, Kuipers, Fowler & Bebbington, 2002). In contrast to Bentall et al.'s account, which hypothesizes that individuals recruit paranoia to *prevent* themselves feeling bad about themselves, defending against low self-esteem, Freeman et al., (2002) argue that paranoia arises *because* they feel bad about themselves, directly expressing their low self-esteem.

Trower and Chadwick (1995) suggest that not all people experiencing paranoia have healthy levels of self-esteem or blame others for their misfortunes, but that some have very

low self-esteem and blame themselves. In fact, inconsistencies in recordings of self-esteem in paranoid individuals across investigations are well documented, with some studies reporting high self-esteem (Lyon, Kaney, & Bentall, 1994) and others reporting low self-esteem and that paranoid service-users hold negative beliefs about themselves (Bentall et al., 2009; Freeman et al., 1998; Fowler et al., 2006). These inconsistencies might plausibly be due to the failure to distinguish between those who believe their persecution is deserved and those who do not; this is considered in the following delineation of the two types.

A Theory of Two Types

Drawing on their clinical experience and taking a developmental approach to understanding psychopathology, Trower and Chadwick (1995) argue for the distinction between two subtypes of paranoia, "poor me" (PM) and "bad me" (BM), both underpinned by anxiety and heightened concerns about evaluation by others. To an extent this account is consistent with the account of Freeman et al., (2002) who argue that anxiety is central to the formation of persecutory beliefs and is directly expressed in their content.

The PM type involves a negative view of others and the belief that persecution is unjust and underserved; others are wrong to persecute them. This picture seems to fit well with Bentall et al.'s (1994) attributional model; blaming others for persecution may preclude blaming oneself for one's own shortcomings, preventing these from reaching awareness and damaging self-esteem. Conversely, BM paranoia is characterised by the fear of negative evaluation by others and an elaborate and distorted sense of personal fault; these individuals regard themselves as powerless, deserving of persecution, and consequently demonstrate low levels of self-esteem and high levels of depression. They experience the on-going threat that their 'badness' will be discovered (or is recognized) by others and punishment forms an important part of the content of their delusional beliefs. Hence, deservedness judgements are the linchpin for distinguishing between PM and BM paranoia.

It may be possible that the PM/BM distinction (made through ascertaining whether or not persecution is believed to be deserved) could account for the inconsistency noted in levels of self-esteem in paranoid individuals between studies (e.g. Freeman et al., 1998; Lyon et al., 1994) and the complicated observed relationships between paranoia, self-esteem and depression (Candido & Romney, 1990). However the picture is also complicated by issues of measurement. Self-esteem has often been measured as a global construct (Humphreys & Barrowclough, 2006) but may be more accurately measured as two dimensions: positive and negative self-esteem (Barrowclough et al., 2003). The failure to make this distinction may also contribute to the inconsistent findings.

Distinct Aetiologies for Poor Me and Bad Me Paranoia

In Trower and Chadwick's theory, experiences of formative relationships are considered critical in laying the schematic foundations for paranoid processes. They assume that the two types have disparate aetiological origins with distinct causal pathways relating to breakdowns in the development of self-construction (Chadwick, Birchwood & Trower, 1996; Trower & Chadwick, 1995). The PM type is said to reflect an insecurely-constructed self with early experiences of being neglectfully or inconsistently cared for, whereas the BM type reflects an 'alien self', arising from intrusive, controlling care. People who experience PM paranoia are thought to have a poorly-developed sense of self. They might experience an exaggerated actual-self to ideal-self discrepancy and may employ an exaggerated self-serving bias in order to maintain their ideal image (as internalizing an objective view of themselves from the messages they receive from others is threatening). Others' indifference or rejection is proposed to be amplified and transformed into persecution so that the individual's self-esteem remains preserved. BM individuals experience themselves as bad or flawed and anxiously aim to conceal this from others. Others are perceived as powerful and threatening

and, on discovering their inherent badness, will punish them (as they deserve). They experience on-going low self-esteem and withdraw from others.

Conceptual Questions

Although distinct aetiologies are described, and although many commentators have read their account as implying two distinct types of paranoia, in one paper Chadwick, Trower, Juusti-Butler and Maguire (2005) make it clear that the they do not assume all people with paranoia are dichotomously and stably PM or BM. The authors stress that the two types refer to psychological processes, not people. Deservedness of persecution, the key feature of BM paranoia, might be conceptualised in dimensional terms, rather than PM/BM as dichotomous categories.

The debate about whether persecutory delusions defend against low self-esteem has been coloured by the apparently inconsistent fact that low self-esteem can be observed in paranoid service-users (Freeman et al., 1998). One approach to this conundrum might be the PM/BM distinction. Bentall et al.'s, (2001) model attempts to accommodate the inconsistent findings. Bentall et al., (2001) propose a dynamic model, whereby, because attributions and self-representations interact in a non-linear fashion (low self-esteem increasing the probability of internal attributions for negative events, whereas external attributions for negative events improve self-esteem) instability in self-esteem and attributional style are to be expected. This reformulated model proposes that paranoid people may not always show preserved self-esteem, as making externalizing attributions may not always be possible or sufficient to defend against low self-esteem. Within this account, BM paranoia might arise when the individual fails to defend against negative self-evaluations by inferring an external attribution for negative events. Consistent with this account, Thewissen, Bentall, Lecomte, van Os and Myin-Germeys (2008), using experience sampling methodology, subsequently showed that self-esteem is highly unstable in paranoid service-users.

Do people experiencing paranoia who believe they deserve their perceived persecution differ consistently in psychological profile (as delineated by Trower and Chadwick) from paranoid individuals who do not? This review sets out to use systematic methods to summarise the literature regarding the two types of paranoia and synthesise relevant findings in the domains of: attributions for positive and negative events, self-esteem, depression, delusional severity and distress, anger, negative self and other evaluations and relational developmental pathways. The review will also aim to outline empirical findings of the prevalence of the PM and BM types, the operationalization of deservedness judgments and their stability or fluctuation.

Method

Study Selection

Search strategy. PsycArticles, Scopus, and PsycInfo databases, the 'Discover' (EBSCO Inc.) search of the University of Liverpool Library collection and Google™ 'Scholar' were searched for empirical studies, written in English, from 1995 using the following keyword search: ("poor me" AND "bad me" AND "paranoi*"). From the returned pool of 277 articles, duplicates were screened out and abstracts were manually reviewed by the first author. The screened out manuscripts consisted of those which were written in non-English language, qualitative designs, case studies, reviews, had no focus on paranoia, books, and unpublished theses. The reference lists of the remaining 37 retrieved papers were hand-searched revealing no further results. The 37 manuscripts were read in full and the following criteria applied by the first author.

Inclusion criteria. Papers were included if they were: published in a peer-reviewed journal, involved an empirical study of PM and BM paranoia, in clinical or non-clinical samples, and used quantitative methods. Explorations of the two types embedded within

papers reporting larger studies of paranoia and associated processes were included, as were studies which only reported descriptive statistics (because of their small sample size).

Exclusion criteria. Studies were excluded if they were: case studies, reviews, theoretical or clinical descriptions, discussion articles, editorials, letters, conference proceedings, dissertations or book chapters, if they used qualitative methods, if there was no distinction between the two types of paranoia through a measure of deservedness, if they only investigated persecution (PM) paranoia, or if they were not published in English (Appendix A).

Data Extraction and Evaluation of Quality

Evaluation of quality: the STROBE statement. The remaining 16 papers were evaluated for their quality by the first author with reference to the applicable criteria provided by the STROBE combined checklist for observational studies (von Elm et al., 2008). In its original format the checklist was not suitable for the purposes of the current review due to its medical nature and the fact that early studies of the two types were exploratory, adjunctive to primary research questions and often did not state a priori hypotheses. The STROBE principles were referred to and, on the basis of their recommendations, the checklist was adapted for the literature to be reviewed. The revised checklist contained 21 criteria (Appendix A). Total scores were calculated by summing satisfied items. Relevant criteria were satisfied in relation to the two types only (rather than another study aim). Where a criterion was split into subsidiary parts, a), b), c) etc., the fulfilment of *one* of these items equalled the *whole criterion* being satisfied. On the basis of the total scores, each study was assigned a numerical rating indicating their quality. These were: 4 (‘good’, study meets 19-21 criteria); 3 (‘fair’, study meets 16-18 criteria); 2 (‘poor’, study meets 13-15 criteria); and 1 (‘very poor’, study does not meet more than 12 criteria’). Very poor studies were excluded. One study was rated ‘very poor’. This study measured deservedness of perceived persecution

but there was little focus on this throughout the paper and conclusions were not discussed. It was subsequently excluded. No other studies were excluded on quality evaluation. One study was rated 'poor' and involved the investigation of the two types within a broader investigation, so the report was limited. Nine studies were rated 'fair' and 5 were 'good' in quality.

In 9 of the 15 included studies, the two types were not the primary focus of the investigation. In 4 studies, specific a priori hypotheses about the two types or deservedness were not stated. In one study, with other primary aims, there was no background of the two types discussed and the distinction was not introduced until the analysis stage. Because of these characteristics, quality ratings on the 'objectives' component on the checklist produced fewer 'good' results overall, however this does not represent the more general quality of the studies, in terms of the way they addressed their primary questions.

A summary of the selection process is presented in Figure 1. All papers were published between 2001 and 2013. Data extraction was completed by the first author. Meta-analysis could not be undertaken due to the small number of studies, their small sample sizes, and inconsistency in the measurement of deservedness, variability of other investigated variables and variability in analysis.

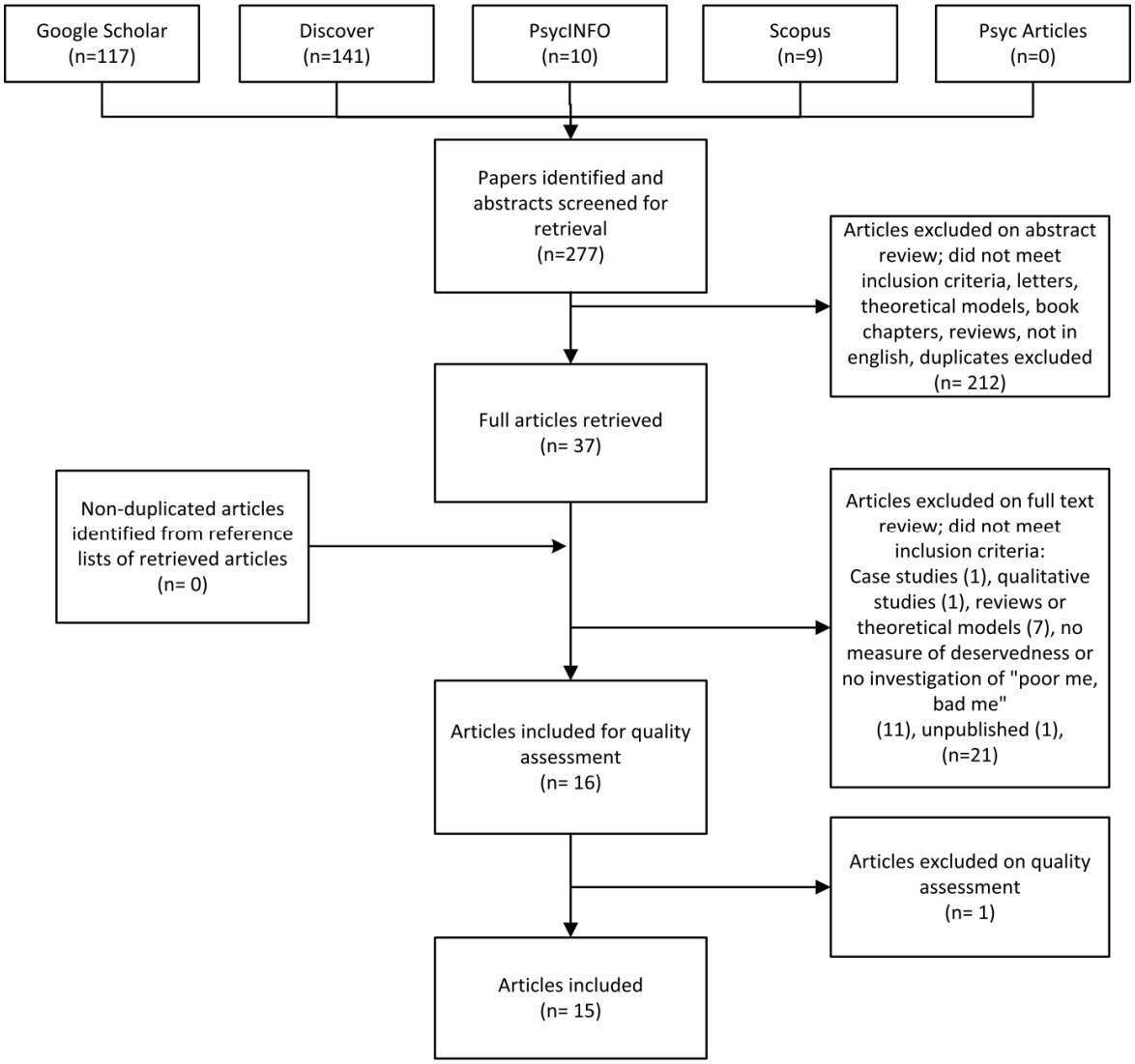

Figure 1 Flow diagram of review process

Results

Study Characteristics

The characteristics of the included studies of two types of paranoia are described in Table 2. Aims are in relation to the theoretical distinction, rather than any other aims or primary aims of the respective studies. Where studies compared other groups with PM and BM groups, these have been included in the table. However where studies reported investigations of other groups which did not directly relate to investigations of the two types, those participants have not been reported here (e.g. Merrin, Kinderman & Bentall, 2007).

Table 2

Study Characteristics

	Author	Date	Participants	Aim	Design	Measure of deservedness
1	Freeman, Garety & Kuipers	2001	UK Persecutory delusions (N=22) Diagnoses: 'Schizophrenia' (15), 'Schizoaffective' (5), 'Delusional Disorder' (2)	Investigate associations of depression; self-esteem; and anger with deservedness	Cross-sectional	Participants asked if they deserved harm (yes/no/maybe)
2	Startup, Owen, Parsonage & Jackson	2003	UK Persecutory delusions (N=22) Diagnoses: 'Schizophrenia' (18), 'Schizophreniform' (3), 'Schizoaffective' (1)	Assess if deservedness can be reliably identified by independent judges	Cross-sectional	Participants interviewed, medical notes reviewed and observer rated (deserved/not deserved/ insufficient information)
3	Chadwick et al.,	2005	UK Persecutory delusions (N=53) Diagnoses: 'Paranoid Schizophrenia', 'Psychotic Depression',	Investigate associations of depression; anger; self-esteem; negative self/other evaluations with deservedness	Cross-sectional	Retrospectively classified into PM and BM groups by psychiatrist

	Author	Date	Participants	Aim	Design	Measure of deservedness
			'Schizoaffective			
4	Fornells-Ambrojo & Garety	2005	UK Persecutory delusions (N=40) First (28) or second (12) episode, in services <5 years Diagnoses: 'Schizophrenia', 'Schizophreniform', 'Schizoaffective'	Investigate differences in self-esteem and depression in PM/BM	Cross-sectional	Participants asked if they believed persecution was deserved (yes/no)
5	Melo, Taylor & Bentall	2006	UK Persecutory delusions (N=44) Diagnoses: 'Schizophrenia', 'Schizoaffective', 'Delusional Disorder' Non-clinical controls (N=21)	Investigate PM/BM profiles and aetiologies	Cross-sectional, longitudinal	Self-rating on Perceived Deservedness of Persecution analogue scale (PDP) which has 2 anchors: 'I don't deserve to be persecuted' and 'I deserve to be persecuted'
6	Green et al.,	2006	UK Persecutory delusions (N=38) Diagnoses: 'Schizophrenia', 'Schizoaffective'	Investigate associations of depression and self-esteem with deservedness	Cross-sectional	Participant interview retrospectively coded (deserved/ undeserved)

	Author	Date	Participants	Aim	Design	Measure of deservedness
7	Peters & Garety	2006	UK Persecutory delusions (N=16) Diagnoses: 'Schizophrenia', 'Schizoaffective', 'Bipolar' Psychiatric controls (N=13) Diagnoses: 'Depression', 'Anxiety & Depression', 'Seasonal Affective Disorder' Non clinical controls (N=13)	Investigate attributions in PM/BM	Longitudinal	Participants endorsing item 8 on the Peters Delusional Inventory, 'I have sinned more than the average person' classed BM
8	Merrin, Kinderman & Bentall	2007	UK Persecutory delusions (N=24) Diagnoses: 'Schizophrenia' (17), 'Schizoaffective' (6), 'Bipolar' (1)	Explore associations of variables associated with paranoia and deservedness	Cross-sectional	Participants asked if persecution was deserved (y/n/unsure)

	Author	Date	Participants	Aim	Design	Measure of deservedness
9	Bentall et al.,	2008	UK Persecutory delusions (N=39) Diagnoses: 'Schizophrenia', 'Schizoaffective', 'Delusional Disorder' Persecutory delusions and depressed (N=20) Diagnosis: 'Major Depression' Remitted persecutory delusions (N=29) Diagnoses: 'Schizophrenia' spectrum disorders Controls (N=33)	Investigate prevalence of BM and associations with self-esteem; expectation of events	Cross-sectional	Self-rating on PDP
10	Pickering, Simpson & Bentall	2008	UK Non-clinical university students (N=503)	Investigate relationships between self-esteem and attachment with deservedness	Cross-sectional	Participants scoring over 90th percentile on Persecution and Deservedness Scale (PaDS) split into PM/BM

	Author	Date	Participants	Aim	Design	Measure of deservedness
11	Melo, Corcoran, Shryane & Bentall	2009	UK and Portugal Non-clinical, UK students (N=318) Portuguese students (N=290) Persecutory delusions (N=45) Diagnoses: 'Schizophrenia', 'Schizoaffective', 'Delusional Disorder'	Develop an adequate measure of persecution and deservedness for clinical and non-clinical populations	Cross-sectional	PaDS
12	Melo & Bentall	2010	UK and Portugal University students, UK (N=318) Portugal (N=290)	Examine association of coping strategies with persecution and deservedness	Cross-sectional	PaDS
13	Morris, Milner, Trower & Peters	2011	UK Persecutory delusions (N=36) Diagnoses: None, 'Schizophrenia', 'Paranoid Schizophrenia', 'Schizoaffective', 'Bipolar', 'Psychotic Illness', 'Psychotic Depression'	Investigate if separate cognitive-developmental profiles are associated with PM/BM	Cross-sectional	Participants asked if persecution was deserved

	Author	Date	Participants	Aim	Design	Measure of deservedness
14	Udachina, Varese, Oorschot, Myin-Germeys & Bentall	2012	UK Remitted (N=12) and Current persecutory delusions (N=29) Non-clinical controls (N=23)	Investigate the instability of deservedness and its association with self-esteem and depression over time	ESM	PaDS ESM paranoia and deservedness (3 items of P-scale and D-scale)
15	Melo & Bentall	2013	UK Persecutory delusions (N=45) Non-clinical controls (N=25) Diagnoses: 'Schizophrenia' spectrum disorders	Investigate associations of self-esteem and self-discrepancy with persecution and deservedness over time	Cross-sectional, longitudinal	PaDs and PDP baseline, PDP follow-up

Note. ESM, Experience Sampling Methodology (Csikszentmihalyi & Larson, 1987).

Study Aims

Ten studies provided specific hypothesis about the two types. Two studies reported general objectives: "to test the theory of Trower and Chadwick" (Melo et al., 2006) and to test if deservedness, along with other cognitive features of delusional beliefs, "could be reliably classified" (Startup et al., 2003) but did not make predictions. Two studies did not discuss any a priori predictions or broad aims associated with the two types (Merrin et al., 2007; Peters & Garety, 2006). These were exploratory investigations nested within broader studies. The remaining paper discussed no predictions and was concerned with the development of a scale measuring persecution and deservedness (Melo et al., 2009) in clinical and non-clinical samples. None of the studies reported power analyses.

Participants

The mean number of participants was 146.7 with a range of 16-606 in sample size. Of the 15 studies reviewed, 10 had a greater number of male participants than females. Two had more females than males. One study had an equal number of males and females. For 2 studies, the gender composition could not be ascertained due to non-report for the two types exploratory investigation (one study) and exclusion of a substantial number of participants after gender had been reported (one study). The 2 studies with more females were those using a non-clinical university sample. The clinical samples with paranoia all had a male majority. Only 6 studies reported the age range of participants and mean ages could not be ascertained for 2 studies. The mean of the reported mean ages for the samples of the remaining 13 studies was 35.2 years. Clinical participants were recruited from inpatient services (n = 5), or both inpatient and outpatient services (n = 8). Non-clinical participants were recruited from non-professional staff at a UK university (n = 2), students at a UK university (n = 1) and students at a UK and a Portuguese university (n = 2). One study did not report the setting for the control sample. Only four of the studies reported duration of psychosis; the means are not reported here.

Measures of Deservedness

There was substantial variability in the methods used to measure perceived deservedness (Table 2). The studies are distinguishable in terms of whether deservedness judgements were confirmed by participants or if deservedness was inferred by raters. In 3 studies, PM and BM groupings were made on observer ratings; participants were not asked directly if their persecution was deserved. This was done on the basis of clinical information and interview (Green et al., 2006; Startup et al., 2003) and familiarity with the patient's belief framework (Chadwick et al., 2005). Startup et al., (2003) were unable to classify 3 participants by these means on the grounds of insufficient information. The authors report inter-rater reliability in classifying reason for persecution was ($\kappa = .49$, $p < .01$), as deserved ($\kappa = .54$) and undeserved ($\kappa = .77$). Chadwick et al., (2005) report complete agreement between raters in a sample of 22 participants. Green et al., (2006) did not report reliability for coding deservedness, although the category, "is there a reason for harm?" yielded good agreement ($\kappa = .85$). Four studies asked participants directly within an interview if they thought they deserved their persecution (Fornells-Ambrojo & Garety, 2005; Freeman, et al., 2001; Merrin et al., 2007; Morris et al., 2011) thus participants self-categorized into PM and BM groups. Freeman et al., (2001) and Merrin et al., (2007) were unable to classify 8/25 and 4/24 participants respectively into PM and BM groups, due to participants being unsure if their persecution was deserved. Peters and Garety (2006) classified the groups by their responses to the item, "Do you feel that you have sinned more than the average person", i.e. the authors do not explicitly ask about perceived deservedness for current persecution. Endorsing this item is unlikely to adequately measure deservedness in relation to their belief framework (e.g. they may believe they have 'sinned' in the past but do not deserve persecution for this sin in particular, or they may not believe they have 'sinned' but something else about them warrants persecution). Thus false classifications could result.

The remaining 7 studies used more structured self-report measurements: an analogue scale, the PDP (Bentall et al., 2008; Melo et al., 2006; Melo & Bentall, 2013); and a self-report questionnaire, the PaDS (Pickering et al, 2008; Melo et al., 2009; Melo & Bentall, 2010; Melo & Bentall, 2013; Udachina et al., 2012). The PDP measures deservedness on a scale with two anchors: "I deserve to be persecuted" and "I don't deserve to be persecuted". The PaDS has two 10-item scales, one measuring beliefs about persecution and the deservedness of persecution on 5-point Likert scales. Scoring on the deservedness subscale requires that the participant first score on persecution (as it makes no sense to believe you deserve persecution if you do not believe you are being persecuted). These measures have the advantage of measuring deservedness as a dimension, although later categorization can be imposed from the scores to test the presence of group differences. Melo et al., (2009) report reliability for the persecution scale, $\alpha = 0.84$. Because all 10 deservedness items were not endorsed by the participants, Melo et al., (2009) report the intra-class correlation for deservedness, 0.32. The Keiser-Meyer-Olkin measure of sampling adequacy was 0.89 and 0.75 for the persecution and deservedness scales respectively, with all individual ratings below 0.5. In terms of validity, correlations between the Paranoia Scale (Fenigstein & Vanable, 1992) and persecution scale were strong ($r_s = .78$, $p < .001$), and moderate between the Paranoia Scale with the deservedness scale ($r_s = .28$, $p < .001$) demonstrating the discriminant validity of deservedness as an independent construct. The BDI correlated moderately with the deservedness scale ($r_s = .35$, $p < .001$). The only study attempting to examine associations between measures of deservedness was Melo and Bentall (2013), finding the PaDS deservedness scale and the PDP to be significantly correlated ($r = .541$, $p < 0.001$). To our knowledge, no study has attempted to correlate participant-rated and researcher-rated deservedness judgements. Doing so would clarify if the measures are measuring the same construct. Outcomes of the reviewed studies are synthesised in Table 3. Significant results are indicated.

Table 3

Study Outcomes

	Author	Sample	Measures	Analysis	Main results	Conclusions
1	Freeman et al, 2001	Clinical paranoia	BDI BAI STAXI – trait scale RSES DoT SBQ	ANOVA	Depression: BM > PM*, BM > unsure* Self-esteem: BM < PM**** , BM < unsure*** No group differences in anger, anxiety or delusional distress Compliance safety behaviours: BM > PM*, BM > unsure***	Excepting anger, profiles were consistent with Trower and Chadwick's account
2	Startup et al., 2003	Clinical paranoia	Persecutory Delusions Category Scale	Inter-rater reliability	Independent observer-raters categorized deservedness: κ = .49** 50% of deserving group reported passivity experiences were evidence for deservedness*	Raters reliably categorized judgements of patients' deservedness beliefs Deservedness may be related to certain psychotic experiences
3	Chadwick et al., 2005	Clinical paranoia	EBS RSES STAXI – trait scale HADS	Kruskal Wallis T-Test Pearson correlation	BM > PM for negative self-self evaluation **** ; anxiety **; depression ** BM < PM for evaluate others negatively **; and self-esteem **** PM/BM increased predictive power of regression: self-	Support found for paranoid subtypes excepting anger prediction PM may protect self-esteem Differences in self-esteem not solely due to depression

	Author	Sample	Measures	Analysis	Main results	Conclusions
				Multiple regression	esteem R^2 = .19****; self-self evaluation R^2 ch = .23**** after controlling for depression No significant differences in anger	
4	Fornells-Ambrojo & Garety, 2005	Clinical paranoia - early psychosis	BDI RSES	None - means reported	Depression: BM > PM Self-esteem: PM > BM	BM may be uncommon in early psychosis
5	Melo et al., 2006	Clinical paranoia and controls	BDI SOS PSI ASQ PBI DEI	Spearman correlation ANOVA	Deservedness judgements fluctuated, some (undeserving) maintained their position (20/38) Depression: BM > PM > C**** 'Insecure self': PM ≈ C, BM > C * Autonomy: BM ≈ C, PM > C* Sociotropy: BM > C**, PM > C* External attributions for negative events : PM > BM*** , PM > C** Mother care: PM < C*, PM< BM < C Failure experiences: BM > PM****, BM > C****	Differences observed between 'PM-always' and 'BM-ever' Intermediate ratings on deservedness analogue suggest complex picture PM and BM may be phases Predictions of early experiences were unsupported

	Author	Sample	Measures	Analysis	Main results	Conclusions
					Loss of control experiences: PM > C****	
6	Green et al., 2006	Clinical paranoia	BDI-II BAI RSES PSYRATS	None - means reported	Depression and delusional distress: BM > PM Self-esteem: PM > BM	Few participants were BM (7.9%) Support for the distinction
7	Peters & Garety, 2006	Clinical paranoia and controls	PIT	ANCOVA ANOVA	Internal attributions for negative events: BM > PM* Attributions for positive events PM ≈ BM At baseline, the PM group showed a self-serving bias whereas BM group showed a negative attributional style. At follow-up, (remission) BM self-serving increased Attribution differences from controls clearest for negative events	Deservedness was associated with depressive schemas when symptomatic; attributional style may explain maintenance not formation of beliefs
8	Merrin et al., 2007	Clinical paranoia	BDI RSES IPSAQ NFCS	None - means reported	Self-esteem: PM > BM Jumping to conclusions: PM ≈ BM Internalizing attributions: BM > PM	Personalising style may be true for PM PM and BM may be manifestations of the same process

	Author	Sample	Measures	Analysis	Main results	Conclusions
9	Bentall et al., 2008	Clinical paranoia Remitted paranoid Paranoid depressed Controls	PDI PS HADS SERS FJT	Wilcoxon Spearman correlation	Deservedness: Depressed paranoid > Paranoid*, however scores across the whole range were found in both Deservedness associated with negative self-esteem: rs = -.29* and depression: rs = .26* Positive self-esteem: Non-depressed paranoid ≈ C Deservedness unrelated to paranoia severity or frequency and likelihood of negative events	Deservedness scores being variable across groups does not support categorization Defence model of paranoia not supported by findings Deservedness ratings were consistent with deservedness as a dimension
10	Pickering et al., 2008	Non-clinical sample	BDI SERS RQ NES LCS	Chi-squared Regression	Commonest attachment: Fearful** Deservedness predictors: Self-esteem: β = .29****; persecution: β = -.26 ****	Paranoid students were mostly BM Paranoia may exist on a dimension
11	Melo et al., 2009	Clinical and non-clinical samples	-	MANCOVA Pillai's trace Mann-Whitney Spearman correlation	Persecution higher in clinical sample**** Deservedness higher in non-clinical sample****	BM may be more frequent in non-clinical paranoia and opposite true (PM) in clinical paranoia PaDS was reliable in clinical and non-clinical paranoia

	Author	Sample	Measures	Analysis	Main results	Conclusions
12	Melo & Bentall, 2010	Non-clinical sample	BDI RSQ COPE	Multiple regression	Deservedness predictors: Engaging in dangerous activities: β = .28****; Substance use: β = .25****; Adaptive coping: β = -.11*	Rumination was the preferred coping strategy for PM, but engaging in dangerous activities for BM
13	Morris et al., 2011	Clinical paranoia	BDI PBI SOS ESS SDS (EPQ)	T-Test	Overprotection: BM > PM* Shame: BM > PM ** Depression: BM > PM**** Grandiose beliefs: PM > BM* Alienation and insecure threats: PM ≈ BM	Predictions of Trower and Chadwick partially supported Early care experiences predictions were not fully borne out
14	Udachina et al., 2012	Clinical paranoia Remitted paranoid Controls	BDI-PC SERS-SF ESM measures	Spearman correlation ANOVA Multilevel linear regression	Negative self-esteem: BM > RP* Positive self-esteem: BM < RP* Depression: BM > RP* Deservedness instability: BM > all* Instability in self-esteem: Paranoid > RP or C****, PM ≈ BM ESM measures; Self-esteem: BM < all****, PM < C*; Depression: BM > all****, PM > C* Current paranoia predicted lower subsequent self-esteem in BM, but higher subsequent self-esteem in PM.	Highly unstable profile in paranoia BM was particularly associated with negative self-esteem and depression Paranoia may be protective in PM Greater fluctuations in deservedness in BM

	Author	Sample	Measures	Analysis	Main results	Conclusions
15	Melo & Bentall, 2013	Clinical paranoia Controls	SDQ RSES SDE RNE	ANOVA Logistic regression	PaDS and PDP: r = .541**** Self-esteem: C > BM ***, C > PM* Self-esteem and deservedness: r = - .39** for clinical sample Self-actual/self-ideal discrepancy: BM > C**, PM ≈ C Self-actual/other-actual discrepancy: BM > C* Internal attribution for negative events: BM > PM*, BM > C, PM ≈ C Internal attribution for positive events: BM > C* No self-serving bias observed PM/BM Changes in deservedness and self-esteem were not associated with severity of delusions Rumination: BM > C*, BM > PM > C When self-esteem was average at t and t-1, being BM at t was more likely for those who had been PM at t-1 than those who had been BM at t-1 Being PM with lower than average self-esteem at t-1, made it more likely to be BM at t than when self-esteem was above average at t-1	PM/BM as phases Other factors than severity of delusions were most important in explaining shifts Self-actual/self-ideal was greater in BM Inconsistency in relationships between deservedness and self-esteem could be accounted for by differences in affect

Author	Sample	Measures	Analysis	Main results	Conclusions
				Having poor self-esteem at t-1 made it more likely not to have poor self-esteem at t Being BM at t made it more likely to not have poor self-esteem at t Those using social support were more likely not to have poor self-esteem* whereas using distraction was more likely to incur poor self-esteem	

Note. *, p< .05; **, p< .01; ***, p< .005; ****, p< .001; BDI, Beck Depression Inventory; BAI, Beck Anxiety Inventory; STAXI, State-Trait Anger Expression Inventory; RSES, Rosenberg Self-Esteem Scale; DoT, Details of Threat Questionnaire; SBQ, Safety Behaviours Questionnaire; EBS, Evaluative Beliefs Scale; HADS, Hospital Anxiety and Depression Scale; SOS, Self-to-Other Scale; PSI, Personal Style Inventory; ASQ, Attributional Style Questionnaire; PBI, Parental Bonding Instrument; DEI, Daily Events Interview; BDI-II, Beck Depression Inventory II; PSYRATS, Psychotic Symptoms Rating Scales; PIT, Pragmatic Inference Task; IPSAQ, Internal, Personal and Situational Attributions Questionnaire; NFCS, Need for Closure Scale; PDI, Peters Delusional Inventory; PS, Paranoia Scale; SERS, Self-Esteem Rating Scale; FJT, Frequency Judgements Task; RQ, Relationship Questionnaire; NES, Negative Events Scale; LCS, Locus of Control Scale; RSQ, Response Styles Questionnaire; COPE, Cope Inventory (assessment of coping strategies); ESS, Experience of Shame Scale; SDS (EPQ), Social Desirability Scale of the Eysenck Personality Questionnaire; SDQ, Self-Discrepancies Questionnaire; SDEI, Significant Daily Events Interview; RNE, Response to Negative Events (items taken from RSQ and COPE); BDI-PC, BDI for Primary Care; SERS-SF, Self-Esteem Rating Scale – Short Form

Measures of Persecution

Clinical measures of paranoia are numerous and the measurement of persecution varied between studies (Table 4). Freeman and Garety (2000) offer a useful definition of a 'persecutory delusion'. Five of the 13 studies in clinical samples reported using the definition as an inclusion criterion (Fornells-Ambrojo & Garety, 2005; Freeman et al., 2001; Green et al., 2006; Merrin, et al., 2007; Morris et al., 2011). Using this definition would increase the specificity of the sample.

Freeman et al., (2001), Morris et al., (2011) and Melo and Bentall (2013) measured delusions other than persecutory beliefs. It is possible that additional processes unrelated to the persecutory delusion may confound or add to findings regarding the two types. Morris and colleagues (2011) found that grandiosity was significantly higher in the PM group, consistent with Trower and Chadwick's account. In the reviewed literature, grandiosity has not been systematically measured (as has self-esteem, for instance). In the psychosis literature, grandiose delusions have been found to be inversely associated with depression and low self-esteem and have a moderate inverse association with negative self-evaluative beliefs (Smith et al., 2006). Further investigation of this relationship is needed.

Table 4

Persecution Measures

Study	Persecution measure for inclusion of clinical participants	Persecution measure for investigation/severity
1	DSM-IV criteria, SCAN, Freeman & Garety's (2000) criteria	SCAN, DoT
2	DSM-IV, score of 3+ on SAPS	SAPS, BPRS
3	Delusional content	Delusional content
4	Case notes, score of 3+ on suspiciousness item of BPRS, Freeman & Garety's (2000) criteria	BPRS, clinical interview
5	DSM-IV criteria, case notes, SCAN	SCAN
6	ICD-10 criteria, Score of 4+ on P1 of PANSS, Score of 3+ on item 8 of SAPS, Freeman & Garety's (2000) criteria	SAPS, SCAN
7	Score of 2+ on MS	MS, PDI, DSSI
8	DSM-IV criteria, Freeman & Garety's (2000) criteria	KGV interview delusions scale
9	DSM-IV criteria, case notes, PDI item 'Do you ever feel as if you are being persecuted in some way?'	PS, PDI
10	Not described	Persecution subscale of PaDS
11	DSM-IV criteria, SCAN	Persecution subscale of PaDS
12	Not described	Persecution subscale of PaDS
13	Freeman & Garety's (2000) criteria, SAPS	SAPS
14	DSM-IV criteria, SCAN, case notes	SCAN, Persecution subscale of PaDS
15	DSM-IV criteria, Persecution subscale of PaDS	Persecution subscale of PaDS

Note: DSM IV, Diagnostic and Statistical Manual of Mental Disorder-IV; SCAN, Schedules for Clinical Assessment in Neuropsychiatry; DoT, Details of Threat Questionnaire; BPRS, Brief Psychiatric Rating Scale; ICD-10, International Classification of Diseases-10; PANSS, Positive and Negative Syndromes Scale; SAPS, Scale for the Assessment of Positive Symptoms; MS, Manchester Scale; PDI, Peters et al., (1999) Delusions Inventory; KGV, Krawiecka, Goldberg & Vaughn Interview; DSSI, Delusions Symptom-State Inventory; PS, Paranoia Scale; PaDS, Persecution and Deservedness Scale.

Measurement: Deservedness

In 2 studies (Freeman et al., 2001; Merrin et al., 2007) 8 and 4 participants respectively were unsure if they deserved persecution. In one observer-rated study (Startup et al., 2003) there was insufficient information to categorize 3 participants. The uncertainty of the participants in their judgements casts doubt on the notion of the two types as a simple taxonomy whereby individuals can be clearly distinguished into one subtype or another. However, it may be that the uncertain participants were in the process of forming their judgements concerning deservedness (should deservedness beliefs be more involved in maintenance than onset of paranoia) or were in the process of changing their beliefs about their deservedness (e.g. Melo et al., 2006).

Prevalence of Poor Me Versus Bad Me

Twelve studies grouped participants into PM and BM. Of these, the proportions of participants in PM and BM groups respectively were 67% and 33%. The group sizes ranged from 8-46 for PM and 3-27 for BM. The mean difference between PM and BM group sizes across the studies where PM were the majority was 16.22 (range 1-34); for the two studies where BM were the majority, the mean difference in group sizes was 2 (range 1-3).

Fornells-Ambrojo and Garety (2005) suggest that, with only 3 of their 40 participants from an early psychosis population believing persecution was deserved, BM deservedness judgements are rare in early psychosis and might appear later (with post-psychotic depression). However, less stark differences in the direction of more frequent PM judgements can be observed across the broader clinical samples in the other studies. As described above, in the reviewed studies which classified PM and BM groups, it was more common for clinical and non-clinical participants to believe perceived persecution was undeserved (Chadwick et al., 2005; Fornells-Ambrojo & Garety, 2005; Freeman et al., 2001; Green et al., 2006; Melo et al., 2006; Melo & Bentall, 2013; Merrin et al., 2007; Morris et al., 2011; Pickering et al.,

2008). However the PM group only outnumbered the BM group by only 1 (50.9% were PM) in the only non-clinical study which grouped the participants (Pickering et al., 2008). Similarly, Melo et al., (2009) found deservedness scores to be higher in a non-clinical sample, suggesting BM is common in non-clinical paranoia but the opposite may be true in clinical paranoia.

Fluctuation

In longitudinal designs with participants with persecutory delusions where deservedness has been assessed more than once, deservedness judgements were found to oscillate in some participants in association with affective state (Melo et al., 2006; Melo & Bentall, 2013; Udachina et al., 2012). Melo et al., (2006) concluded that a consistent BM account was rare, while Udachina et al, (2012) noted that BM as measured by the PaDS at baseline in their ESM study were associated with greater fluctuations between BM and PM beliefs over the follow-up period. These findings suggest that the BM state of negative affect and self-esteem is particularly unstable, and may fit with Bentall et al.'s, (2001) dynamic account, whereby PM and BM states are associated phases rather than separate phenomena.

The tendency to move away from BM states in self-regulation, may explain the general finding that BM is less common than PM in clinical paranoia. Although it is possible some may remain in a BM state. Fornells-Ambrojo and Garety's (2005) question of a higher prevalence of BM further on in the course of psychosis may still be a valid hypothesis. Only four studies reported the duration of psychosis. Future research may address this through investigating the frequency of deservedness judgements between age groups. Alternatively, intra-individual longitudinal research on a longer scale than studies reported here may reveal personal courses for perceived deservedness.

Self-Esteem

As expected, the studies support a clear association between deservedness and low self-esteem, with those classed as BM having lower self-esteem than those classed as PM (Chadwick et al., 2005; Fornells-Ambrojo & Garety, 2005; Freeman et al., 2001; Green et al., 2006; Merrin et al., 2007), although PM patients self-esteem is lower than controls (Chadwick et al., 2005). These cross-sectional studies all used the Rosenberg Self-Esteem Scale (RSES; 1965).

In considering the measures of self-esteem, the RSES, the Self-Esteem Rating Scale (SERS; Nugent & Thomas, 1993), and the SERS-Short Form (SERS-SF; Lecomte, Corbière & Laisné, 2006), it is important to note if they measure positive and negative self-esteem as two dimensions. Humphreys and Barrowclough, (2006) suggested that the variability in reports of self-esteem in paranoid patients might be due to the measurement of self-esteem as a global construct. Indeed, the validity of this has been questioned (Andrews & Brown, 1993; Barrowclough et al., 2003). The RSES can be considered a measure of global self-esteem. There is disagreement about its factor structure (Halama, 2008; Supple, Su, Plunkett, Peterson & Bush, 2013; Tomas & Oliver, 1999). A recent meta-analysis reported overlap of positive and negative items and concluded that a one-factor solution is preferable (Huang & Dong, 2012). The SERS-SF on the other hand, has 2 factors: positive and negative self-esteem (Lecomte et al., 2006). Despite this distinction, findings relating to self-esteem remain variable. Using the SERS, Bentall et al., (2008) found different effects for paranoid and depressed paranoid participants. Negative self-esteem was associated with deservedness, and non-depressed paranoid patients had similar levels of positive self-esteem to controls (Bentall et al., 2008), providing support for the view for preserved self-esteem in persecution (PM) paranoia. Similarly to the former studies, when a global score on the SERS subscales was entered into a regression model, Pickering et al., (2008) found the self-esteem composite to

be a highly significant predictor, along with persecution, of deservedness scores in a non-clinical sample. Contrary to earlier findings, at baseline, studies using the RSES (Melo & Bentall, 2013) and the SERS (Udachina et al., 2012) did not find PM and BM groups to differ significantly in self-esteem and negative self-esteem respectively. However, trends in the appropriate direction were observed and the former study was low in power.

Perhaps the most interesting and methodologically rigorous findings are those of the longitudinal studies revealing the dynamic relationships between deservedness and self-esteem. These studies find self-esteem to be highly unstable in paranoia (Melo & Bentall, 2013; Udachina et al., 2012). Their findings are interpreted as consistent with the account of Bentall et al., (2001) which predicts instability in paranoia and continuous self-regulation. However, the synthesis of these findings is complicated by the different methods by which relationships are investigated. In their ESM study, Udachina et al., (2012), used PM/BM group at initial assessment as the IV, predicting instability of 1) deservedness judgements and 2) self-esteem over 60 reports, analysing the difference in score between successive samples. Melo and Bentall (2013) used a time-series method, predicting both PM/BM status and self-esteem using lagged variables (self-esteem report and PM/BM grouping at the previous time-point). Udachina et al., (2012) found current paranoia differentially predicted subsequent low self-esteem in BM but subsequent higher self-esteem in PM (Udachina et al., 2012). These temporal findings confirmed BM to be particularly associated with negative self-esteem and depression, in contrast to the cross-sectional results of the same study. Melo and Bentall (2013) found that poor self-esteem, measured at the previous time point (t-1), precedes an absence of poor self-esteem, measured at the current time point (t), with participants shifting from BM to PM. They also found that being PM with lower than average self-esteem at t-1 made it more likely that the individual would move to BM at t than when self-esteem was above average at t-1. Depending on the direction, this might suggest that levels of self-esteem

create a 'tipping point' influencing deservedness judgements. Yet when self-esteem was average at t, and had been at t-1, current BM status was more likely for those who had been PM at t-1. The instabilities in self-esteem and deservedness may be related to daily events but it is likely that other processes are involved (for example, momentary self-esteem may reciprocally influence the way that events are interpreted). Hence, the instability in the processes revealed in these studies could indicate that they function as a non-linear, potentially chaotic system (Bentall, 2003, p.416). Computational modelling of these mechanisms, followed by comparisons to longitudinal data collected from patients, is one avenue that could be pursued to elucidate these processes (see van Geert, 1994).

The inconsistencies in findings regarding the relationships between deservedness and self-esteem might be impacted upon by levels of depression, which is associated with deservedness and negative self-esteem. These studies did not include depression in their temporal analyses; doing so may help to tease out a consistent picture. The findings could be interpreted as supporting both defense and attributional theories, as paranoia might protect self-esteem in PM, but the consistent observation of short-term fluctuations in deservedness judgements is most consistent with the idea of PM and BM as phases. Additional support for the attributional model comes from differences in self-actual and self-ideal discrepancies, those rating themselves undeserving did not differ from controls for self-actual/self-ideal discrepancies but those rating themselves deserving had significantly greater discrepancies (Melo & Bentall, 2013).

Depression

Depression appears to be consistently associated with deservedness judgements. Where participants were classified into PM/BM groups and depression was measured, BM were either significantly more depressed than PM (Chadwick et al., 2005; Freeman et al., 2001; Morris et al., 2011; Udachina et al., 2012) or there was a non-significant difference in

scores in that direction (Fornells-Ambrojo & Garety, 2005; Green et al., 2006; Merrin et al., 2007). However these studies did not use inferential analysis, due to the low numbers in both groups (Merrin et al., 2007) or the BM group (Fornells-Ambrojo & Garety, 2005; Green et al., 2006). Three studies examined the relationship between depression and deservedness and found that these variables were associated significantly (Bentall et al., 2008; Melo et al., 2006; Melo & Bentall, 2010). In another study, there was a trend only for deservedness to correlate with depression (Pickering et al., 2008). This may be due to the non-clinical sample, although Melo and Bentall (2010) also used a non-clinical sample and found depression to significantly predict deservedness.

Consistent with expectations, where persecutory delusions are noted in individuals diagnosed with 'psychotic depression' BM paranoia is predominant. Bentall et al., (2008) found higher mean deservedness in paranoid depressed patients than those who were paranoid and not depressed. It can be argued that the main feature of BM paranoia is depression, thus it may be that the poor representation of BM in clinical samples would disappear if, in line with the single symptom approach, individuals with a diagnosis of 'psychotic depression' with persecutory delusions were not systematically excluded. Ascribed differences between depression and schizophrenia spectrum disorders may be questioned (as persecutory beliefs occur in both). However, Chadwick et al., (2005) found the two types distinction improved a regression model at the final step, after controlling for depression, in predicting 1) self-esteem and 2) negative self-evaluative beliefs. PM/BM predicted these DVs over and above depression. The composition of the latter authors' BM group was 1/14 psychotic depression. In measuring persecution, neither Bentall et al., (2008) or Chadwick et al., (2005) reported using Freeman and Garety's (2000) definition of a 'persecutory delusion' to ascertain the individual believes that *others mean them harm* (rather than psychotic beliefs reflecting depressive concerns e.g. about responsibility in reference

experiences), however the former authors used the endorsement of the Peters Delusional Inventory (PDI; Peters, Joseph & Garety, 1999) persecution item to certify participants had persecutory beliefs. Cross-sectional investigations cannot describe temporal relationships. It can be reasonably speculated however that depression will fluctuate along with self-esteem in relation to deservedness (Melo et al., 2006; Udachina et al., 2012). Overall the findings are consistent with the accounts of Zigler and Glick (1988), Trower and Chadwick (1995) and Bentall et al., (2001). However future research might investigate the relative contributions of depression and self-esteem (along with other potential predictors) to BM paranoia in regression analysis and their temporal relationships using experience sampling methods.

Delusional Severity and Distress

Although deservedness is related to depression and associated feelings of powerlessness, on its own the literature suggests it to be unrelated to delusion severity (Bentall et al., 2008) and distress (Freeman et al., 2001). Furthermore, a longitudinal design found that changes in deservedness and self-esteem over time were not associated with severity of delusions (Melo & Bentall, 2013). Freeman et al., (2002) suggest that it is the *quality* of emotional distress which differentiates PM and BM (i.e. self-esteem and depression).

Anger

Contrary to the predictions of Trower and Chadwick, no differences between PM and BM have been found for levels anger (Chadwick et al., 2005; Freeman et al., 2001). Both used the STAXI – trait subscale, which has good reliability (α = .82 - .84) and is normed across students, adolescents and adults (Spielberger, 1988; 1991). The rationale for the use of the trait subscale is not given but likely reflects the supposition that those with PM paranoia will have trait-like characteristics for anger activation and expression related to perceived negative evaluation from others. No further studies investigated anger following these

findings; however given the subsequent discovery of fluctuations in deservedness judgements (Melo et al., 2006) the state subscale of the STAXI may be more fitting to measuring levels of anger at one time point, which may be related to current perceptions of deservedness.

Negative Self and Other Evaluative Beliefs

Trower and Chadwick predicted that BM individuals would evaluate themselves more negatively (e.g. "I am totally bad") and report fewer negative evaluations about others (e.g. "other people are totally bad") than their PM counterparts. These predictions were fully supported by Chadwick et al., (2005). Furthermore, the distinction significantly increased the predictive power of a regression equation after depression and self-evaluation were entered. This was sufficiently powered. Differences in self-evaluation and self-esteem between the groups were therefore not due to depression only, however other implicated variables (e.g. attributions) were not entered. Nonetheless, the findings highlight the potential contribution of experiences of formative relationships in shaping such beliefs. The cross-sectional data cannot confirm if these negative evaluative beliefs are specific to paranoid states, and if they remain when conviction in delusions reduces (e.g. improvements in self-esteem and depression were found to correlate with reduced symptom severity in one large study, Freeman et al., 1998). PM/BM group categorization was made by a psychiatrist familiar with the participants' delusions and Trower and Chadwick's descriptions. Although there was total inter-rater agreement, without asking the participants if they deserved persecution, group membership cannot be certain.

Relational Aetiology

Little support has been gathered for Trower and Chadwick's predicted disparate threats to self-construction, (whereby insecure threats, arising from neglectful care, lead to PM and alienation threats, arising from intrusively controlling care, to BM). Using the Self and Other Scale (Dagnan, Trower & Gilbert, 2002), which measures these perceived threats

on two subscales (alienation and insecurity), two studies found no significant differences between PM and BM (Melo et al., 2006; Morris et al., 2011). In one of these, compared to controls, BM reported significantly higher insecure threats, rather than alienation threats, to self-construction (Melo et al., 2006). Findings indicate that the self-construction threats do not superimpose onto the two types as described. Exploring neglecting and over-controlling parental care predictions, using a measure of early attachment experiences (Parental Bonding Instrument; Parker, Tupling & Brown, 1979), PM participants reported significantly less caring attitudes/behaviour from their mothers than controls, with BM falling between these groups (Melo et al., 2006). No differences were found between PM and BM for caring attitudes/behaviour they had experienced from their fathers, nor were there differences in the level of overprotective parenting they had experienced. However Morris et al., (2011) found that BM scored significantly higher than PM for the overprotection scale, consistent with predictions. Taken together, the findings suggest there may be differences in the hypothesised directions for parental care, but alienation versus insecure threats to self-construction do not map on to PM/BM in a discrete fashion. In a study of attachment in subclinical paranoia, Pickering et al., (2008) discovered that the majority of those scoring high for persecution reported an 'avoidant-fearful' attachment, but again there were no differences between PM and BM. Furthermore, attachment did not predict deservedness in this non-clinical sample. Although paranoia may exist on a dimension (Freeman et al., 2005) this study did not yield groups comparable to a clinical samples.

Attributions

There is partial support for the attributional model (Bentall et al., 2001) which argues that paranoia is associated with an exaggerated form of the self-serving bias i.e. attributing positive events to internal factors and negative events to external factors. Depressed individuals, and to a lesser extent, depressed-paranoid individuals have been found to make

more internal attributions for negative events than non-depressed paranoid people (Candido & Romney, 1990). Service-users with paranoia who were classed as BM, thus more depressed, consistently made more internal attributions for negative events than PM (Melo & Bentall, 2013; Merrin et al., 2007; Peters & Garety, 2006). Additionally, Melo et al., (2006) found PM patients to make more external attributions for these, demonstrating the abnormal attributional style described by Bentall et al., (2001) and consistent with findings of Janssen et al., (2006) that clinical and non-clinical paranoia is distinguished by the abnormal attributional style. Peters and Garety (2006) found the predicted differences, PM were self-serving but the BM group had an internalizing attributional style. Observations of follow-up data revealed that BM appeared to improve on the self-serving bias to a level comparable to the PM group when their beliefs remitted, however there was no statistically significant change over time, possibly due to the small sample size. Contrary to the attributional model, no self-serving bias was observed in Melo and Bentall's (2013) study, which had a larger sample of clinical patients in the groups. There appears to be few differences in the attributions made for positive events between PM/BM (Melo & Bentall, 2013; Peters & Garety, 2006). Curiously, BM patients even made more internal attributions for positive events than controls in the latter study. One explanation for the inconsistency in these results is that each study used a different measure for attributions (Table 2).

Discussion

The review aimed to draw out the findings from the studies which were identified through the search strategy as relevant and containing the data needed to address the review question. In doing so, we evaluate the support for the existence of two types of paranoia. Fifteen papers, with some methodological limitations, investigating the theoretical distinction of PM and BM paranoia were included. Studies were variable in their samples, sample sizes

and measurements of the two types (or deservedness). Overall, the studies could not provide clarity in some aspects of the PM/BM distinction. For instance, there is little support for distinct aetiological pathways in the differential formation of PM or BM (through measures of reported parental care and attachment style). Furthermore it is reasonable to assume some people experiencing persecutory delusions will have experience of both types of formative relationships in their early life. This assumption makes the hypothesis harder to test. In spite of this, there is firm evidence across methodologies and samples that some people do, and some people do not, believe they are deserving of perceived persecution and that each of these assumptions have moderate to good associations with particular psychological profiles (notably self-esteem, self-evaluations, attributions, depression). However, the illuminating discoveries of more recent research investigating temporal relationships (Melo et al., 2006; Udachina et al., 2012) refute the supposition that there exists a clear and stable dichotomy, highlighting the limitations of cross-sectional designs. The findings of these studies, which include a dimensional measure of deservedness, are more consistent with the idea that deservedness is not an indicator of discrete classifications (Freeman, 2007) and suggests that PM and BM may be separate *phases*. On the other hand, Melo et al., (2006) acknowledge that some participants did not oscillate between PM and BM. It is plausible that some people will and some people will not change their beliefs of deservedness, a hypothesis which is consistent with accounts of both Bentall et al., (1994; 2001) and Trower and Chadwick (1995; 1996). More longitudinal research, perhaps Experience Sampling Method (ESM) designs, are more adequate to tease out the more stable from more momentary experiences. ESM uses signal contingencies in the form of a number of daily random or pseudo-random pre-programmed alarms from a wrist watch or pager. The alarms alert the user to record the variables of interest, usually by completion of self-report questionnaires. The series of

momentary measurements are quantifiable and allow a dynamic representation of the phenomena.

In terms of the operationalization of deservedness, there were many means of measurement in the reviewed studies. Some reliable outcomes were observed in spite of this; however the psychometric properties of the PaDS make it the best measure. Deservedness beliefs may be less common than non-deservedness in clinical paranoia. A conceptual distinction may go some way to explaining the variability in studies of paranoia.

Future Research

Using rigorous time series methods such as ESM might elucidate some of the complicated relationships involved in PM and BM states. The problem may be suited to computational methods of modelling. Systematically measuring onset of psychotic episode, grandiosity and depression in future studies might also refine the understanding of these relationships. Longitudinal research over a longer time frame might address questions raised by Fornells-Ambrojo and Garety (2005) of deservedness over the course of psychosis. From observations, Moutoussis, Williams, Dayan and Bentall (2007) propose a developmental pathway whereby, at the prodromal stage, negative beliefs about the self and experiences of victimization contribute to the view that others share the individual's negative self-beliefs (BM). They argue these are transformed into defensive PM beliefs at the acute stage, with safety behaviours and experiential avoidance (see Boulanger, Hayes & Pistorello, 2010) being implicated in this shift. Collecting deservedness judgements along with levels of self-esteem, self-discrepancies, depression, beliefs of self and others and attributional style throughout the course of psychosis might support or contradict this account. Comparing non-clinical and clinical paranoia might test the observations of Pickering et al., (2008) and Melo et al., (2009) for relatively elevated levels of deservedness in non-clinical paranoia relative to clinical paranoia. As mentioned, PM paranoia may be a phenomenon more prevalent in acute,

clinical paranoia. A possibility is that the BM type may not be recognized due to their more subdued presentation and no felt sense of injustice prompting them to raise others' awareness to their plight. 'Psychotic depression' has been an excluding diagnosis for some studies, which may help to explain findings of low BM prevalence.

Self-esteem has been measured in positive and negative dimensions; however there is evidence that implicit and explicit self-esteem are distinct (Greenwald & Farnham, 2000) and explicit reports may be inaccurate measures of *actual* self-regard (Farnham, Greenwald & Banaji, 1999). To our knowledge no published research has investigated implicit and explicit self-esteem in poor me and bad me paranoia and this might be a direction for future research.

Limitations

The search terms did not include "OR deservedness" as an alternative to "poor me AND bad me". This has the potential to omit literature which did not discuss the typology by these labels, but did measure deservedness.

The review did not include 'grey literature' (work not published in academic journals) and is therefore subject to publication bias. The majority of the included studies used a cross-sectional design which cannot account for causal relationships and directions of effect. Furthermore, self-report measures are open to social desirability bias and rely on awareness of psychological processes. It is possible in non-clinical samples that some participants' self-reported persecution judgements may be realistic, which could explain the high prevalence of deservedness judgements in non-clinical participants; they may feel appropriate guilt for a real transgression. Most of the studies used small samples and particularly the earlier ones were exploratory due to the novelty of the hypothesis at that time and so may not be generalizable.

There is a wealth of studies examining variables of interest in the distinction (evaluative beliefs about self and other, externalising bias, personalising bias, depression,

self-esteem), but this review only focussed on those which explicitly measured deservedness and attempted to compare the two types on such variables. Of notable mention is the work of Combs and colleagues (2007) who took an approach to investigating paranoid subtypes which was outside of the parameters of this review, using cluster analysis to derive non-clinical paranoia profiles from data on self-esteem, depression and anxiety. Attributional data validated the subtypes. They found not two but three subtypes, two of which were consistent with PM and BM, but the third fell between the groups in measures of self-esteem, depression and negative evaluation.

Clinical Implications

The findings of this review suggest that perceived deservedness is complex, the BM state is highly unpleasant and connected to high levels of distress. Clinicians should routinely enquire as to deservedness when assessing persecutory delusions and include these themes when developing formulations. Specific intervention protocols for PM and BM presentations are provided (Chadwick et al., 1996). Although empirical support may be weak in certain domains (e.g. relational-developmental process) the PM/BM distinction makes conceptual sense and remains a useful "clinical heuristic" (Morris et al., 2011). Some cases may be less well-fitting to the profiles than others. Generally, clinicians should be alert to levels of depression and the instability and regulation of self-esteem in this group (Thewissen et al., 2008; Thewissen et al., 2011; Udachina et al., 2009). These processes may be an important focus for therapy.

Conclusions

The content of persecutory beliefs should be listened to, and in collaboration with the client, meaning can be made of them. Awareness of the suggested typology of PM/BM can be useful to gain a greater understanding of the likely experience of the client in a number of domains, however the limitations of the dichotomy suggested by Trower and Chadwick

(1995) should be acknowledged and a curious, not knowing, "mentalizing stance" (Allen, Fonagy & Bateman, 2008) should be taken in exploring the client's beliefs and difficulties over time, rather than inferring the presence of certain difficulties associated with deservedness judgments, or vice versa.

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Bridging Section

The review investigates the theory that there exist two subtypes of paranoia. The process involved the examination and synthesis of the quantitative empirical literature of the associated processes which characterise the hypothesised profiles of "poor me" and "bad me" paranoia (Trower & Chadwick, 1995). The research continues along these lines, investigating particular candidate processes which are implicated in paranoia. The empirical study investigates the phenomenological profile of paranoia in clinical and non-clinical populations (paranoia exists on a continuum and is found in the general population, see 3.1.). The study does aim to identify the association between deservedness and clinical and non-clinical paranoia, as suggested by Melo, Corcoran, Shryane and Bentall (2009). However, although the review indicates deservedness is important to measure, it is not the only construct of interest. In fact, the review indicated that deservedness did not appear to contribute to the level of paranoia (paranoia severity) in a consistent manner, thus other implicated processes should be included for investigation. Given these findings do not justify that the core putative variable for severity of paranoia is deservedness, the empirical paper investigates the extent to which other indicated psychological mechanisms contribute to paranoia. A transdiagnostic processes stance is taken (Harvey, Watkins, Mansell & Shafran, 2004), while still considering contemporary theories of paranoia within which the empirical findings might be placed. A transdiagnostic processes, rather than unitary model focus, is desirable as 1) paranoia research has yielded equivocal findings, 2) empirical research taking a unitary (one-model) focus often identifies implicated processes in paranoia. However it is reasonable to assume that persecutory ideation is a complex experience arising as a result of a number of different processes (e.g. Bentall et al., 2009). The processes identified as being involved in paranoia are derived from different models. The processes of interest in the following study could be described as transdiagnostic processes (i.e. they are relevant in other clinical presentations).

The transdiagnostic approach has good empirical foundations and considers the common processes across 'disorders' which contribute to and maintain difficulties (Mansell, Harvey, Watkins & Shafran, 2009). Mansell et al. (2009) argue that a transdiagnostic explanation for the cause and maintenance of psychological distress provides a more elegant and parsimonious account than "multiple, differing accounts offered for each disorder" (pp. 8). The following study aims to explore the relative value and contribution of these processes in predicting paranoia.

3.1. The Continuum of Paranoid Ideation

Paranoia is believed to be a continuous phenomenon because of its prevalence in the general population (Bebbington et al., 2013; Verdoux & van Os, 2002; Rutten, van Os, Dominguez & Krabbendam, 2008; Freeman et al., 2005). However, clinical paranoia (usually measured as the presence of persecutory delusions in participants from a psychiatric setting) may be distinguishable from non-clinical paranoia (Fornells-Ambrojo & Garety, 2009; Freeman et al., 2005), but it is not clear which factors may differentiate them (Bebbington et al., 2013). If there are certain psychological processes which are present to a higher or lower level in clinical, but not non-clinical paranoia, this may potentially account for some of the equivocal findings in paranoia research, which is often conducted in general population samples. One such factor may be perceived deservedness of perceived persecution, as discussed in the empirical review.

Support has been found for different models of paranoia (summarised below) but the research is piecemeal and often the processes emphasised within different models are not investigated together. Identifying the most significant predictive or distinguishing processes has implications for the appropriateness and focus of psychotherapies.

3.2. The Defense Model / Attributional Self-Representation Cycle

Bentall and colleagues (1994; 2001) proposed that paranoia might develop through a tendency to externalise responsibility for negative events, holding others accountable, while making internal attributions for positive events. This is understood as an exaggerated form of the self-serving bias which operates in 'psychologically healthy' people (Kaney & Bentall, 1992; Miller & Ross, 1975). Others have replicated the finding that those with persecutory beliefs make externalising attributions (Aakre, Seghers, St-Hilaire & Docherty, 2009; Martin & Penn, 2002). However, there has been less support for both elements of the self-serving bias (Garety & Freeman, 1999). Attributing the blame to others is posited to reduce ideal/actual self-discrepancies, maintaining consistency between beliefs about themselves and their ideals, keeping self-esteem intact (Kinderman & Bentall, 1996). However, equivocal findings regarding the level of self-esteem in paranoid individuals, with some studies finding low self-esteem (e.g. Freeman et al., 1998) and others finding high self-esteem (e.g. Lyon, Kaney & Bentall, 1994) may reflect the recent findings that self-esteem is unstable in paranoia (Thewissen, Bentall, Lecomte, van Os & Myin-Germeys, 2008; Thewissen et al., 2011; Udachina et al., 2009) but may also indicate that self-esteem might be more accurately understood in terms of implicit and explicit representations, i.e. what people *say* they feel about themselves versus what they *actually* feel about themselves (Bentall, Corcoran, Howard, Blackwood & Kinderman, 2001). Bentall et al., (2001) argue that having high explicit, but low implicit self-esteem suggests defensive processes are operating. Paranoia then, may be recruited in an attempt to defend the self, avoiding negative self-esteem. Findings relating to the implicit/explicit self-esteem hypothesis remain equivocal, with some supporting the defense model (Moritz, Werner & von Collani, 2006; McKay, Langdon & Coltheart 2007) and others not (Kesting, Mehl, Rief, Lindenmeyer & Lincoln, 2011; Mackinnon, Newman-Taylor & Stopa, 2011), the latter being more consistent with non-

defensive models, such as the expression / threat anticipation model, (3.3.) which posits paranoia to be an expression of low self-esteem.

Although the processes discussed here of self-esteem, actual-self and ideal-self perceptions and attributional style have not been investigated in the empirical study, they are briefly reviewed above for completeness; to give an overview of the empirical findings for a model within which the study findings might be understood.

3.3. The Expression / Threat Anticipation Model

Another account (Freeman, Garety, Kuipers, Fowler & Bebbington, 2002) argues that paranoia does not function to defend against experiencing low self-esteem, but is a *direct expression of* low self-esteem (the content of beliefs reveal this). 'Threat beliefs' based on interpersonal schema (e.g. "I am vulnerable") are activated when ambiguous situations are encountered. Anxiety is posited to be a key emotion for paranoia (Freeman & Garety, 2003) and it provides further 'evidence' for the persecutory belief. Non-clinical paranoia is argued to be a type of anxious fear (Freeman et al., 2008), similar to social anxiety (high self-consciousness in social situations with fear of evaluation and rejection). Safety behaviours, most commonly involving avoidance, serve to maintain paranoia (Freeman, Garety & Kuipers, 2001) along with cognitive biases. Like Bentall, the authors note the contribution of external-personal attribution biases, but the model does not posit a defensive function.

One process which may help to account for the difference in findings which support the above models respectively might be found in the content and appraisal of persecutory beliefs. If individuals believe they deserve their persecution, they are likely to have lower self-esteem (Freeman et al., 2001; Chadwick, Trower, Juusti-Butler & Maguire, 2005; Fornells-Ambrojo & Garety, 2005; Green et al., 2006; Merrin, Kinderman & Bentall, 2007) but judgements about deservedness are unstable (Melo & Bentall, 2013; Udachina, Varese, Oorschot, Myin-Germeys & Bentall, 2012), as is self-esteem (Thewissen et al., 2008; 2011;

Udachina et al., 2009). Thus cross-sectional accounts which do not account for deservedness judgements, self-esteem and depression might produce different results leading to equivocal findings between studies.

3.4. Social Mentality Theory (SMT; An Evolutionary Account)

SMT suggests different 'mentalities' emerged to allow individuals to live effectively in social hierarchies. Mentalities are sensitive to environments so that consistent exposure to hostile, dominant others who attack the self might lead to 'self-attacking', to maintain vigilance. Submissive behaviours may be employed as a safety strategy to avoid rejection from the group (Gilbert, 2005). Gilbert, Clarke, Hempel, Miles and Irons (2004) argue that the relationship one has with oneself reflects that of earlier relationships, with the treatment received from others (other – self) being mirrored in the treatment one gives oneself (self – self). Within this framework, the processes thought to be important in paranoia are submissiveness (learned from experiences of others as hostile and malevolent which produce high valence to shame; Matos, Pinto-Gouveia & Gilbert, 2012), self-attacking (high self-criticism and self-judgement; learned from experiencing others as critical and judgemental; Gilbert et al., 2004; Mills, Gilbert, Bellew, McEwan & Gale, 2007), and a difficulty in self-reassurance and self-compassion in response to difficult experiences (Gilbert, 2005; 2009; Gilbert et al., 2004). This predicted deficit in more positive ways of relating to the self may develop from a lack of more positive experiences in formative relationships. Individuals might make negative social comparisons to others, feeling inferior in social rank and vulnerable to rejection (Freeman et al., 2005). A 'threat focused mentality' ensues (Gumley & Schwannauer, 2006) and the individual is motivated to avoid others who are perceived as threatening. The account draws on concepts from attachment theory, such as the notion that present relational behaviours develop from the internalisation of former interpersonal experiences. Mills et al., (2007) suggest that self-attacking may engender feelings of threat,

leading to paranoia and the activation of a 'fearful' (attachment) style of relating to others (Pickering, Simpson & Bentall, 2008).

Some research supports the account, although this tends to be in a non-clinical population. Submission and shame have been found to be associated with paranoia in mixed clinical and general population samples (Gilbert, Boxall, Cheung & Irons, 2005; Matos, Pinto-Gouveia & Gilbert, 2012) and Mills et al., (2007) found the 'hated-self' form of self-attacking to be related to higher levels of paranoia in students. In a study of clinical paranoia and clinical depression, Hutton, Kelly, Lowens, Taylor and Tai (2013) found that paranoid participants reported a high level of hated-self self-attacking, but not as much as depressed participants. They were also less likely to reassure themselves in a compassionate way than controls. The authors found no differences in scores for forms of self-attacking between persecution and depressed groups, even after covarying for depression (suggesting that self-attacking is implicated in paranoia even when depression is taken into account). However, the authors note that the paranoid group may actually engage in lower self-attacking than depressed participants, but the study may not have been sufficiently powered to detect this. Hutton et al., (2013) also found, contrary to their predictions, that clinically paranoid participants did not criticise themselves with intention to 'correct' themselves any more than controls. This can be understood in terms of Bentall's (2001) account whereby negative events are attributed to others, relieving them of any perceived personal responsibility and associated need to criticise themselves for failings.

3.5. Experiential Avoidance: A Transdiagnostic Process

Experiential avoidance (EA), an example of 'psychological inflexibility' is the proposed unitary mechanism of action for psychopathology which is addressed in Acceptance and Commitment Therapy (ACT; Hayes, Strosahl & Wilson, 1999). EA is an emotional regulation function (Boulanger, Hayes & Pistorello, 2010, pp. 109) which is verbally-

mediated. It involves the tendency to avoid psychological experiences through altering them in some way, even when to do so would be unhelpful or would interfere with behaviours and activities which are valued (Hayes, Wilson, Gifford, Follette & Strosahl, 1996). Psychological flexibility has been defined as "the ability to fully contact the present moment and the thoughts and feelings it contains without needless defense and, depending on what the situation affords, persisting or changing in behaviour in the pursuit of goals and values" (Hayes, Luoma, Bond, Masuda & Lillis, 2006). Recently the term 'psychological inflexibility' has been used as a broader concept than EA as it clearly states neutral or positive experiences might also be avoided (e.g. prohibiting joyful feelings in oneself for fear of future disappointment). 'Psychological inflexibility' is argued to more concretely describe the rigid dominance of private psychological experiences over values in governing behaviour (Bond et al., 2011), yet within it is the construct of EA. The differences between the terms, 'psychological flexibility', 'psychological inflexibility' and 'EA' are "terminological, not substantive" (Boulanger et al., 2010, pp. 123) and all three terms have been used to describe features measured by the self-report scale, the Acceptance and Action Questionnaire-II (Bond et al., 2011; Hayes et al., 2006). ACT aims to nurture psychological flexibility and decrease psychological inflexibility or EA, the proposed mechanism through which distress occurs and is maintained.

ACT has its foundations in relational frame theory (RFT; Hayes, Strosahl & Wilson, 1999). A simplified account is that humans learn to infer relationships through their use of language. Many relationships might be inferred with minimal information. An example is being introduced to the brother of a friend. One might infer they have the same parents. Deriving these relationships means humans learn many frames, such as faster or slower, or more intelligent and less intelligent. Humans also learn to make symbolic comparisons, e.g. that the brown £10 note is worth more than the green £5 note, even though they are both

essentially pieces of paper. The human ability to make many inferences, twinned with use of symbolic language, means that distress can occur when simply being reminded of painful events. Because we are aware that it is painful to have an injection, we may experience anxiety or apprehension before the procedure, and even avoid it. The word, 'injection' alone may bring about unpleasant thoughts and emotions. More unpleasant human experiences might lead people to attempt to escape, avoid and alter the occurrence of similar events, memories, or sensations. EA is the proposed mechanism by which this takes place. The construct is broadly defined; EA can be understood to subsume such processes as rumination, cognitive suppression or dissociation (Chawla & Ostafin, 2007).

This account, although not specific to paranoid ideation, may still be a valid conceptual understanding of the onset and maintenance of paranoia. Indeed, this is theorised to be so for all forms of psychopathology (Chawla & Ostafin, 2007; Hayes et al., 1996). Goldstone, Farhall and Ong (2011) found EA to mediate life hassles and the onset and maintenance of delusions and delusional distress in both clinical and non-clinical paranoia. This suggests that individuals who employ strategies of avoiding or supressing unpleasant internal experiences are paradoxically more likely to experience greater persecutory ideation and associated distress. A similar picture emerged from the findings of another study (Udachina et al., 2009) where EA predicted paranoid ideation in students, and was particularly damaging when under high levels of stress.

3.6. Empirical Support in Clinical and Non-Clinical Paranoia

In clinical and non-clinical populations, there has been support for the defense model of paranoia (e.g. Fornells-Ambrojo & Garety, 2009; Udachina et al., 2009; 2012) as well as the expression model (e.g. Kuipers et al., 2006; Freeman et al., 1998; Thewissen et al., 2011). However studies of the social mentality (evolutionary) approach involve non-clinical participants (Matos et al., 2012; Mills et al., 2007) or clinical participants without persecutory

delusions (Gilbert et al., 2005), meaning their hypotheses are largely untested in clinical paranoia (excepting the work of Hutton et al., 2013). The empirical findings for the importance of the mechanism of EA in paranoia in clinical and non-clinical populations are promising, although there are limited studies which investigate this specifically (Goldstone et al., 2011; Udachina et al., 2009).

3.7. Rationale for the Empirical Study

Although researching paranoia in non-clinical populations is useful for understanding clinical paranoia (Freeman et al., 2005) there may be phenomenological differences between non-clinical and clinical paranoia making them distinct. Therefore we cannot always be sure we are measuring factors pertinent to clinical paranoia. Moreover, it is of interest then to identify any factors which do distinguish clinical from non-clinical paranoia (being present to a greater or lesser degree), so it is important to compare these groups in research of paranoid processes. For instance, in their study of the structure of paranoia in a non-clinical population, in addition to increased conviction and unusualness of beliefs, Freeman et al. (2005) found a higher level of paranoid ideation was associated with perceived lower social rank, submissive behaviour and emotional and avoidant coping, therefore we might expect the levels of these processes to increase along with level of paranoia, and be highest in clinical paranoia.

The transdiagnostic cognitive-emotional processes described here, which have their roots in the theoretical frameworks outlined above, are predicted to be implicated in paranoia. They were investigated across a two-part cross-sectional study with the aim of the first phase being to identify the differences in psychological factors between paranoid groups from psychiatric and general populations (clinical and non-clinical groups respectively). The aim of the second phase was to identify the psychological factors which best predict paranoia, irrespective of group status (in-line with the continuum approach). The processes of interest

are able to be directly targeted in psychological therapies through specific techniques or the treatment model adopted.

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Running head: *Processes in clinical and non-clinical paranoia*

Psychological processes involved in persecutory beliefs in clinical and non-clinical groups

Rosie Beck BSc[1], William Sellwood PhD[1], James Kelly ClinPsyD[2] and Richard P. Bentall PhD[1]

[1] The University of Liverpool, UK

[2] Lancashire Care NHS Foundation Trust, UK

*Requests for reprints should be addressed to Rosie Beck, Department of Clinical Psychology, Whelan Building, University of Liverpool, Liverpool, L69 3GB, UK (e-mail: rbeck@liv.ac.uk).

Objectives. To investigate the associations of candidate psychological variables with clinical and non-clinical paranoia, identify whether certain psychological variables: depression, anxiety, anger, deservedness, attachment anxiety and avoidance, self-compassion, self-attacking and experiential avoidance may distinguish between the two and identify the best predictors of paranoia.

Background. Paranoia can be conceptualised as a continuum (Bebbington et al., 2013; Freeman et al., 2005a; van Os & Verdoux, 2003). It is unclear to what extent certain associated psychological processes are present in, or distinguish clinical and non-clinical paranoia.

Method. 14 clinical participants with persecutory delusions and 129 participants in the general population took part in this cross-sectional study, the latter group being categorised into those with paranoia and those with no paranoia. Clinical participants were recruited from mental health services and assessed with the Positive and Negative Syndrome Scale (PANSS). General population participants were recruited through internet-based methods.

Results. The two paranoid groups differed significantly for levels of persecution, experiential avoidance, anxiety, depression, attachment anxiety and hated-self self-attacking. Experiential avoidance was the best predictor of persecution in a regression model where depression and anxiety were entered at the first step. No other candidate variables were significant predictors of persecution in the final model.

Conclusion: Clinical and non-clinical paranoia might be distinguished by a number of processes examined. Therapies which aim to enhance psychological flexibility and self-compassion may be beneficial for people experiencing persecutory beliefs.

Keywords: paranoia; persecutory delusions; experiential avoidance; continuum

Practitioner Points:

Positive implications:

- Some people have clinical levels of paranoia but remain out of services. Either: their experiences are not distressing, they have resilience and personal resources for adaptive-coping, or stigma or low 'insight' prevents them from help-seeking.
- Experiential avoidance appears to contribute to paranoid experiences above other candidate variables explored here.
- People experiencing paranoia may benefit from approaches which encourage mindfulness, acceptance of experience and self-reassurance and compassion.

Cautions or limitations:

- A well-matched and representative sample was not recruited.
- There was a female majority in the general population sample and male majority in the service-user sample.
- Only cross-sectional associations were investigated.

Paranoia has been found in clinical and non-clinical populations and lies on a continuum within the general population (Bebbington et al., 2013; Freeman et al., 2005a; Freeman, Pugh, Vorontsova, Antley & Slater, 2010; van Os & Verdoux, 2003). The single-symptom approach to psychopathology research which treats individual symptoms as continuous variables (e.g. Slade & Bentall, 1988), has facilitated the study of paranoia in both clinical and non-clinical populations. Studying non-clinical paranoia can inform the understanding of clinical paranoia (Freeman et al., 2005a) and it has been argued that non-clinical and clinical paranoia are distinct although not completely discontinuous (Freeman et al., 2008). But how similar are they? This is an important question as differences in psychological processes in

non-clinical and clinical paranoia may reveal which are particularly protective or damaging. Certain cognitive and emotional processes found to be associated with paranoia are well documented. For instance, paranoid individuals have been found to demonstrate a reasoning style involving jumping to conclusions (Freeman, Pugh & Garety, 2008; Garety & Freeman, 1999), show impaired theory of mind (Corcoran, Mercer & Frith, 1995) and have unstable self-esteem (Thewissen et al., 2007). The relationships between some of these mechanisms have been elucidated. For instance a combination of impaired cognition, such as jumping to conclusions and poor theory of mind, and a "pessimistic thinking style" i.e. low self-esteem, a negative explanatory style and negative emotion, are related to paranoia and perhaps, in combination, explain its occurrence (Bentall et al., 2009). Low self-esteem has been found to have a dynamic relationship with the tendency to avoid internal experiences, engendering paranoia (Udachina et al., 2009). However there remain further processes which may have a role in paranoia and which might also be directly targeted through therapeutic techniques or approach.

Anxiety is said to be a key affective process in paranoia, contributing to the development and maintenance of paranoid beliefs and might link psychosis (where persecutory delusions are present) and neurosis, e.g. social anxiety and suspiciousness without frank psychosis (Freeman & Garety, 2003). As with anxiety, depression is frequently noted to co-occur with paranoid ideation (Drake et al., 2004). Indeed, depression may be of chief importance in pathways to paranoia (Fowler et al., 2012; Krabbendam, Myin-Germeys, Bak & van Os, 2005). It should be noted that an important methodological issue arising in paranoia research is that, in some studies, associations with concurrent low mood have not been considered, making it difficult to make accurate interpretations of other important psychological processes (as depression may be impacting on these). Levels of anxiety,

depression and distress, associated with unusual persecutory beliefs, might reasonably be expected to differ in non-clinical and clinical groups (Freeman et al., 2005a).

Another complicating factor is the distinction of 'poor me' and 'bad me' paranoid subtypes (Trower & Chadwick, 1995), the distinction being that in the bad me type, perceived persecution is believed to be deserved whereas in poor me, the individual believes they are the undeserving victim of persecution. Bad me paranoia has consistently been found to be associated with higher levels of depression (Chadwick, Trower, Juusti-Butler & Maguire, 2005; Green et al., 2006; Udachina et al., 2012). Poor me has been observed to be most prevalent in clinical and non-clinical paranoia (Chadwick et al., 2005; Fornells-Ambrojo & Garety, 2005; Melo, Taylor & Bentall, 2006; Pickering, Simpson & Bentall, 2008). However, some studies have found a greater proportion of people believe they deserve persecution in non-clinical samples (Melo, Corcoran, Shryane & Bentall, 2009; Pickering et al., 2008), suggesting a higher proportion of the bad me type in non-clinical paranoia (Bentall, 2009).

Trower and Chadwick (1995) also predicted higher levels of anger in poor me paranoia, which has not been substantiated when compared to a bad me paranoid group (Chadwick et al., 2005). High levels of anger have, however, been noted in non-clinical paranoia (Campbell & Morrison, 2007; Lopes & Pinto-Gouveia, 2012) and clinical paranoia (Fornells-Ambrojo & Garety, 2009; Thewissen et al., 2011) consistent with the strong argument that paranoia is related to experiences of victimization (e.g. Bentall, Wickham, Shevlin & Varese, 2012; Janssen et al., 2004). Externally attributing negative events to the malicious intent of others may ensue, maintaining paranoia (Bentall, Kinderman & Kaney, 2004).

Paranoia involves the distrust of others; it therefore makes sense that an association has been found between paranoia and attachment anxiety and avoidance in students (Berry,

Wearden, Barrowclough & Liversidge, 2006; Pickering et al, 2008) and service-users (Berry, Barrowclough & Wearden, 2008) with a *"fearful"* attachment style, characterised by high anxiety and avoidance, being found to be most frequent for paranoid students (Pickering et al., 2008). Meins, Jones, Fernyhough, Hurndall and Koronis (2008) found non-clinical paranoia to be predicted by parental care and positively related to attachment anxiety, but found no association between paranoia and attachment avoidance; this is inconsistent with other findings (Berry et al., 2006; 2008; MacBeth, Schwannauer and Gumley, 2008). In a study of students, the latter authors found support for Ainsworth, Blehar, Waters and Wall's (1978) two factors of attachment anxiety and avoidance.

Recent 'third wave' cognitive-behavioural approaches characterized by "…an emphasis of function over form, and the construction of flexible and effective repertoires" (Hayes, 2004, p.639), bring further candidate psychological processes which are likely to be implicated in distinguishing clinical and non-clinical paranoia. Evolutionary accounts conceptualise paranoia as arising from perceived threat due to experiences of victimization and a difficulty with self-reassurance (Gilbert, Boxall, Cheung & Irons, 2005; Mills, Gilbert, Bellew, McEwan & Gale, 2007). Others are perceived as hostile and dominant in social rank. This state of mind, combined with activated shame memories, might lead to submissive behaviour functioning to maintain one's affiliation with the group (Matos, Pinto-Gouveia & Gilbert, 2012). Submissive behaviour is associated with paranoia in the general population (Bebbington et al., 2013; Freeman et al., 2005a; Pinto-Gouveia, Matos, Castilho & Xavier, 2012) and a non-psychotic clinical population (Gilbert et al., 2005), pointing to shame as an important emotional concomitant to paranoia. The tendency to self-attack (a hostile form of self-criticism) is another process within this framework posited to be high in paranoid populations. Gilbert, Clarke, Hempel, Miles and Irons (2004) distinguish between the forms of inadequate-self and hated-self self-attacking, with hated-self being related to non-clinical

paranoia, and associated with clinical paranoia, when controlling for depression (Hutton, Kelly, Lowens, Taylor & Tai, 2013; Mills et al., 2007). Hutton et al, (2013) found no differences between a depressed and clinically paranoid group for self-attacking when controlling for depression, suggesting that paranoid people experience the same level of self-attacking as depressed people. Within social mentality theory (Gilbert, 1989; 2001), shame-based self-attacking is thought to function as an evolved self-regulation strategy which may be recruited when a person has not developed the capacity to self-reassure and be compassionate to the self, or when in social environments where it is dangerous to do so (Braehler et al., 2013). Depue and Morrone-Strupinsky (2005) proposed a specialized affiliative affect regulation system linked to feelings of calmness, safeness and contentment. This system is argued to have evolved through attachment behaviour, with soothing and reassurance from parent to child calming the child when they experience distress (Cozolino, 2007; Gilbert, 2010). The experience of reassurance from others, through activation of this affect regulation system, may provide the neurophysiological and socio-behavioural foundations to self-reassure (Gilbert, 2010). Environments which foster the development of paranoia may lack this felt-experience of safeness, meaning this system may not have a chance to develop and be strengthened. Furthermore, it makes no evolutionary sense to activate this regulation system, when the social context requires one to be vigilant to threat.

Self-compassion has been defined as the ability to be kind to oneself in times of stress (Neff, 2003a). Self-compassion involves relating to oneself in a non-judgemental, kind manner. Low self-compassion has been linked to paranoid beliefs and low mood in students (Mills et al., 2007; Neff, 2003b). A reduced capacity for self-reassurance (one aspect of self-compassion) has also been found to be associated with a fearful attachment style (Irons, Gilbert, Baldwin, Baccus & Palmer, 2006).

A further process stemming from a third wave approach is experiential avoidance (EA). EA, a core process of "psychological inflexibility", is a proposed 'universal single mechanism' for psychopathology (Chawla & Ostafin, 2007; Mansell, Harvey, Watkins & Shafran, 2009). It has been defined as, "the phenomenon that occurs when a person is unwilling to remain in contact with particular private experiences (e.g., emotions, thoughts, memories) and takes steps to alter the form or frequency of these events and the contexts that occasion them" (Hayes, Wilson, Gifford, Follette & Strosahl, 1996, pp.1154). EA has been found to perpetuate paranoia and damage self-esteem, yet regulate self-esteem in the short-term (Udachina et al., 2009). It has also been found to mediate the relationship between life stressors and (non-paranoia specific) delusions and delusional distress (Goldstone, Farhall & Ong, 2011).

Identifying specific psychological processes that contribute to the development and maintenance of paranoia has implications for informing therapeutic interventions. Given the salience of EA and self-compassion, such interventions which aim to empower clients to discover and employ self-compassion and acceptance may be useful (Gilbert & Proctor, 2006; Hayes & Smith, 2005). Individually, theoretical accounts posit that the processes discussed are involved in non-clinical and clinical paranoia, but no study has assessed the levels of each of these in clinical and non-clinical paranoia together. Levels of certain processes might distinguish between paranoia in the general population and more distressing clinical paranoia, further along the continuum. This study investigated the contribution of the above processes to paranoia. The first phase investigates the levels of the cognitive and emotional processes which may be present in, and distinguish clinical and non-clinical paranoia. Specifically, we predicted that people with clinical paranoia would report higher levels of depression and anxiety, fewer beliefs of deservedness of perceived persecution, higher attachment anxiety/avoidance (characteristic of the fearful attachment style), and

greater EA. We also aimed to explore any potential differences between groups in the remaining processes. A second phase aimed to investigate which of these processes best predicted persecutory beliefs.

Method

Design

The study was a cross-sectional self-report questionnaire-based study, the first stage, a quasi-experimental design for non-random group comparisons used a well-defined categorization method and between group analysis. A second stage aimed to identify the best predictors of persecutory ideation in the full sample using hierarchical multiple regression.

Participants

The study was approved by a National Health Service Research Ethics Committee. All participants were required to be between 18-65 years old and read and write in English.

Clinical Participants

Fourteen clinical participants experiencing persecutory delusions (Freeman & Garety, 2000) were recruited from local adult mental health services. They either self-referred by poster advertisement or were referred by a clinician. Seven were currently using inpatient services, 5 were outpatient users of an Early Intervention in Psychosis Service and 2 were outpatient users of Community Mental Health Teams. Clinical participants had diagnoses of: Paranoid Schizophrenia (5); Unspecified Non-Organic Psychosis (7); Schizoaffective Disorder (1) and Persistent Delusional Disorder (1). Three further participants were referred but screening revealed they were not experiencing persecutory delusions. Clinical participants were required to score ≥4 for the delusions and suspiciousness sections of the Positive and

Negative Syndrome Scale (PANSS) for schizophrenia (Kay, Fiszbein & Opler, 1987). The first author, who was trained in the interview to standardized level of reliability, completed the assessments. Four individuals who were eligible did not want to take part due to the length of the questionnaire battery. Exclusion criteria were organic or substance-induced psychosis; not aged 18-65; and non-English speaking. Eleven males and 3 females were included (mean age 36.07 years and SD = 11.37). Ethnicities of the service-users were: White British (*n* = 11), other white background (*n* = 1), and Black Caribbean (*n* = 2). Time since first onset of psychosis ranged from 2 months to 20 years (mean = 7.71 years, SD = 7.44). Nine of the participants also heard voices.

Non-Clinical Participants

One hundred and twenty-nine participants from the general population completed the questionnaires via an online survey. Participants were recruited through University of Liverpool and NHS communications and a snowballing method on Facebook. They were asked if they had a psychiatric history. Participants were university clerical and academic staff (26), university students (6), NHS clerical and clinical staff (25) or users of Facebook (72). Participants were excluded if they were not aged 18-65 or if they failed to complete 3 or more questionnaires. There were 32 males and 92 females (mean age = 36.92, SD = 11). Ethnicities of the non-clinical sample were: White British (*n* = 119), White Irish (*n* = 5), other white background (*n* = 1), Asian (*n* = 1), White and Asian (*n* = 1), White and Black Caribbean (*n* = 1), White and Black African (*n* = 1). Eighty participants reported no psychiatric history, 46 reported psychiatric history and 3 preferred not to say.

For the purpose of the between group analyses, the 46 participants from the general population who declared psychiatric history and 3 who preferred not to say were excluded. The mean age for this group was 34.90 (SD = 8.62). There were 15 males and 34 females. The mean number of years of education was 16 (SD = 2.51). Twenty-two were single, 25

were married or cohabiting, 1 was divorced and 1 was widowed. Table 5 describes the socio-demographic characteristics of the rest of the sample. The groups were comparable in age but there was a significant group effect for gender and years of education; the clinically paranoid group completed fewer years of education than the non-clinical groups.

In order to compare groups on the candidate processes, paranoia groups were defined as follows: Those who were recruited from mental health services experiencing persecutory delusions comprised the clinically paranoid group. The lowest score for this group on the PaDS-Persecution scale was 16, which became the cut-off for 'paranoia' due to the combination of i) their meeting the criteria for persecutory delusion (Freeman & Garety, 2000) ii) using services in relation to their paranoia, meaning that by definition, 16 was a meaningful score for paranoia. It is also a more stringent cut-off than that of 15, used in another study (Udachina et al., 2009). Participants recruited from the general population scoring at least 16 on the PaDS-Persecution scale comprised the non-clinically paranoid group. The remainder of the general population comprised the not paranoid group.

Measures

Persecution and Deservedness Scale (PaDS; Melo et al., 2009)

The PaDS measures persecutory ideation and perceived deservedness of persecution. Each of the 2 10-item subscales is rated on a 5-point Likert scale (0-4). The persecution scale measures the degree to which the individual believes they are being persecuted by others (e.g. "You should only trust yourself"). Persecution items are followed by deservedness items (e.g. "Do you feel like you deserve to have no one you can trust?") which are only to be answered if the corresponding persecution item was scored 2 or above. A total score is calculated for the persecution scale and a mean of the endorsed items is calculated for the deservedness scale. The persecution scale has good reliability in clinical and non-clinical

samples and good validity in terms of a strong correlation with the Fenigstein Paranoia Scale (Melo et al., 2009). Cronbach's α cannot be obtained for the deservedness scale (as endorsing items on this scale is reliant on reports on the persecution scale). The intra-class correlation for the deservedness scale has been reported as .32 (Melo et al., 2009).

Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983)

The HADS is a 14-item scale measuring anxiety and depression. Ratings per item are scored 0-3 and summed to give a total score for each scale. It has been used widely in out-patient research with satisfactory to good within-scale item-total correlations and good re-test reliability at $r > .80$, (Herrmann, 1997). In terms of discriminant validity, the mean correlation across 18 studies was $r = .63$ (Herrmann, 1997). Confirmatory data have been provided in its use in a non-clinical population, finding acceptable validity and a moderate correlation (.53) between the subscales (Crawford, Henry, Crombie & Taylor, 2001).

Novaco Anger Inventory- Short Form (NAI-SF; Novaco, 1975)

The NAI-SF is a 25-item adapted version of the Novaco Anger Inventory. The NAI-SF reliably measures anger in one dimension on a 5-point Likert scale (0-4), with a Cronbach's alpha of .96, an average inter-item correlation of .49, an item total correlation of between .50 and .77, and a split-half reliability of .93 (DeVilly, 2002).

Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991)

The RQ is a self-report measure based on the four factor model of attachment (Bartholomew & Horowitz, 1991). The individual is asked to choose the best-fitting summary from the list of four (e.g. "I am comfortable depending on others and having them depend on me") and rate their degree of agreement with each summary on four 4-point Likert scales (1-4). Ratings can be transposed to self and other models (Griffin & Bartholomew, 1994) which are

respectively significantly correlated with attachment anxiety and avoidance (Berry et al., 2006). The measure has reasonable reliability and validity (Griffin & Bartholomew, 1994).

Acceptance and Action Questionnaire –II (AAQ-II; Bond et al., 2011)

The version of the AAQ-II used is a 10-item measure of EA or psychological flexibility, depending on the direction interpreted. See Bond et al., (2011). Items (e.g. "I am afraid of my feelings") are rated on a Likert scale (1-7). The scale has good reliability and validity (Bond et al., 2011). The measure is keyed in so that high scores reflect higher acceptance, or 'psychological flexibility' and low scores, higher EA. EA can be understood as attempts to "alter the form, frequency or sensitivity of unwanted events" (Bond et al., 2011 pp. 678) even to the exclusion of pursuing a personal value, whereas acceptance involves being willing and flexible to experience such events in order to pursue cherished values.

Submissive Behaviour Scale (SBS; Allan & Gilbert, 1997)

The SBS is a 16-item scale which asks the individual to rate the frequency of submissive behaviour in social interactions (e.g. "I agree that I am wrong even though I know that I'm not") on a 5-point Likert scale (0-4). The scale has good reliability and four-month test-retest reliability in a student sample (Gilbert, Allan & Goss, 1996).

Forms of Self-Criticism/Attacking and Reassurance Scale (FSCRS; Gilbert et al., 2004)

The hated-self and inadequate-self scales of the FSCRS were used. The FSCRS is a 22-item self-report scale designed to measure three forms of self-self relating: 'hated-self', 'inadequate-self' and 'reassure-self'. Hated-self refers to a destructive, disgust-based response to setbacks where one wishes to hurt oneself, whereas inadequate-self refers to a sense of feeling put-down, inadequate and desiring to improve. Responses are rated on a 5-point Likert scale (0-4). The scale has demonstrated good internal consistency in an analogue sample (Gilbert et al., 2004), inadequate-self and hated-self scales have been found to

correlate at .65 (Harman & Lee, 2010) and Cronbach's alphas for each scale have been reported at .80 (Gilbert et al., 2004) and .90 (Gilbert et al., 2010).

Self-Compassion Scale (SCS; Neff, 2003b)

The SCS is a 26-item 6-factor scale measuring self-compassion on 6 subscales: 'self-kindness', 'common humanity', 'mindfulness', 'self-judgment' 'isolation', and 'over-identification' and reflect the three components of self-compassion and their reverse. The former 3 scales are keyed-in positively (in the direction of self-compassion) whereas the latter 3 are reversed. A composite (total) score can also be calculated. Confirmatory factor analysis revealed a higher order factor of self-compassion for the subscales (comparative fit index = .90, non-normed fit index = .88, Neff, 2003b). Responses are rated 1-5. An example item from the self-kindness scale is, "I am tolerant of my own flaws and inadequacies". The SCS has demonstrated good internal consistency, reliability, test-retest reliability and discriminant validity in non-clinical samples (Neff, 2003b).

Procedure

Non-clinical participants completed the study online in approximately 30 minutes. The clinical participants were seen over 1-3 sessions. On average, completion took 1.5 hours.

Analysis

Analyses were conducted using SPSS version 20.0 (SPSS, 2011). As expected, most variables did not meet normality assumptions and could not be transformed. To overcome this problem all analyses were bootstrapped (1000 samples, stratified by paranoia group, bias corrected and accelerated). See Efron (1978; 1987) and Mooney and Duval (1993) for an explanation. Group differences for the processes of interest were examined with a series of

one-way ANCOVAs with age as a covariate and gender as a fixed factor. Years of education was not included as a covariate as this would violate the assumption of independence of the covariate and treatment effect (Miller & Chapman, 2001). Bonferroni confidence interval adjustment was applied. All non-clinical participants who declared psychiatric history were screened out of these analyses. Given that the focus of the analysis was to distinguish between clinical and non-clinical groups, taking the perspective that the presence of other clinical problems may cloud the issue - particularly in terms of depression and anxiety, those with a psychiatric history in the general population were excluded for clarity in distinguishing between clinical and non-paranoia. Group comparisons are reported where a significant main effect for paranoia group was found. Finally, to test the contributions of the candidate processes to paranoia, hierarchical multiple regression was performed examining all cases with the aim of identifying the best psychological predictors of paranoia.

Results

Table 5. Socio-demographic characteristics for the reduced sample (N = 94)

	Clinically paranoid (n = 14)	Non-clinically paranoid (n =14)	Not paranoid control (n = 66)	F/χ^2	p
Age, mean (SD)	36.07 (11.37)	34.50 (11.61)	38.95 (12.16)	$F_{2,91} = 0.98$	0.38
Gender	11 males	2 males	15 males	$\chi^2 = 19.11$	0.001
	3 females	12 females	51 females		
Years of education, mean (SD)	13.07 (1.86)	15.93 (2.56)	16.11 (2.27)	$F_{2,91} = 10.53$	0.001
Employment (n)					
Paid employment or study	1	13	64	-	-
NEET	13	1	1	-	-
Retired	-	-	1	-	-
Marital status (n)					
Single	8	6	25	-	-
Married or cohabiting	3	8	38	-	-
Divorced or separated	3	-	3	-	-
Medication (n)					
Antipsychotic	13	-	-	-	-
>1 Antipsychotic	2	-	-	-	-
Antidepressant	5	-	-	-	-

Note. NEET, Not in employment education or training.

Distribution of Paranoia

As expected, the distribution of paranoia (PaDS-Persecution score) in the whole sample was similar to that reported by Freeman et al., (2005a) and Bebbington et al., (2013) with a positive skew.

Group Comparisons - ANCOVA

Table 6 describes the results of the series of one-way bootstrapped ANCOVAs. A significant main effect for paranoia group was found for each process except deservedness and attachment avoidance. Levels of persecution and EA were significantly different between each group. In addition, the clinically paranoid group differed from the non-clinically paranoid group on anxiety, depression, attachment anxiety and hated-self self-attacking, but the two general population groups did not. The two paranoid groups did not differ from each other, but differed from the not paranoid group on submissiveness, inadequate-self self-attacking and self-compassion. Levels of anger differed between the clinically paranoid group and the not paranoid group, however no other significant between group differences were found for anger.

Table 6. Estimated marginal mean (bootstrapped SE) scores for candidate processes and group differences (N = 94)

	Clinically paranoid (n = 14)	Non-clinically paranoid (n =14)	Not paranoid control (n = 66)	F	p	Group differences	p
PaDS Persecution	28.96 (2.60)	20.58 (1.20)	7.08 (.66)	$F_{2,90}$ = 80.19	< .001	CP > NCP	.005
						CP > NP	.001
						NCP > NP	.001
PaDS Deservedness	1.56 (.50)	1.25 (.16)	.84 (.14)	$F_{2,68}$ = 2.57	.08	-	
HADS Anxiety	11.86 (1.61)	7.83 (.85)	5.95 (.50)	$F_{2,90}$ = 12.92	< .001	CP > NCP	< .05
						CP > NP	.001
						NCP, NP	.12
HADS Depression	9.50 (1.60)	4.00 (.42)	2.96 (.45)	$F_{2,90}$ = 16.42	< .001	CP > NCP	.001
						CP > NP	.001
						NCP, NP	.13
NAI-SF	68.29 (5.71)	58.67 (4.91)	50.53 (2.19)	$F_{2,90}$ = 5.23	< .01	CP, NCP	.19
						CP > NP	< .05
						NCP, NP	.13

	Clinically paranoid (n = 14)	Non-clinically paranoid (n =14)	Not paranoid control (n = 66)	F	p	Group differences	p
RQ Attachment Anxiety	2.14 (.40)	-.56 (.71)	-1.60 (.39)	$F_{2,85}$ = 7.57	.001	CP > NCP	< .05
						CP > NP	.001
						NCP, NP	.32
RQ Attachment Avoidance	1.61 (.75)	.87 (.68)	-.40 (.40)	$F_{2,85}$ = 2.40	.10	-	
AAQ-II	30.34 (3.15)	45.67 (1.66)	55.16 (1.25)	$F_{2,90}$ = 30.92	< .001	CP > NCP	.001
						CP > NP	.001
						NCP > NP	.003
SBS	34.39 (1.92)	30.12 (2.57)	24.06 (.96)	$F_{2,89}$ = 10.78	< .001	CP, NCP	.17
						CP > NP	.002
						NCP > NP	< .05
FSCRS Inadequate Self	23.00 (2.20)	19.14 (1.34)	13.40 (.99)	$F_{2,87}$ = 7.18	.001	CP , NCP	.20
						CP > NP	.002
						NCP > NP	< .05
FSCRS Hated Self	10.41 (1.77)	2.04 (.59)	2.87 (.52)	$F_{2,87}$ = 23.26	< .001	CP > NCP	.002

	Clinically paranoid (n = 14)	Non-clinically paranoid (n =14)	Not paranoid control (n = 66)	F	p	Group differences	p
						CP > NP	.001
						NCP, NP	.42
SCS	67.70 (5.07)	74.95 (2.98)	84.04 (1.92)	$F_{2,90}$ = 4.74	.01	CP, NCP	.21
						CP > NP	.003
						NCP > NP	<.05

Note. SE, standard error; CP, clinically paranoid; NCP, non-clinically paranoid; NP, not paranoid; PaDS, Persecution and Deservedness Scale; HADS, Hospital Anxiety and Depression Scale; NAI-SF, Novaco Anger Inventory – Short Form; AAQ-II, Acceptance and Action Questionnaire-II; SBS, Submissive Behaviour Scale; FSCRS, Forms of Self Criticism/Attacking and Reassurance Scale; SCS, Self-Compassion Scale

Correlational Analysis

Bootstrapped Pearson Correlations indicate the zero-order relationships between all variables (Table 7). Paranoia was strongly associated with higher anxiety, depression, EA, both forms of self-attacking and lower self-compassion. Multicollinearity was not an issue (see regression section, below).

Regression

To test the contributions of the candidate processes to paranoia, the bootstrap method for hierarchical multiple regression was performed with the PaDS-Persecution total score as the DV. A summary of the final model is displayed in Table 8. Beta values indicated are from the final model, with the steps of the regression presented within the final model, showing R^2 change. All cases, whether having reported psychiatric history or not, were included in this analysis in line with the continuum approach. Depression, anxiety, age, gender and years of education were entered into the regression in the first block as we wanted to control for the effects of these at the final stage. The associations between depression, anxiety and paranoia have been well investigated, thus as known related variables they were entered first in order to explain the occurrence of persecutory beliefs beyond increased depression and anxiety. Anger, attachment anxiety and attachment avoidance were added in block 2, as there is some evidence of their involvement with paranoia. The 'third wave' processes were of the most interest for the current study. These variables were added to block 3 in order to investigate the added variance explained by these more recently conceptualised processes. Collinearity diagnostics were satisfactory (minimum tolerance = .23, average VIF = 2.39).

Although the zero-order correlations revealed an association between paranoia and deservedness, deservedness was not included as a predictor variable in the hierarchical multiple regression analysis for a number of reasons: Deservedness assumes persecutory

beliefs are present, but the other processes do not, therefore it does not make sense to include deservedness as a predictor variable, only an outcome variable. Because deservedness assumes the presence of persecutory ideation, there were considerably fewer endorsements for items on the PaDS-Deservedness than other measures. Secondly, although non-deservedness has been found to be most common in paranoia generally, deservedness and non-deservedness are both possible for higher persecution, and do not appear to be consistently linearly related to paranoia *severity* (Beck et al., 2013 in prep).

The first model was significant, $F(5, 125) = 26.78$, $p < .001$, adjusted $R^2 = .50$. The second block improved the model, $F(8, 122) = 19.20$, $p < .001$, adjusted $R^2 = .53$. The model was again improved with the addition of block 3, $F(13,117) = 15.19$, $p < .001$, adjusted $R^2 = .59$. Anxiety, but not depression, was a significant predictor in the first and second models, but was no longer a significant predictor in the third. In the second model, years of education, anxiety, anger, and attachment anxiety became the only significant predictors. In the final model, years of education remained a predictor of persecution (negative relationship), having controlled for it with depression, anxiety, age and gender at the first step. The only other predictor of persecution in the final model was EA. Lower scores on the AAQ-II (i.e. higher EA) significantly predicted paranoia, $B = -.24$, $t(130) = -2.61$, $p = .04$.

Table 7. Correlation matrix for psychological variables (N=143)

	PaDS-D	HADS-A	HADS-D	NAI-SF	RQ-Anxiety	RQ-Avoidance	AAQ-II	SBS	FSCRS-IS	FSCRS-HS	SCS	Age	Years Ed
PaDS-P	.37**	.65**	.57**	.29**	.34**	.34**	- .70**	.41**	.56**	.63**	- .52	- .17	- .26**
PaDS-D	-	.21*	.18	.05	.07	.09	- .28**	.17	.34**	.37**	- .30**	- .19*	.08
HADS-A		-	.67**	.27**	.34**	.31**	- .75**	.43**	.53**	.59**	- .55**	- .15	- .12
HADS-D			-	.22*	.30**	.28**	- .68**	.29**	.41**	.64**	- .40**	.02	- .12
NAI-SF				-	.17	.18	- .32**	.38**	.40**	.37**	- .43**	- .01	- .10
RQ-Anxiety					-	.26**	- .41**	.10	.34**	.32**	- .35**	- .21*	- .05
RQ- Avoidance						-	- .29**	.11	.26**	.19*	- .26**	- .14	- .20*
AAQ-II							-	- .50**	- .58**	- .68**	.61**	.18	.11
SBS								-	.56**	.44**	- .54**	- .11	- .02
FSCRS-IS									-	.65**	- .83**	- .29**	.10
FSCRS-HS										-	- .59**	- .14	- .16
SCS											-	.24*	- .08
Age												-	- .14
Years Ed													-

Note. $^{**}p < .01$, $^{*}p < .05$ (two-tailed).

Table 8. Hierarchical regression for persecution: final model (PaDS-P) (N = 143)

Variable	R^2	Adjusted R^2	ΔR^2	*B*	Bootstrap values			β
					SE *B*	Bca 95% CI		
						Lower	Upper	
Step 1	.52	.50	.52					
Age				- .03	.05	- .12	.07	- .03
Gender				.98	.51	- 3.74	1.94	- .04
Years education				- .60	.28	- 1.12	- .05	- .14*
HADS Depression				- .12	.30	- .70	.48	- .05
HADS Anxiety				.58	.35	- .16	1.18	.25
Step 2	.56	.53	.04					
NAI-SF				.01	.04	- .07	.10	.02
RQ Attachment Anxiety				.24	.21	- .16	.68	.07
RQ Attachment Avoidance				.15	.27	- .36	.67	.04
Step 3	.63	.59	.07					
AAQ-II				- .24	.11	- .46	- .04	- .30*
SBS				- .01	.09	- .18	.19	- .01

Variable	R^2	Adjusted R^2	ΔR^2	B	Bootstrap values			β
					SE B	Bca 95% CI		
						Lower	Upper	
FSCRS Inadequate Self				.21	.15	- .03	.47	.18
FSCRS Hated Self				.33	.26	- .18	.79	.15
SCS				.03	.06	- .08	.14	.05

Note. *p < = .05; CI, confidence interval; ΔR^2 = R^2 change

Discussion

The purpose of the paper was twofold; firstly, to explore the levels of psychological processes deemed to be implicated in paranoia between clinically paranoid, non-clinically paranoid and not paranoid groups (consistent with the notion that there are differences between clinical and non-clinical paranoia). Secondly, we aimed to investigate the contribution of the candidate processes to the variance in paranoia scores across general population and clinical samples (in line with the continuum account of paranoia).

Group Differences

The findings partially supported our experimental hypotheses. Scores for the clinically-paranoid group were higher for persecutory ideation, depression, anxiety, attachment anxiety, hated-self self-attacking and higher EA. The findings did not support our predictions for fewer deservedness judgements in the clinically paranoid group. In this study, clinical and non-clinical groups were not distinguishable by levels of self-compassion, submissiveness, anger, or inadequate-self self-attacking. Although higher levels of inadequate-self self-attacking, submissiveness and low self-compassion were found in the paranoid groups. This suggests these processes may be important in paranoia generally (Freeman et al., 2005a; Gilbert et al., 2005; Lopes & Pinto-Gouveia, 2012). Scores for hated-self, but not inadequate-self self-attacking being higher in the clinically paranoid group is consistent with the findings of others that the hated-self form is particularly associated with psychopathology and that higher scores are reported by clinical cases (Longe et al., 2010).

It was attachment anxiety, but not avoidance which distinguished the clinical and non-clinical groups. Interestingly a significant effect for attachment avoidance was not found. It is possible that the study did not have a large enough sample size to detect an effect for attachment avoidance, although the findings of other studies for this factor are equivocal (e.g.

Berry et al., 2008; Meins et al., 2008). Bartholomew's (1990) model aligns the two dimensions to models of self and other, with higher anxiety equating to a model of the self as bad, and higher avoidance equating to a model of others as bad. The presence of higher attachment anxiety and attachment avoidance in paranoia is consistent with the finding that the 'fearful' style of attachment, where self and others are both perceived as 'bad', characterises paranoid states (Pickering et al., 2008). Our finding that the clinically paranoid group feel worse about themselves than the non-clinically paranoid group and the non-paranoid group is consistent with theories of both Freeman et al., (2002) and Bentall et al., (2001), that paranoia is respectively an expression of, or defense against, low self-esteem. Bentall et al., (2001) argue that having high explicit, but low implicit self-esteem suggests defensive processes are operating. As the RQ (Bartholomew & Horowitz, 1991) does not ask directly about one's model of self, it could be considered an implicit measure of self-esteem.

The non-specificity of deservedness judgements did not wholly replicate the finding of Melo et al., (2009) who found that a clinically paranoid group were less inclined to believe they deserved their perceived persecution than a student sample. In fact, our findings were in the opposite direction, with higher deservedness scores found in the clinically paranoid group, although there was not a significant main effect. This is somewhat consistent with Freeman et al.'s (2002) model, which posits paranoia to be associated with low self-esteem. However, the inspection of boxplots revealed the median deservedness score to be higher in the non-clinical group, suggesting outliers may have affected the mean. A scatterplot also revealed more variability of deservedness judgements in the clinically paranoid group compared to the non-clinically paranoid group, where there was greater inter-individual consistency. This variability may result from dynamic processes where deservedness judgements change in clinical paranoia, possibly to avoid the bad me state (Udachina et al.,

2012). More sophisticated analyses and a larger sample may be required in order to tease out any specific relationships of deservedness between non-clinical clinical groups.

Predictors of Paranoia

In the hierarchical multiple regression model, processes entered first were those known to be common in paranoia with effects to be 'controlled for' in order to investigate the variance explained by further processes. Depression, anxiety, age, gender and years of education were entered in the first block. The processes added in the second and final blocks in the regression model explained an increase in variance in paranoia scores at each step. Anger and attachment anxiety and avoidance were entered in to the second block of the model, as the relationships between paranoia and these processes have been explored elsewhere. In the final block, the processes of highest interest for this study were added: EA, self-compassion, submissiveness and self-attacking. In the final model, the beta score for the contribution of the AAQ-II indicated that as AAQ-II score decreases (representing higher EA) paranoia increases. EA demonstrated a predictable difference in level of paranoia which is not due to anxiety or depression. Years of education was the other significant predictor of paranoia in the final model. This showed a negative relationship, with fewer years of education being associated with increased paranoia. The significant negative association between AAQ-II scores and paranoia suggest that users of mental health services experiencing persecutory delusions are less willing to accept and 'make space' for their experience than paranoid people in the general population. Instead, they engage in more EA, using unhelpful strategies to supress or otherwise avoid their experience. Paradoxically, engaging in EA serves to make this group more likely to believe others are persecuting them. Although we cannot infer causation in this study, our findings are consistent with others, who found EA to engender delusional ideation (Goldstone et al., 2011; Udachina et al., 2009). Lower EA (greater

psychological flexibility) indicates a more helpful style of coping, reflected in scores for the general population.

It is interesting that anxiety but not depression significantly predicted paranoia at the first step of the regression model. Although anxiety and depression are typically highly correlated, the predictive power of anxiety in the current study is consistent with the work of Freeman and colleagues (e.g. Freeman et al., 2003; 2005b; Freeman & Freeman, 2008). However, it is worth considering that the ability of the HADS to consistently differentiate between anxiety and depression as a two-factor measure has been questioned (Allan & Martin, 2009; Cosco, Doyle, Ward & McGee, 2012).

Synthesis of Findings and General Issues

Our findings for hated-self and inadequate-self self-attacking warrant exploration. The mean hated-self self-attacking score for the clinically paranoid group replicates that found by Hutton et al., (2013). When depression was controlled for in a regression model, self-attacking was not a significant predictor for paranoia. Tentatively we suggest that self-attacking may be more related to depression. Similarly, bad me paranoid individuals may engage in more self-attacking, as judgements of deservedness are associated with depression (Chadwick et al., 2005; Udachina et al., 2012) and fluctuate over time (Melo et al., 2006) which might explain the variability in these cross-sectional findings. Therefore, it could be argued that self-attacking is related to paranoia, inasmuch as depression occurs with paranoia, or it may moderate the relationship between paranoia and depression.

A critical point regards the definition of non-clinical paranoia. The definition of persecutory delusion is taken to be that others intend harm (Freeman & Garety, 2000; Matos et al., 2012). Clinical participants were required to meet these criteria for inclusion and be using mental health services in relation to their experiences. Paranoid non-clinical

participants were required to score at least the lowest score of the clinical participants for paranoia, making it likely that some of this group experienced distressing paranoia but were coping outside of services. Perceptions regarding the intent of others in causing harm to oneself were not measured in the non-clinically paranoid group (although items on the PaDS-P do tap into this, e.g. "I believe that some people want to hurt me deliberately"). By our definition clinical and non-clinical paranoia do not significantly differ in many processes, but people using mental health services experiencing persecutory delusions have higher levels of persecution, depression, anxiety, attachment anxiety, EA, and self-attacking. Paranoid people in the general population may have personal psychological resources for resilience, i.e. have greater psychological flexibility and ability to self-reassure. These 'here-and-now' differences may reflect psycho-developmental differences, stemming from early experiences such as victimization, in the pathway to paranoid psychopathology. Alternatively, it is possible that the non-clinically paranoid group did not seek support due to stigma or lack of 'insight' into their difficulties.

From this study it is unclear whether social factors have contributed to the distinction of clinical and non-clinical paranoia. Years of education remained one of only two significant predictors of paranoia in the final regression model, although it was entered at the first step. Being more advantaged in educational history is likely to provide greater opportunities, potentially enhancing an internal locus of control, positive implicit self-esteem and minimising stressors (e.g. financial) which might impact upon mental health. However the recruitment strategy is unlikely to ensure representativeness (see below).

Limitations

For the following reasons the study findings should be interpreted with caution. Nine of the 14 clinically paranoid participants heard voices. This could, at least in part, account for the

observed differences between clinical and non-clinical paranoia, but their effect has not been explored here. Depression and anxiety are invariably found in paranoid states and can affect the interpretation of results. We did not covary for these within the ANCOVAs (Miller & Chapman, 2001), however they were entered in the first block of the hierarchical multiple regression analyses with the aim of adjusting for their effects.

Multiple hypothesis testing was carried out in the undertaking of many independent ANCOVAs. This increases the likelihood of the occurrence of Type I errors, although the Bonferroni adjustment was applied and findings were broadly in line with theoretical accounts of paranoia.

Paranoia, an 'abnormal' process, was considerably positively-skewed. This distribution is to be expected (Bebbington et al., 2013; Freeman et al., 2005a). Variables were not dichotomized for non-parametric analysis due to the importance of covarying for other variables and the already limited sample size. This would contribute to reduced statistical power (it was not possible to satisfactorily match groups). Bootstrapped analysis with stratified sampling was considered most suitable given the non-normality and limited sample size. Cautionary notes to using this technique are the exaggerated effect that our unequal group sizes may have had on inequality of variance, as well as that of the impact of missing data on the outcome. Bootstrapping does not solve these problems.

The recruitment method aimed to maximise representativeness, however the general population sample, taken principally from Facebook and a university, is unlikely to be truly representative and may have contributed to effect of years of education. The recruitment materials stated the study was investigating 'suspiciousness'. This may attract those with experience of paranoia who may be information or help-seeking, or wish to contribute to research in the area due to empathic identification with others experiencing paranoia.

The study relies on self-report for persecutory ideation and the other variables. The self-report method requires self-reflection and is open to social desirability and frame of reference bias (subjectivity). We were unable to assess if 'paranoid' ideation was well-judged and highly grounded in reality in the non-clinical participants, who were not interviewed or assessed against Freeman and Garety's (2000) criteria.

Cross-sectional designs limit potential conclusions relating to causality. Furthermore, people will vary in their position along the paranoia continuum depending on life circumstances (Bebbington et al., 2013).

Clinical Implications

Targeting EA, potentially through Acceptance and Commitment Therapy techniques (Hayes et al., 1999) may benefit people with persecutory delusions (Hepworth, Startup & Freeman, 2013; Morris, Johns & Oliver, 2013). Compassion-focused approaches (Gilbert, 2009) may also be beneficial.

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Concluding Section

5.1. Extended Discussion

This section aims to discuss the findings of the research in the broader context, considering the relevance of the findings for theory, research and practice, as well as more critically appraising the review and the empirical study.

5.1.1. Literature review.

5.1.1.1. Limitations and theoretical implications. The review aimed to determine the appropriateness of characterising paranoia in terms of 'poor me' and 'bad me'. The review was complex to undertake for numerous reasons. Firstly the parameters led to the exclusion of potentially informative research which does not investigate the two types as predicted by Trower and Chadwick (1995). A notable example is that of Combs et al., (2007) who used a cluster analysis to derive profiles of paranoid subtypes. This approach led to the finding of what appeared to be profiles of the two types (validating the distinction) plus a third, more neutrally-performing type. Within Bentall's account, this may represent individuals *between* poor me and bad me states in the attributional self-representation cycle (Bentall, Corcoran, Howard, Blackwood & Kinderman, 2001). Alternatively, they may be coping more resiliently with paranoid experiences, showing relatively normal levels of depression, self-esteem and social anxiety as well as unremarkable attributions. Combs et al., (2007) suggest they may not be distressed by their experiences, perhaps using more adaptive means of coping or relating to their experiences. This could be conceptualised as this group having higher psychological flexibility (inverse EA), higher self-compassion and lower self-attacking.

A second limitation was the variability in the study designs; how or indeed if participants were grouped into the two types, and how deservedness was measured. Furthermore there was inconsistency in the measures of the associated constructs (e.g. self-esteem, attributional style). This led to difficulty in interpreting the results. It was necessary

to negotiate these factors to conduct the review systematically. An alternative would have been to conduct a narrative review, being more inclusive but sacrificing some methodological rigour. However, it was decided that there was sufficient data consistently investigated across studies to warrant a systematic review and furthermore, the variability in the data across these studies justified a rigorous analysis using a replicable approach.

The emergent picture was that poor me and bad me are not static, strictly taxonomic subtypes; rather people may oscillate between the two. Longitudinal studies with sophisticated designs have made progress in elucidating the dynamics of deservedness judgements (Melo & Bentall, 2013; Udachina, Varese, Oorschot, Myin-Germeys & Bentall, 2012).

There are fairly consistent findings in terms of self-esteem, depression, self-evaluation and attributional biases. However other predictions, which would potentially qualify a distinct categorization of the two types, gather less support, such as their proposed aetiologies. Overall the findings give some weight to the theory, notably its clinical usefulness, but expose its weaknesses.

5.1.1.2. Further research. For empirical studies of Trower and Chadwick's two types, it is recommended that the types are not assumed to be static and that the phenomena be measured in such a way that reflects their reactivity. However, classifications can be useful and if they are derived by theoretically-driven scientific methods (such as cluster analysis e.g. Combs et al., 2007) these have scientific validity and usefulness. Should a study design require participants be categorized into poor me and bad me groups (e.g. for the purposes of cross-sectional analysis of concomitant variables), this should be done using adequate methods (e.g. the PaDS; Melo, Corcoran, Shryane & Bantall, 2009). Cross-reliability investigations of self-report and observer-report of poor me/bad me status would

be informative. Further research should also ensure a good level of consistency and adequacy in the measures selected for gathering information on the variables of interest.

Longitudinal studies with sophisticated designs such as the experience sampling method and structural equation modelling can provide illuminating findings of the dynamics of involved relationships. Further research of this type may include thematic content of beliefs (e.g. grandiosity), affect, coping and daily events, to further track changes in poor me and bad me representations (e.g. Melo & Bentall, 2013). Longitudinal studies across many weeks or months may shed more light on whether the developmental hypotheses of Trower and Chadwick (1995) have credibility as well as the individual journeys of paranoid participants through poor me and/or bad me states.

Expanding the investigations of the two types profiles might incorporate more contemporary third wave factors (e.g. experiential avoidance, self-attacking) which are theoretically-implicated in third wave cognitive-behavioural approaches to psychological therapy. These may have differential associations with the two types, for instance, if poor me individuals make more external attributions for negative events, they may reasonably score lower for self-attacking and higher for self-compassion, whereas depressed bad me individuals might be expected to criticise themselves highly and have little compassion for themselves. Furthermore, no study has investigated implicit and explicit self-esteem in the two types; these may reasonably be expected to differ in the direction of poor me reporting higher explicit self-esteem, but likely comparable implicit self-esteem to bad me.

Finally, comparisons of clinical and non-clinical groups may demonstrate, as suggested by Melo et al., 2009, that bad me is a more common phenomenon in non-clinical paranoia, whereas poor me is prevalent in clinical paranoia.

5.1.1.3. Clinical implications. The distinction of the two types is a clinically useful one heuristically; the models predictions may be helpful to draw on during psychological

assessment and in formulation for certain paranoid clients. The theory has the potential for reflexivity in formulation in that the two types are not necessarily stable; should a client appear to fluctuate between the two, this can be represented in a diagrammatic formulation which is useful for the client (Johnstone & Dallos, 2006). For brevity this may be as simple as a linear scale with two anchors (e.g. Melo, Taylor & Bentall, 2006). However, therapists should be mindful that the client may not fit neatly into the taxonomy and a highly individualised formulation is encouraged.

5.1.2. Empirical study.

5.1.2.1. Synthesis with other findings. As expected, the distribution of paranoia across the general population was as reported by Freeman et al., (2005) and Bebbington et al., (2013), forming a continuum with normal experience. Overall, our results are most consistent with the continuum account, the expression model (Freeman, Garety, Kuipers, Fowler & Bebbington, 2002) and the idea that EA, as a universal mechanism, is important in paranoid psychopathology (Udachina et al., 2009).

The role of EA appears to be of high importance, and our findings complement those of others for a key contribution of EA (Goldstone, Farhall & Ong, 2011; Udachina et al., 2009). The findings suggest people experiencing paranoia find it difficult to 'be with' their experiences. The findings suggest this effect was present for both paranoid groups but the clinically paranoid group were engaging in more EA.

In terms of self-attacking, the hated-self form distinguished the clinical from the non-clinical group when groups were compared, but when controlling for depression in hierarchical multiple regression, it did not account for any increased variance in the model when depression (and other variables) were entered first. This might be interpreted as meaning self-attacking is more related to depression than paranoia. The findings are inconsistent with those of Hutton, Kelly, Lowens, Taylor and Tai, (2013) who found self-

attacking to distinguish between clinical and non-clinically paranoid groups when controlling for depression in group comparisons. A possibility, given these inconsistent findings, might be that self-attacking may moderate the relationship between depression and paranoia.

Our prediction that deservedness judgements would be more associated with the non-clinical rather than clinically paranoid group was not supported. However this is not too surprising, following the report of deservedness judgements in both groups in the literature review. The review reports poor me to be most common, regardless of severity of paranoia (Freeman, Garety & Kuipers, 2001; Chadwick, Trower, Juusti-Butler & Maguire, 2005; Fornells-Ambrojo & Garety, 2005; Green et al., 2006; Merrin, Kinderman & Bentall, 2008, Pickering Simpson & Bentall, 2008; Morris, Milner, Trower & Peters, 2011; Melo & Bentall, 2013). However, bad me might be proportionally more frequent in non-clinical paranoia (Pickering, et al., 2008; Melo et al., 2009). We did not group people into poor me and bad me, but when measuring deservedness dimensionally, scores were highest in the clinical group, against our predictions. As the inspection of boxplots (Figure 2) revealed the median deservedness score to be higher in the non-clinical group, outliers may have affected the mean. Outliers were not trimmed prior to analysis due to our careful definitions of categories. The relationship is not simple. Our scatterplots (Figure 3) suggest that there is more variability in deservedness judgements in the clinically paranoid than non-clinically paranoid groups, possibly reflecting the dynamic processes discussed by Udachina et al., (2012). Longitudinal studies are certainly required to understand this phenomenon. The associations between the transdiagnostic variables of interest (e.g. self-attacking, EA) and the two types of paranoia (poor me and bad me) could not be investigated due to the small sample size. A larger clinically paranoid sample and a measure of implicit self-esteem would have furthered the findings of the study.

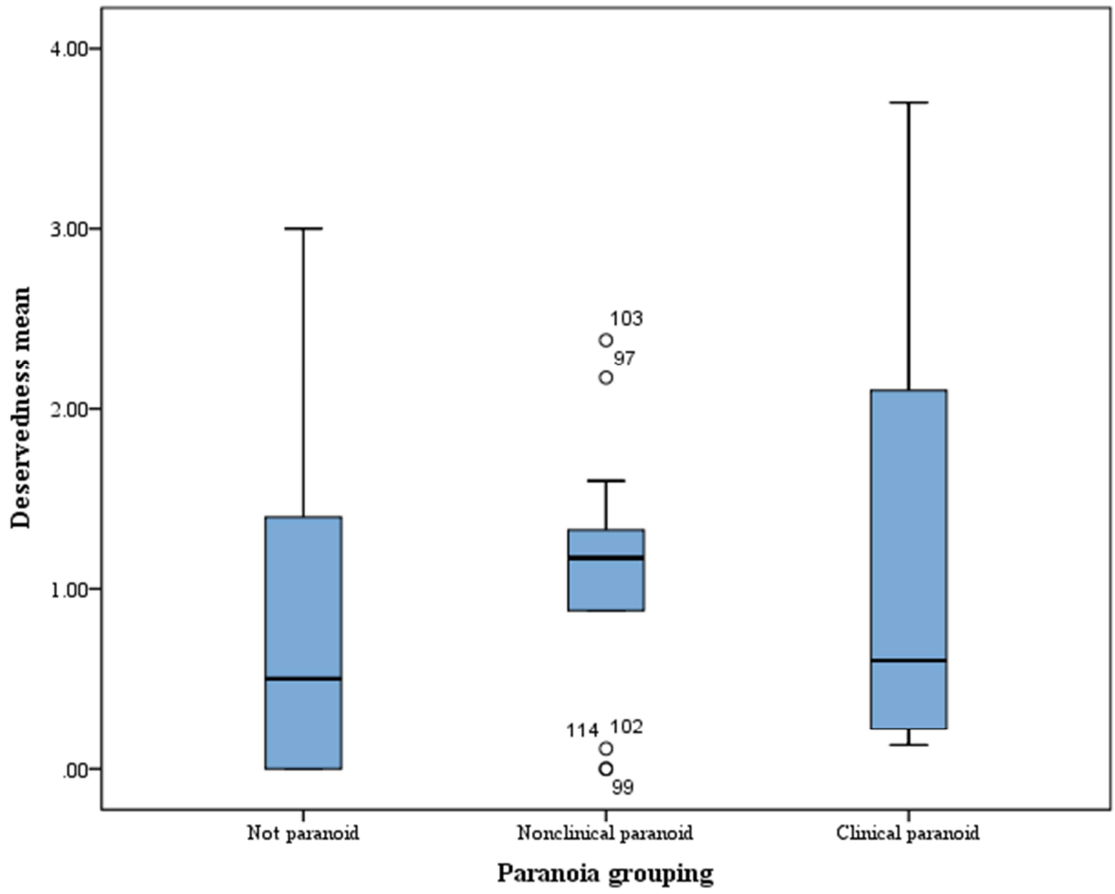

Figure 2. Boxplot of deservedness judgements by paranoia group (excluding general population participants with psychiatric history) N = 94

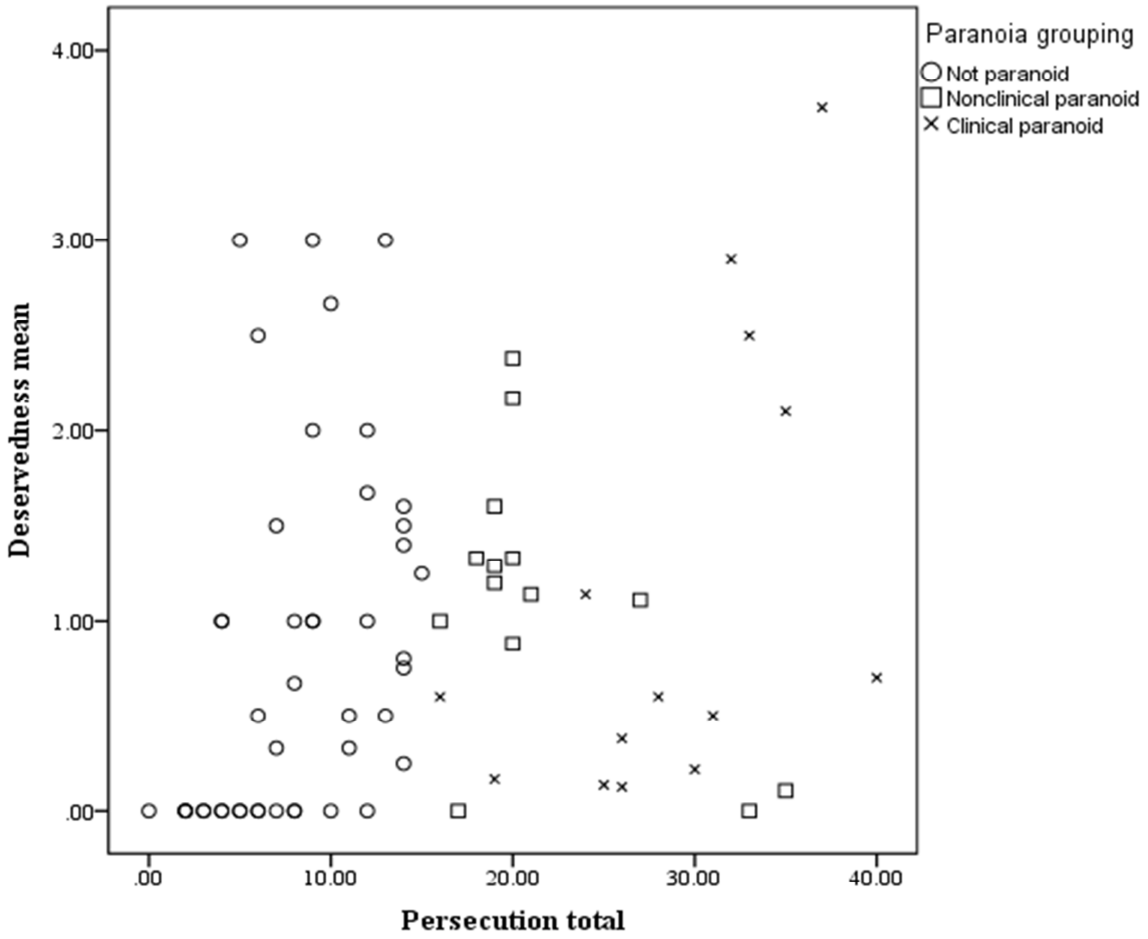

Figure 3. Scatter graph of deservedness judgements by paranoia group (excluding general population participants with psychiatric history) N = 94

Scores on attachment anxiety distinguished clinical and non-clinical paranoid groups. It was intriguing that attachment avoidance (the drive to avoid others, considered as bad or threatening) had no such main effect in this study. Our findings are consistent with those of Meins, Jones, Fernyhough, Hurndall and Koronis (2008) regarding this. As the Relationships Questionnaire (RQ; Bartholomew & Horowitz, 1991) can be used to score people both 1) within dimensions of model of self and other and 2) as fitting within one of 4 categories (Hazan & Shaver, 1987; Collins & Read, 1990; Simpson, Rholes & Nelligan, 1992), our finding may 'map on' to having a model of the self as bad (Bartholemew, 1990; Appendix

G). Others may be perceived as either good or bad, suggesting preoccupied and fearful attachment styles are predominant in paranoia. Both types have low self-worth, but whereas fearful people believe they are unlovable, avoid others due to fear of rejection and try to cope with distress alone, those with the preoccupied style might be more focused on gaining the acceptance and approval of others (Bartholomew 1990; 1997). In terms of the frequency of these classifications for our clinically paranoid group, 7/14 reported a fearful style, 4/14 reported a preoccupied style, and the remaining 3 reported a dismissing style. None reported a secure style. For the non-clinically paranoid group, 6/14 reported a fearful style, 1 reported a preoccupied style, 1 reported a dismissing and 3 reported a secure style. Three cases had missing data. Thus, consistent with Shaver and Mikulincer (2002), individuals with a fearful attachment style might both withdraw from relationships while experiencing on-going anxiety about the availability of attachment figures. The findings concerning the attachment dimensions could be interpreted as consistent with both Freeman et al., (2002) and Bentall et al., (2001) i.e. that paranoia is respectively an *expression of* low self-esteem or a *defense against* low self-esteem. This is because the RQ measure does not directly ask the respondent to report on their model of self, thus could be considered a measure of *implicit* self-esteem (in which paranoid individuals are low, their model of self being negative, although if asked they may report positive explicit self-esteem).

The findings relating to the other candidate variables are consistent with other research. Submissiveness, anger, and low self-compassion were associated with paranoia (Freeman et al., 2005; Fornells-Ambrojo & Garety, 2009; Gilbert, Boxall, Cheung & Irons, 2005; Lopes & Pinto-Gouveia, 2012).

5.1.2.2. Design and methodological considerations. The definition and operationalization of the construct of EA or psychological inflexibility is problematic. Its definition is such that EA subsumes all avoidant and defensive processes (Chawla & Ostafin,

2007). Thus, self-attacking and other candidate variables may reasonably be labelled EA. However, the conceptualization of it as a discrete process, to be investigated alongside others, is typical for empirical research involving the construct. Additionally, the co-linearity tests for regression analysis were adequate, indicating non-multicollinearity.

Concerning the definitions of group membership, the clinically paranoid group were screened to ensure they matched Freeman and Garety's (2000) criteria for persecutory delusions. The non-clinical group were not screened so whether or not any of these participants were experiencing persecutory delusions is not known. However the psychometric properties of the PaDS give us confidence that our measurement of the construct of paranoia has good reliability and validity (Melo et al., 2009). Some of the non-clinically paranoid group may in fact have been experiencing persecutory delusions, but we cannot know this for certain. This study may then alternatively be understood as a study of the factors involved with being a user or non-user of mental health services in relation to paranoia, rather than a study of clinical and non-clinical paranoia. For this purpose the term 'sub-clinical' paranoia was avoided and our methods for distinguishing the groups are similar to that of Freeman, Pugh, Vorontsova, Antley and Slater (2010). Also, the distinction we made between the groups based on PaDS-P cut-off demonstrated a significant group difference in persecution scores between the clinical and non-clinical paranoia groups.

It could be argued that paranoia, as well as being considered separately to hallucinations and thought disorder, might also be considered separately to grandiosity (Wigman et al., 2011). This is difficult, as grandiosity is often apparent in the content of persecutory beliefs, and therefore could be considered integral. This might be especially so in poor me paranoia (Chadwick, Birchwood & Trower, 1996). Although all of the clinical participants met Freeman and Garety's (2000) criteria for persecutory delusions and scored within the clinical range of the PANSS (Kay, Fiszbein & Opler, 1987), there was some

variability in delusional content of this group. Whereas all the clinical participants had concerns that others were intending to harm them, one participant had primarily grandiose beliefs, with persecution threats being an unpleasant side-effect of holding his perceived status. For the other participants, concerns of persecution were paramount. A summary of the primary beliefs of the clinical participants are given in Appendix E. The study may have tightened the inclusion criteria to more 'purely' investigate the mechanisms of clinical paranoia, but the restraints of time and resources available for recruitment made this impractical. On the other hand, a more 'pure' paranoia profile may be impossible to measure and tighter inclusion criteria may in fact have a negative effect on the generalizability of the findings. The criteria used in this study are typical for investigations of paranoia, so we can be confident our findings can be discussed within the same context.

Nine of the 14 clinical participants also heard voices. It could be argued that, at least in part, some of the observed difference between non-clinical and clinical groups might be related to their voice-hearing. The methodological approach taken is defensible as it was in line with the single symptom approach, however controlling for voice-hearing might refine the picture of paranoid phenomenology.

The clinically paranoid group was heterogeneous in the range of years since their first paranoid psychotic episode. This is not problematic in terms of the current research, although it leads us to make less specific conclusions where there may exist sub-group effects. To make interpretations about a certain group would require tighter inclusion criteria, e.g. to investigate paranoia in early psychosis, only those experiencing paranoia in the last year might be recruited from an early intervention service.

The participants recruited from the general population reported a high level of psychiatric history. It could be, however, that as the study was advertised to investigate 'suspiciousness' for ethical resolutions, so participants would be informed of the aims of the

study (Appendix B; C; D), the participants may have been more disposed to take part if they had had such experience (Freeman et al., 2005), perhaps out of interest or empathic altruism (Strauss et al., 2001). Freeman et al., (2008) avoided using specific descriptors for their study of non-clinical paranoia presumably to account for this potential bias. The study recruited for the general population sample through social media (Facebook). While this proved an efficient resource, a more stratified approach to recruitment would be favourable. Bebbington et al., (2013) used a more rigorous recruitment procedure which could be adopted: The Postcode Address File Database (PAF®) could be consulted and potential participants selected through stratifying the postcodes based on socio-economic status which matched that of the clinical participants. This strategy might also address the discrepancy we found for years of education between clinical and non-clinical groups (although this may only be possible with a great sample size).

Additionally, the relative merits and limitations of collecting data using online survey methods have been considered (Granello & Wheaton, 2004). This method allows the self-report measures to be completed in the way they were designed, is quick, cost-effective and acceptable to participants (Granello & Wheaton, 2004). Conclusions drawn from internet-based research have been found to be the same as those of laboratory research (Birnbaum, 2001). In addition to the representative limitation of the non-clinical sample discussed above regarding those who may have experience of paranoia being drawn to the study, another issue of representativeness may be inherent in the method; the clinical and non-clinical groups may be dissimilar in that the non-clinical group most likely have home internet access. Given the social differences observed, it is possible that fewer clinical participants have this access.

Recruiting the clinical sample was difficult; a higher uptake had been anticipated. Psychotic groups were currently highly researched in the trusts approached and staff had been instructed to prioritise higher impact projects. Despite the researcher having contacts and

attempting to make links with services through visits, presentations and telephone contacts, alliances failed to form which might provide fruitful recruitment pathways. The specificity of the inclusion criteria also made it difficult to identify suitable potential participants.

Since the study was designed and during its undertaking, a new version of the AAQ-II with better reported psychometric properties was published (Bond et al., 2011). The authors reduced the number of items from 10 to 7 in their final psychometric analysis. The AAQ-II measures one dimension of EA. During the undertaking of the study another EA measure, the Multidimensional Experiential Avoidance Questionnaire (MEAQ; Gámez, Chmielewski, Kotov, Ruggero & Watson, 2011) was also published which reports better still psychometric properties and measures six dimensions of EA (behavioural avoidance, distress aversion, procrastination, distraction/suppression, repression/denial and distress endurance). Unfortunately, due to the timescale, the study could not include either superior measure. A study which more precisely measures EA might more accurately identify the relationships between specific items or dimensions of EA with paranoia. Sophisticated analyses such as structural equation modelling would be fit for this purpose, assuming suitable numbers of participants could be recruited.

Self-esteem was not measured in this study, although previous research has revealed it to be a key process in paranoia. The link between paranoia, EA and self-esteem has been investigated elsewhere with sophisticated analysis (Udachina et al., 2009). The dynamic nature and complexity of form of the concept of self-esteem makes it difficult to measure using cross-sectional designs, with methodologies such as the Experience Sampling Method (ESM; Csikszentmihalyi & Larson, 1987) being preferred (Thewissen, Bentall, Lecomte, van Os & Myin-Germeys, 2008; Thewissen et al., 2011; Udachina et al., 2009). Our investigation sought to instead examine the contribution of self-compassion, rather than self-esteem, with the emphasis being on this as a form of self-relating style. Self-compassion is conceptualised

as a distinct construct from self-esteem. Self-esteem can be contingent on external factors and involves judgment and comparisons to others in order to evaluate self-worth and establish rank (Gilbert 1989). Self-compassion, conversely, involves no such evaluation. It is a self-relating style developed for regulating affect (Gilbert & Proctor, 2006). An alternative, but complimentary conceptualisation of self-compassion posits it to be unconditional, not contingent on evaluations and extraneous factors, as it is based on the belief that all humans deserve compassion and have the same intrinsic worth (Neff, 2003).

The empirical study was integrative in that processes, which represent emergent self-regulation strategies, from disparate models were investigated. It has been found that self-attacking, is one such emotion-focussed strategy of importance in clinical and non-clinical paranoia (Hutton et al., 2013). Theoretically, the development of self-compassion as a mindful self-relating style, allows for reducing and replacing the strategy of self-attacking and its associated distress through deactivating the 'threat system' and activating the 'soothing system' (Gilbert & Irons, 2005; Gilbert & Proctor 2006). Self-compassion has been found to be a stronger negative predictor of psychopathological processes than global self-esteem (Neff, 2009). Those with a higher capacity for self-compassion are likely to have had more favourable early environments (Gilbert & Proctor, 2006). This ability to be self-compassionate may contribute to their ability to function without support from services. Thus there is clinical importance in investigating the relationship between self-compassion and paranoia, and, as investigations of self-esteem have sought to do, the study aims to move us closer to a greater understanding of the role that self-compassion has to play. This investigation was a first step. A future study may include a measure of self-esteem in addition to self-compassion, perhaps with the use of ESM.

The self-report approach has been criticised because accuracy depends upon insight into one's own motives and behaviour, which may be lacking (Shedler, Mayman & Manis,

1993; George & West, 1999; Crowell, Fraley & Shaver, 1999). People may under-report their distress, or may be biased in terms of social desirability or their own subjective frame of reference (i.e. the level of 'paranoid ideation' reported by the general population may be exaggerated due to their interpretation of the items). Additionally, 'paranoid ideation' reported by the general population group may be more likely to be well-judged and appropriate in terms of their circumstances (they may know people who really are intending to harm them whereas, based on our assessments, we assume there is little 'objective' threat to the clinical participants). The cross-sectional design cannot infer temporal relationships and only associations are explored.

5.1.2.3. Analysis. As would be expected in researching processes involved in psychopathology, the distributions were not normal for certain variables. In fact, normal distributions and normality assumptions were only observed for anger, submissiveness and self-compassion (Appendix F). Due to the defined groups having differing distributions on each of the variables, it was considered that transformations would not be useful, as transforming overall variables would skew the distributions between groups. Because the parametric assumptions were violated, transformations were impractical and non-parametric tests could not control for important covariates and would reduce power, a robust alternative was to use bootstrapping (Efron, 1978; Mooney & Duval, 1993). Bootstrapping is a method which artificially randomly re-samples cases from the database with replacement, so that the bootstrap sample is different to the collected sample in the dataset. Bootstrap estimated means are computed from each bootstrap sample. This process was completed 1000 times, stratifying the bootstrap sample selection by paranoia group, in order to reflect the subgroup differences. Bias-corrected and accelerated (BCa) bootstrapping (Efron, 1987) was used as it adjusts for bias and skewness. Bootstrapping assumes the sample is a reasonable approximation of the population. However bootstrapping does not solve the problem of the

difference in group sizes, which may violate the homogeneity of variance assumption, and the impact that the missing data may have on the results.

5.1.2.4. Implications of findings for psychological therapies. The group step effect of EA and its contribution to a regression model predicting paranoia suggests that the role of EA in distressing paranoia is likely to be crucial. The findings add to those of Udachina et al., (2009) which provide support for a key contribution of EA. Acceptance and Commitment Therapy (ACT; Hayes, Strosahl & Wilson, 2009) is a therapeutic approach directly targeting EA. A central intervention in ACT which focuses on reducing EA is mindfulness training. In support of Hepworth, Startup and Freeman (2013) and Morris, Johns and Oliver (2013), our findings suggest ACT may be beneficial for individuals experiencing distressing paranoia.

The findings for self-attacking suggest that also focusing on these processes may be beneficial for people experiencing paranoia. As self-attacking did not significantly predict paranoia in a regression model controlling for depression when EA was entered in the same block, it may be that Compassion Focused Therapy (CFT; Gilbert 2009) may be useful in paranoia but the findings of, and given the wide definition of EA potentially the design of, the study did not reveal self-attacking as the best predictor.

5.1.2.5. Implications of the continuum approach. Paranoia scores across the general population were positively skewed. This finding is in corroboration with others (e.g. Bebbington et al., 2013; Freeman et al., 2005; 2010). We support the argument of Freeman, Freeman and Garety (2008) that there should be paranoia-specific information made available to users of services which does not emphasise diagnosis, but rather speak to the aetiological origins of paranoia and give information about its high prevalence in the general population. This normalising information is likely to be valued by users of services who may believe their ideas (and so themselves) to be ‘odd’ or ‘crazy’, possibly due to the effects of stigma (Birchwood et al., 2006).

From the perspective of the author, clinicians would do well to be informed of findings of investigations relating to continuum models and, in line with recovery approaches, endeavour to work less within classificatory systems of 'severe mental illness' and instead recognise other models of conceptualising psychopathology. One such model is the functional dimensional approach (Hayes et al. 1996), which permits more credence to the empirically supported notion of a continuum and so the prevalence of symptomatology in the general population. The functional dimensional approach could be considered to lend itself more openly to formulation of emergent 'symptoms', their origins, triggers and maintenance.

5.1.2.6. Further study. The current study did not yield enough participants to divide the sample into poor me and bad me groups. Investigating differences in processes associated with third wave therapies has not yet been looked at in these paranoid subtypes.

The study did not investigate self-esteem, which has important relationships with paranoia (e.g. Thewissen et al., 2008; Thewissen et al., 2011; Udachina et al., 2009). Additionally, when measuring self-esteem, what participants *say* they feel about themselves (explicit self-esteem) may differ from how they *actually* feel about themselves (implicit self-esteem). Implicit and explicit self-esteem can be considered distinct processes (Greenwald and Farnham, 2000). In the case of high explicit but low implicit self-esteem, this may indicate a defensive process (Bentall et al., 2001). Measuring implicit as well as explicit self-esteem has been suggested to most accurately represent self-regard, as self-reports of explicit self-esteem can reflect the (perhaps unconscious) motivation to portray oneself in a socially desirable light (Farnham, Greenwald & Banaji, 1999). Therefore, a further study might classify poor me and bad me groups and investigate levels of important processes which may differ between the two, including the key variables from the current study with the addition of measures of implicit and explicit self-esteem.

5.2. Participant Feedback

The following summary provides feedback to the participants of the study. The participants will receive the feedback via e-mail or post, as requested on the study forms. The feedback will be presented in a .pdf or printed format, using colour and publishing formatting for reader appeal (Appendix H). The writing is lay and will be presented in large 'Arial' font for accessibility. The feedback was written with the intention of being accessible to all participants of the study. Readability scores were calculated: The Flesch reading ease score is 55.6 (higher scores reflect greater ease of reading). The Flesch-Kincaid USA grade reading level is 8 (equivalent to year 9 in the English education system; age 13-14). Earlier drafts had lower readability scores, thus the feedback was adjusted:

5.2.1. Research project feedback. You are receiving this feedback report because you took part in a research project. The study was organized by researchers from The University of Liverpool. The study was approved by a NHS Research Ethics Committee. The research team have put this information sheet together to let you know the findings. We would like to thank you again for taking part.

5.2.2. Background. Paranoia is not just experienced by people who use mental health services. Anyone can experience paranoia. Researchers tend to agree that there is a range of paranoid thinking in the general population. Disabling and distressing paranoia is less common. Paranoid people who use mental health services tend to hold more unusual beliefs.

5.2.3. Project aims. We wanted to find out which psychological processes that place for people when they feel very suspicious or paranoid. For instance, we may criticise ourselves more. We might act in a way to avoid unpleasant thoughts or feelings. There are a lot of these processes that are thought to play a role when we feel paranoid. It is important to

identify some of the main ones. This is because they can be addressed in psychological therapy.

We wanted to compare three groups:

- People with paranoia who were mental health service users
- People with paranoia who were not using mental health services
- People with no paranoia

We wanted to see which processes were the most important in paranoia in general too. This was whether or not people used services or had any mental health problem. No one has looked at all these things in one study before.

5.2.4. Who took part? 14 people experiencing paranoia from mental health services. 129 people from NHS and University offices, or from Facebook.

5.2.5. Findings.

5.2.5.1. Social findings connected to paranoia. We found that paranoia was common in the general population. One in ten people who had never been involved with services had high paranoia levels. They reported approximately the same level of paranoia as the paranoid people who used services. Paranoia might be almost as common as anxiety and depression. Other researchers have noticed this too.

The graph shows the paranoia scores for all of the people who took part. You can see that most people do not experience much paranoia. The graph slopes off. This means fewer people report a lot of paranoia.

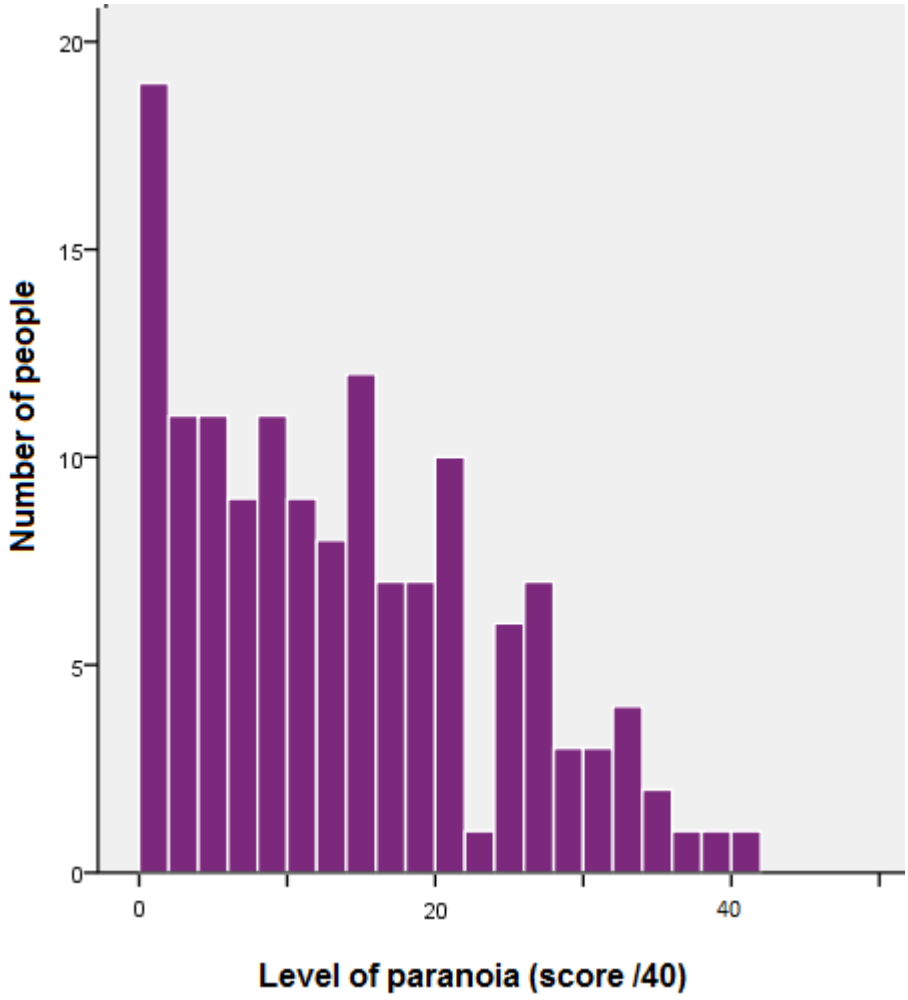

Figure 4 Graph showing paranoia across the sample

We found that a lot of people from the general population had help for a mental health problem at some time in their life (35.7%). This shows just how common it is to experience mental health problems.

There was a big difference in education and employment between people who were paranoid and using services and people who were not. People using services were more likely to be out of work and have completed less education. This may mean that social factors like having a job may protect against the effects of distressing mental health problems. Being in work may boost self-worth and paid work could reduce stress associated with finances.

5.2.5.2. Emotion-related findings. So we know that people in the general population can have experiences such as paranoia or hearing voices. But they might not always be very distressed by them. When people are very distressed, they might have contact with mental health services for support. We found that people experiencing paranoia, whether or not they were in services, had more 'depression' than people not experiencing paranoia, but people using services were most depressed. How anxious people felt was found to be important as well. People were more anxious if they were paranoid. People using services were the most anxious.

5.2.5.3. Attachment. Attachment describes the type of bonds people make with others. It is concerned with how people feel about themselves and how they feel about others in relationships. Paranoia involves feeling worried that others might harm you in some way. Because there are worries about others, it is important to look at attachment. One thing we thought would be associated with the highest levels of paranoia was how much people want other people around to depend on in order to feel ok. As well as this, we were interested in how difficult they find it to trust others or are motivated to avoid them. People who were paranoid and using services had the greatest concerns about wanting someone to trust and felt bad about themselves. Like anxiety and depression, this set them apart from paranoid people not in services. People experiencing paranoia had some concerns about distrusting and avoiding others, seeing them as bad, but this were not as important as we had expected.

5.2.5.4. Self-attacking. We can all get a bit self-critical at times, but some self-criticism is extreme. Self-attacking is a term used to describe criticising ourselves in this way. People who self-attack may really dislike themselves and think they are somehow not 'good enough'. We found paranoid people used self-attacking more than people who were not paranoid. Again, it was highest for people in services.

5.2.5.5. Experiential Avoidance. 'Experiential avoidance' simply means how much a person tries to avoid painful or uncomfortable (psychological) experiences, rather than accepting them. When people felt paranoid, they wanted to avoid their experiences a great deal. People who were using services struggled the most. Experiential avoidance had the strongest connection to paranoia out of all of the factors we were interested in.

5.2.5.6. Other factors. The factors for which there was *no difference* between service-users and non-service-users were:

- whether or not they thought that they deserved others to harm them
- anger
- how submissive their behaviour was
- how compassionate they were toward themselves.

These things were still important in paranoia, but were not *the most* important, or very different between people in and out of services.

5.2.6. What do the findings mean? The findings of the study are useful because we can tackle these things in therapy. If you are feeling suspicious or paranoid, seeking out support from people you trust is likely to be a big help. Learning to become more psychologically flexible is important for dealing with paranoia (and probably it's associated depression, and anxiety). Paranoid people may feel very bad, and if psychological flexibility is low they may try lots of things to counteract this. Unfortunately, their strategies may keep the paranoia going. People might also benefit from being encouraged to be kinder toward themselves during times of stress. This might be difficult, but talking to a therapist might help to understand the problems and discover how things may be changed.

If you think therapy might be helpful for you, ask your mental health service or GP about seeing a psychological therapist.

If you have any questions or complaints about the study you can contact:

Rosie Beck

rbeck@liv.ac.uk.

5.3. Research Protocol: Investigating Psychological Processes in Paranoid Subtypes

5.3.1. Aims. To investigate putative psychological processes which may differentially be associated with "poor me" and "bad me" paranoid subtypes (Chadwick et al., 1996; Trower & Chadwick, 1995).

5.3.2. Background. It has been suggested that there are two subtypes of paranoia, with differing profiles (Trower & Chadwick, 1995). The distinction is that in the "bad me" subtype, individuals believe their perceived persecution to be deserved and feelings of guilt are strong, whereas in "poor me" paranoia, the individual believes they are the undeserving victim of persecution. Bad me individuals have been found to be more depressed (Chadwick et al., 2005; Freeman et al., 2001; Morris et al., 2011; Udachina et al., 2012), have more negative self-evaluations (Freeman et al., 2001) and lower self-esteem (Chadwick et al., 2005; Fornells-Ambrojo & Garety, 2005; Freeman et al., 2001; Green et al., 2006; Merrin et al., 2007). Poor me individuals are more similar to non-paranoid individuals for these processes; although one study found poor me individuals to still have lower self-esteem than non-paranoid control participants (Chadwick et al., 2005).

Self-esteem is postulated to be important in paranoia (Bentall et al., 2001). However, the relationships between self-esteem and paranoia are elusive and certainly complex. Findings have been variable, with some studies reporting normative self-esteem (Lyon, Kaney, & Bentall, 1994) and others low self-esteem (Bentall et al., 2009; Fowler et al., 2006; Freeman et al., 1998) in paranoia. There are a number of potential sources for contradictory findings in levels of self-esteem.

Self-esteem has been found to be highly unstable in paranoia (Melo & Bentall, 2013; Thewissen et al., 2008; 2011; Udachina et al., 2009; 2012) although studies tend to be cross-sectional in design and most measures do not reflect its dynamicism. It can also be conceptualised as having positive and negative components (Barrowclough et al., 2003; Bentall et al., 2008), although only one dimension of global or composite self-esteem is measured in most studies. Furthermore, the exclusive use of explicit self-report measures with the aim of accurately measuring the personally meaningful construct of one's view of the self, might merely capture self-presentation, rather than true self-regard (Farnham, Greenwald & Banaji, 1999). Implicit and explicit self-esteem can be defined as how an individual *really* feels about themselves versus what they *say* they feel about themselves. Bentall et al.'s (2001) model of paranoia predicts that a discrepancy between implicit and explicit self-esteem, where explicit self-esteem is high, but implicit self-esteem is low, indicates that defensive processes are operating. Variability in findings in the levels of self-esteem observed in studies of paranoia may be accounted for by 1) failure to measure implicit *and* explicit self-esteem to reflect a more accurate appraisal of the self, 2) failure to make the distinction between poor me and bad me, which will differ in terms of important variables. Taken together these failures may confound findings.

The idea of the two types is accepted clinically by some practitioners, and some therapeutic approaches incorporate the theoretical distinction, advocating different treatment protocols (Chadwick, 2006; Chadwick et al., 1996). There is relatively little research investigating the proposed subtypes however, and some studies which do are based on small samples or investigate non-clinical paranoia only. While this research has explored the associations between deservedness judgements and many processes of interest, some processes, particularly those associated with modern 'third wave' therapies, have not yet been

assessed in such detail and no study has assessed implicit and explicit self-esteem in poor me and bad me paranoia.

The purpose of the study is therefore to identify candidate putative psychological processes which may be associated with positive or negative deservedness judgements (bad me and poor me subtypes respectively). The degree to which people engage in specific processes at a point in time may determine their experience of paranoia, particularly given the fluctuation that has been seen in deservedness judgements (Melo & Bentall 2013; Melo et al., 2006; Udachina et al., 2012) and the complexity of the related processes of self-esteem (Thewissen et al., 2008; 2011; Udachina et al., 2009). This study will distinguish poor me and bad me clinically paranoid groups and compare them for theoretically and empirically indicated processes, including implicit and explicit self-esteem.

Distinguishing specific psychological processes which serve to produce, maintain, or exacerbate paranoid experiences has implications for therapeutic interventions, for instance choosing a therapeutic focus of enhancing acceptance or self-compassion, components of third wave therapies (Gilbert & Proctor 2006; Hayes & Smith, 2005).

5.3.3. Review of candidate processes. The selected variables which may differentially contribute to poor me and bad me paranoid states are outlined below:

5.3.3.1. Self-compassion. Self-compassion, the ability to be kind to oneself in times of distress (Neff, 2003) involves being able to relate to oneself in a non-judgemental way. The inability to be self-compassionate is common to the presence of paranoid beliefs and higher levels of depression in students (Mills, Gilbert, Bellew, McEwan & Gale, 2007; Neff, 2003). Mindfulness is a component of self-compassion and often a concept employed in 'third wave' therapies (Hayes & Smith, 2005; Kabat-Zinn, 2003; Segal, Williams & Teasdale, 2002), as is encouraging feelings of self-compassion (Gilbert & Proctor, 2006).

Our previous study found non-paranoid and clinically paranoid groups to report significantly lower self-compassion than non-paranoid controls.

5.3.3.2. Self-criticism/attacking. Self-attacking, relating to the self as hostile and self-hating in the forms of self-criticism engaged in, is reported to be present in paranoia when controlling for depression in a clinical (Hutton et al., 2013) and non-clinical sample (Mills et al., 2007). Our previous study found levels of self-attacking to significantly differ between non-clinically paranoid and paranoid groups, with clinically paranoid people engaging in more self-attacking.

5.3.3.3. Submissive relating to others. More a behaviour than mental process, but a submissive style of relating to others is believed to be common in paranoia. This can be conceptualised as a means of keeping a safe position in a social group, to avoid rejection or abandonment (Allan & Gilbert, 1997; Freeman et al., 2005; Gilbert & Allan, 1994). Our previous study found clinically and non-clinically paranoid groups to report significantly higher submissiveness than non-paranoid controls.

5.3.3.4. Experiential avoidance. Experiential avoidance (EA) or *psychological inflexibility*, is, "the phenomenon that occurs when a person is unwilling to remain in contact with particular private experiences (e.g., … emotions, thoughts, memories…) and takes steps to alter the form or frequency of these events and the contexts that occasion them" (Hayes, Wilson, Gifford, Follette & Strosahl, 1996, p. 1154). EA is a transdiagnostic avoidant cognitive/behavioural process found in paranoia (Goldstone et al., 2011; Udachina et al., 2009). Within the attributional model of paranoia (Bentall et al., 2001; Bentall & Kaney, 2005) paranoid individuals have a tendency to make more external attributions for negative events, having high motivation to preserve self-esteem, thus potentially less psychological flexibility. Indeed, Udachina et al. (2009) found EA to predict paranoia, and low self-esteem to predict EA. Recently Goldstone et al. (2011) found EA to mediate the relationship between

life hassles and distressing delusional experiences in a clinical group and subclinical experiences in a control group. However, although the authors note the presence of 'depression', they do not control for it. Our previous study found EA to predict paranoia when controlling for depression. Clinically paranoid, non-clinically paranoid and not paranoid groups also significantly differed on EA, with more EA being associated with more severe persecutory ideation, suggesting a positive linear relationship across the paranoid continuum. Targeting EA might be useful for persecutory delusions (Hepworth et al., 2013) and in psychopathology generally (Boulanger, Hayes & Pistorello, 2010).

5.3.3.5. Implicit and explicit self-esteem. De Houwer (2002) suggests that psychopathology research might be improved through the use of implicit measures. The Implicit Attitudes Test (IAT) is a computer-based task which is designed to measure implicit cognition (attitudes). IAT measures of implicit self-esteem have demonstrated some support for Bentall et al.'s (2001) model of paranoia. (McKay, Langdon & Coltheart, 2007; Moritz, Werner & von Collani, 2006; Valiente et al., 2011). The findings suggest that paranoid individuals have lower implicit self-esteem than non-paranoid controls (McKay et al., 2007; Valiente et al., 2011), remitted paranoid individuals (McKay et al., 2007) and similar (McKay et al., 2007; Valiente et al., 2011) or lower (Moritz et al. 2006) levels of explicit self-esteem to non-paranoid controls. Valiente et al. (2011) found the implicit self-esteem of paranoid participants did not differ from that of depressed participants. Implicit and explicit self-esteem has not been investigated in studies of poor me and bad me paranoia, which following the empirical review, are reframed as high and low deservedness paranoia in terms of current (cross-sectional) deservedness judgements.

5.3.4. Hypotheses.

1. The high deservedness paranoid group will have lower self-compassion, higher submissiveness, higher self-attacking and lower explicit self-esteem than the low deservedness group
2. High and low deservedness groups will not differ on implicit self-esteem
3. The low deservedness group will have higher EA than the high deservedness group
4. Non-paranoid control participants will have lower EA, be less submissive, self-attack less, have higher self-compassion and higher implicit self-esteem than the clinical groups.

5.3.5. Design. A cross-sectional design will be employed.

5.3.6. Participants.

5.3.6.1. Ethics procedure. An application will be made through the Integrated Research Application System (IRAS) for local NHS Research Ethics Committee (REC) review and Trust R&D review in order recruit NHS patients and controls to the study from trust sites.

5.3.6.2. Access. Due to previous difficulties in recruitment when a geographically-wide recruitment strategy was employed, applications will be made to the trust in which the researcher is employed only, allowing a concentrated focus. The researcher will investigate barriers to access (e.g. a high volume of studies in the required population) through contacting the R&D department. Enquiries will be made via email and personal visits to the leads of the services to be targeted for recruitment. As the researcher will be working in the area, potential participants would be identified in the routine course of clinical practice. The service in which the researcher practices might incorporate the screening for suitability for the research project in the course of routine assessments, enhancing the likelihood of identification and recruitment of eligible participants through other practitioners. Service user

groups would be approached who may value opportunities for participation in mental health research. Using these methods it is likely to take a period of months to reach the target N, but without the limited timescale of clinical training this is not problematic, particularly as this approach is likely to be more fruitful.

5.3.6.3. Recruitment. Informed consent will be taken. Participants aged 18-65 currently meeting DSM-IV (American Psychiatric Association, 1994) criteria (for publication purposes and interest in classificatory reliability and validation) for schizophrenia spectrum disorders including Freeman and Garety's (2000) criteria for persecutory delusions will be recruited from the adult mental health service where the researcher is based as well as CMHTs, Early Intervention in Psychosis services, clinical psychology departments, inpatient services, and user groups in the trust as well as voluntary services, e.g. The Paranoia Network. Current paranoid ideation will be confirmed by items P1 and P6 of the Positive and Negative Syndromes of Schizophrenia Scale (PANSS; Kay, Fiszbein & Opler, 1987). General population participants will be recruited from the local area and, if possible, matched for socio-demographic factors with the clinical sample.

5.3.7. Measures.

5.3.7.1. Clinical measures.

The Positive and Negative Syndromes of Schizophrenia Scale (PANSS; Kay, Fiszbein & Opler, 1987) and the Persecution and Deservedness Scale (PaDS; Melo et al., 2009) will measure paranoid ideation.

5.3.7.2. Experimental measures.

In addition to the Self-Compassion Scale (SCS; Neff, 2003), the Forms of Self-Criticism/Attacking and Reassurance Scale (FSCRS; Gilbert, Clarke, Hempel, Miles & Irons, 2004), Submissive Behaviour Scale (SBS; Allan & Gilbert, 1997) and Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011) the following measures will be used:

Self-Esteem Rating Scale- Short Form (SERS-SF; Lecomte, Corbière, & Laisné, 2006). The SERS-SF is a 20-item assessment of positive and negative (explicit) self-esteem. Responses are rated on a 7-point Likert scale. The scale has a good level of reliability and validity (Lecomte et al., 2006) and has been used in the paranoid population (Udachina et al., 2012).

Implicit Associations Test (IAT; Greenwald & Farnham, 2000). The IAT for our purposes is an implicit measure of self-esteem. The IAT is a computer-based task which will display stimulus words, associated with the dimensions of the self and others, and the participant is required to respond as quickly as possible. A quick response in relation to positively loaded words attached to self indicates positive implicit self-esteem. Latency in responding for the positive representations is related to a negative implicit attitude towards the self. To date, the most accurate IAT-based measure for self-esteem is that used by Valiente et al. (2011). Their procedure will be adopted.

5.3.8. Data analysis. MANOVA will be used to compare 3 groups (poor me, bad me, non-paranoid control). As the distributions for most of the variables of interest are expected to violate normality assumptions, the non-parametric method for MANOVA described by Anderson (2001) will be used. Alternatively, one-way ANOVAs using the bootstrap method (Efron, 1979; Mooney & Duvall, 1993) could be used to deal with non-normality, requiring a smaller sample.

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APPENDICES

APPENDIX A

Literature Review Tables

A1 **Justifications for included and excluded literature**

A2 **Amended STROBE Checklist**

Table A

Included and Excluded Literature

Paper	Included	Justification	Excluded	Justification
Chadwick & Trower, (1996)			✓	Single case study
Chadwick & Trower (1997)			✓	Does not investigate two types explicitly
Bentall et al., (2001)			✓	Review and theory
Freeman & Garety (2001)			✓	Review
Freeman, Garety & Kuipers (2001)	✓	Asked if deserve harm and groups compared on depression, self-esteem, emotional measures and safety behaviours		
Freeman et al., (2002)			✓	Theory
Bentall & Swarbrick (2003)			✓	No investigation of PM/BM or measure of deservedness
Ellet, Lopes & Chadwick, 2003			✓	Did not pass quality check. Little focus on deservedness and conclusions not discussed
Chadwick, Trower, Juusti-Butler & Maguire (2005)	✓	Primary question, PM/BM comparisons		
Fornells-Ambrojo & Garety (2005)	✓	Primary question, PM/BM comparisons		
Gilbert et al., (2005)			✓	No study of two types or measure of deservedness.
Rhodes, Jakes & Robinson (2005)			✓	Qualitative
Bentall & Taylor (2006)			✓	Review
Green et al., (2006)	✓	Dichotomized response for deservedness: PM/BM Means reported		
Jolley et al., (2006)			✓	No measure of deservedness
Melo, Taylor & Bentall (2006)	✓	Primary question, PM/BM		

Paper	Included	Justification	Excluded	Justification
		comparisons		
Peters & Garety, (2006)	✓	PM / BM classified, investigates attributional style		
Bentall et al., (2007)			✓	Review
Combs et al., 2007			✓	Ground up method. No measure of deservedness.
Freeman (2007)			✓	Review
Merrin, Kinderman & Bentall (2007)	✓	PM /BM investigated. Means/trends only		
Moutoussis et al., (2007)			✓	Review
Bentall et al., (2008)	✓	PM / BM investigated. Non-parametric and means		
Bentall & Fernyhough (2008)			✓	Not an empirical study of PM/BM
Pickering, Simpson & Bentall (2008)	✓	Investigates predictors of deservedness		
Fornells-Ambrojo & Garety, (2009)			✓	Investigates poor me only
Melo, Corcoran, Shryane & Bentall (2009)	✓	Measures in clinical and student samples		
Fernández-Jiménez et al., (2010)			✓	Unable to retrieve full study – brief supplement/poster of methodology only
Melo & Bentall (2010)	✓	Deservedness measured		
Morris, Milner, Trower & Peters (2010)	✓	Primary question, PM / BM investigated		
Cicero & Kerns (2011)			✓	No study of two types or deservedness
Thewissen et al., (2011)			✓	No measure of deservedness or investigation of PM/BM
Valiente et al., (2011)			✓	Does not investigate PM/BM and deservedness
Melo & Bentall, (2013)	✓	Primary question, PM/BM investigation		

Paper	Included	Justification	Excluded	Justification
Udachina et al., (2012)	✓	Primary question, PM/BM study		

Table B

Amended STROBE Checklist for Reviewed Studies

		Study No.															
	STROBE ITEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Title and abstract																	
Design stated	1a	✓	×	×	×	✓	×	✓	✓	×	×	×	×	×	×	✓	✓
Informative summary	1b	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Introduction																	
Background, rationale for PM/BM	2	✓	✓	×	✓	✓	✓	✓	✓	×	✓	✓	✓	✓	✓	✓	✓
Broad aims about PM/BM stated	3a	✓	✓	×	✓	✓	✓	✓	×	×	✓	✓	-	✓	✓	✓	✓
Specific a priori objectives, PMBM hypothesis stated	3b	✓	×	×	✓	✓	×	✓	×	×	✓	✓	-	✓	✓	✓	✓
Method																	
Study design stated early	4	✓	×	×	✓	×	×	✓	✓	×	×	×	×	✓	×	×	✓
Setting described	5	✓	✓	✓	✓	✓	✓	✓	✓	×	✓	✓	✓	✓	✓	✓	✓
Participants: definition, eligibility, selection	6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Defined variables, outcome, potential confounders	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Source of data and measurement, reliability and validity of measures discussed	8	✓	✓	✓	✓	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Clearly address bias	9	✓	✓	✓	✓	✓	×	✓	✓	✓	✓	×	✓	✓	✓	✓	✓
Explain study/sample size	10	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×

		Study No.															
	STROBE ITEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Quantification of variables described e.g. grouping	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Statistical methods described including controlling for confounds	12a	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Missing data discussed	12b	×	-	×	×	×	✓	×	×	×	×	✓	✓	×	×	✓	×
Follow up discussed/ matching of cases	12c	-	-	-	-	-	✓	-	✓	✓	✓	-	✓	-	-	✓	✓
Results																	
Track participants and attrition	13a	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Reasons for non-participation	13b	✓	×	×	✓	×	×	×	✓	✓	×	×	×	×	×	✓	×
Demographic data reported, tests for normality, confounders	14a	✓	✓	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
N participants with missing data for each variable reported (unless stated complete)	14b	×	-	×	×	×	×	×	×	×	×	×	✓	×	×	×	×
Follow up time if applicable (average, total)	14c	-	-	-	-	-	✓	-	×	-	-	-	-	-	-	✓	✓
Variable means and outcomes reported	15	✓	-	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	✓	✓	✓
Inferential analysis (if applicable) and p value	16a	✓	✓	×	✓	-	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓

		Study No.															
	STROBE ITEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
reported or reliability value as appropriate																	
Post-hocs or further associations for PMBM	16b	✓	✓	-	✓	-	✓	-	✓	-	✓	✓	✓	✓	-	✓	✓
How continuous variables categorized	16c	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Discussion																	
Key PMBM results discussed (referring to objectives)	17	✓	✓	×	✓	✓	✓	✓	×	×	×	✓	✓	✓	✓	✓	✓
Limitations	18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	✓	✓
Interpretation with reference to PM/BM evidence and theory	19	×	×	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Discuss validity/ generalizability	20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	✓	✓
Clinical Implications for PM/BM	21	×	×	×	✓	✓	✓	✓	×	×	✓	×	✓	✓	✓	✓	×
TOTAL SCORE		18	16	12	20	18	18	20	17	14	18	17	18	19	17	19	19
QUALITY RATING		3	3	1	4	3	3	4	3	2	3	3	3	4	3	4	4

Note. ✓, satisfied; ×, not satisfied; -, not applicable;

1, Freeman, Garety & Kuipers (2001); 2, Startup et al., (2003); 3, Ellett, Lopes & Chadwick (2003); 4, Chadwick et al., (2005); 5, Fornells-Ambrojo & Garety (2005); 6, Melo, Taylor & Bentall (2006); 7, Green et al., (2006); 8, Peters & Garety (2006); 9, Merrin, Kinderman & Bentall (2007); 10, Bentall et al., (2008); 11, Pickering, Simpson & Bentall (2008); 12, Melo, Corcoran, Shryane & Bentall. (2009); 13, Melo & Bentall (2010); 14, Morris, Milner, Trower & Peters (2011);15, Melo & Bentall, (2013); 16, Udachina et al., (2012).

APPENDIX B

Ethics and Research and Development Approval

B1 **University Research Committee approval**

B2 **Sponsor approval**

B3 **IPHS Research Ethics Committee approval**

B4 **NHS Research Ethics Committee approval**

B5 **NHS Trusts R&D approval**

University Research Committee approval

D.Clin.Psychology Programme

Division of Clinical Psychology
Whelan Building, Quadrangle
Brownlow Hill
LIVERPOOL
L69 3GB

Tel: 0151 794 5530/5534/5877
Fax: 0151 794 5537
www.liv.ac.uk/dclinpsychol

Rosie Beck
Year 2 Trainee Clinical Psychologist
10th November 2011

RE: Investigating psychological processes distinguishing paranoia and depression

Dear Rosie

On the understanding that your responses to the Research Committee have been discussed and approved by your supervisors you have been granted Chair's approval for your revised research project, and approval to progress to the next stage of your research.

Good luck with your study.

Regards

Sponsor approval

UNIVERSITY OF LIVERPOOL

Clinical Research Governance Manager.

Research Support Office
University of Liverpool
Waterhouse Buildings
3 Brownlow Street
Liverpool
L69 3GL

Tel: 0151 794 8722

Faculty of Health and Life Sciences Ref: UoL000833

Professor Richard Bentall (Rosie Beck)
Institute of Psychology, Health & Society

Wednesday, 14 December 2011

Dear Professor Bentall

I am pleased to confirm that the University is prepared to act as Sponsor under the Department of Health's Research Governance Framework for Health and Social Care 2nd Edition (2005) for your study entitled "Investigating Psychological Processes Distinguishing Paranoia and Depression". This approval for sponsorship is subject to the following.

1. The University expects you, as Chief Investigator, to conduct the study in full compliance with the requirements of the Framework so that it is able to meet its obligations as Sponsor.

2. In addition to sponsorship, your study will require NHS ethical approval through the National Research Ethics Service (NRES). If you have not already done so, in order to apply for this please use the Integrated Research Application System (IRAS) at https://www.myresearchproject.org.uk/Home.aspx. Please contact me on 0151 794 8722 or at sponsor@liv.ac.uk for further advice.

3. As the Chief Investigator, the University expects you to comply, where appropriate, with the University's policy on the use and / or storage of human tissues, details of which may be found at www.liverpool.ac.uk/humantissues.

4. If you wish to conduct any part of the study in a site outside the UK or you wish to sub-contract any part of the study to a third party please contact me to ensure that appropriate contractual arrangements are in place.

5. University professional indemnity and clinical trials insurances will apply to the study as appropriate. This is on the assumption that no part of the clinical trial will take place outside of the UK. Such cover will extend to cover for non-negligent harm.

I trust that this statement will enable you to proceed with your research but if you have any queries please contact me on 0151 794 8722 (email s

Yours sincerely

Cc Head of Institute, Institute of Psychology, Health & Society

IPHS Research Ethics Committee approval

From: IPHS Ethics
Sent: 08 February 2013 12:59
To: Sellwood, Bill
Subject: RE: IPHS-1213-SG-011-Psychological processes

Dear Bill
I am pleased to inform you that IPHS Research Ethics Committee has approved your application for ethical approval. Details and conditions of the approval can be found below.

Ref: IPHS-1213-SG-011

PI / Supervisor: Bill Sellwood

Title: Psychological processes in paranoia

First Reviewer: [redacted]

Second Reviewer: [redacted]

Third Reviewer (if applicable):

Date of Approval: 08.02.13

The application was APPROVED subject to the following conditions:

Conditions

1 All serious adverse events must be reported to the Sub-Committee within 24 hours of their occurrence, via the Research Governance Officer (ethics@liv.ac.uk).

2 This approval applies for the duration of the research. If it is proposed to extend the duration of the study as specified in the application form, IPHS REC should be notified as follows. If it is proposed to make an amendment to the research, you should notify IPHS REC by following the Notice of Amendment procedure outlined athttp://www.liv.ac.uk/researchethics/amendment%20procedure%209-08.doc.

3 If the named PI / Supervisor leaves the employment of the University during the course of this approval, the approval will lapse. Therefore please contact the Institute's Research Ethics Office at iphsrec@liverpool.ac.uk in order to notify them of a change in PI / Supervisor.

Best Wishes
[redacted]
Chair, Ethics Committee

NHS Research Ethics Committee approval

NHS
Health Research Authority

National Research Ethics Service

NRES Committee North West – Preston
3rd Floor
Barlow House
4 Minshull Street
Manchester
M1 3DZ

Telephone: 0161 625 7434

11 June 2012

Professor Richard Bentall
Professor of Clinical Psychology
University of Liverpool
Institute of Psychology Health & Society, Waterhouse Block B, B211, 2nd Floor,
University of Liverpool, 1-5 Brownlow Street
Liverpool
L69 3GL

Dear Professor Bentall

Full title of study: **Psychological processes distinguishing paranoia and depression**
REC reference number: **12/NW/0308**
Protocol number: **UoL000833**

Thank you for your email of 1st June. I can confirm the REC has received the documents listed below as evidence of compliance with the approval conditions detailed in our letter dated 03 May 2012. Please note these documents are for information only and have not been reviewed by the committee.

Documents received

The documents received were as follows:

Document	*Version*	*Date*
Advertisement	2	30 May 2012
Covering Letter		01 June 2012
Other: Socio-demographic Data Sheet	2	30 May 2012
Participant Consent Form: Service Users	2	30 May 2012
Participant Consent Form: Non Service Users	2	30 May 2012
Participant Information Sheet: Service Users	2	30 May 2012
Participant Information Sheet: Non-Service Users	2	30 May 2012

You should ensure that the sponsor has a copy of the final documentation for the study. It is the sponsor's responsibility to ensure that the documentation is made available to R&D offices at all participating sites.

12/NW/0308	Please quote this number on all correspondence

Yours sincerely

Assistant Committee Co-ordinator

E-mail: a

Copy to:

Merseycare NHS

NHS
Health Research Authority
National Research Ethics Service

NRES Committee North West - Preston
Barlow House
3rd Floor
4 Minshull Street
Manchester
M1 3DZ

Telephone: 0161 625 7818
Facsimile: 0161 625 7299

03 May 2012

Professor Richard Bentall
Professor of Clinical Psychology
University of Liverpool
Institute of Psychology Health & Society, Waterhouse Block B, B211, 2nd Floor,
University of Liverpool, 1-5 Brownlow Street
Liverpool
L69 3GL

Dear Professor Bentall

Study title:	**Psychological processes distinguishing paranoia and depression**
REC reference:	**12/NW/0308**
Protocol number:	**UoL000833**

The Research Ethics Committee reviewed the above application at the meeting held on 27 April 2012. The Committee thanks Miss Beck for attending to discuss the study.

Ethical opinion

The Chair welcomed Ms Beck to the REC and thanked her for attending to discuss the study. The Committee told Ms Beck that this is a complex study but an excellent proposal which has taken the ethical issues into account. The Committee commended the research team on the use of service users in the design of the study, on the good practice of the distress protocol, the list of support services and on the taking into account of the well - being of the service users.

The Committee asked that the Participant Information Sheet Part I include a contact for complaints, e.g. PALS, and that the letters, posters be proof read to ensure consistency of headings and language. The Committee asked also that the Participant Information Sheet include specific examples of significant mental health issues – e.g. it is ok to participate if you have had x,y,z. It is not ok if you have had a,b,c.

The Committee asked Ms Beck how she would restrict to 25 controls and she advised that she will continue recruiting to a maximum of 50 as she felt the analysis would be better if there were more participants. The Committee advised that the Participant Information Sheet should state that a maximum of 50 participants will be chosen, so they know why if they are not selected.

Ms Beck confirmed for the Committee that she will not look at the case notes; if she needs information she will ask permission for the care co-ordinators to consult the notes for her.

The Committee asked what would happen if a participant agreed to take part and, on arriving at the home, it was found that they do not meet the criteria. Ms Beck said that she would advise them sensitively that they are not suitable but would still give them the payment.

The Committee asked whether direct quotes would be used in the write up and Ms Beck said that they will not. She also told the Committee that she is not recording the interviews.

Ms Beck agreed to the Committee's suggestion of including transgender under socio economic data.

The Committee asked whether a statistician had been consulted and Ms Beck said her supervisor had advised on this, a similar number to previous research projects.

Ms Beck asked the Committee for an opinion on Facebook recruitment and the members stated that they felt it is becoming more popular, that it is good to use a range of means and they it should ensure greater diversity

The members of the Committee present gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting documentation, subject to the conditions specified below.

Ethical review of research sites

NHS 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.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study 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 a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

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

Further Conditions specified by the REC:

a. The Committee would like to see the paperwork revised to ensure consistency of headings and language
b. The Committee would like to see the Participant Information Sheet revised to
    i) Include a complaints contact e.g. PALS in Part I
    ii) Include the fact that some may not be chosen as a maximum of 50 is needed
    iii) Include examples of what is ok and what is not ok in terms of significant mental health issues to enable participants to see whether they are suitable for inclusion
c. The Committee would like to see the Consent Form revised to include the standard clause "I understand that data collected during the study may be seen by regulatory authorities and by individuals from the Trust where it is relevant to my taking part in this research. I give permission for these individuals to have access to this information"
d. The Committee would like to see the logo on the Advert
e. The Committee would like to see transgender included on the Socio-demographic Information Sheet

It is 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).

You should notify the REC in writing once all conditions have been met (except for site approvals from host organisations) and provide copies of any revised documentation with updated version numbers. Confirmation should also be provided to host organisations together with relevant documentation

Approved documents

The documents reviewed and approved at the meeting were:

Document	*Version*	*Date*
Advertisement	1	06 February 2012
Evidence of insurance or indemnity		14 December 2011
Evidence of insurance or indemnity		25 August 2011
Investigator CV	Dr Bill Sellwood	06 January 2012
Investigator CV	Dr James Kelly	06 January 2012
Investigator CV	Rosie Beck	06 January 2012
Investigator CV	Richard Bentall	06 January 2012
Letter from Sponsor		14 December 2011
Letter from Sponsor		14 December 2011
Other: Distress proposal	1	05 February 2012
Other: Letter from funder		10 November 2011
Other: Leaflet - Non-Service User - Controls		
Other: Leaflet - Service User Depression		
Other: Leaflet - Service User Paranoia		
Other: Signature Pages Received	3.4	05 March 2012
Participant Consent Form: Service Users	1	09 February 2012
Participant Consent Form: Online CF - Non Service Users	1	09 February 2012

Participant Information Sheet: Service Users	1	02 December 2011
Participant Information Sheet: Non Service Users	1	02 December 2011
Protocol	1	01 August 2011
Questionnaire: PANSS	1	30 March 2012
Questionnaire: AAQ-II	1	30 March 2012
Questionnaire: FCRS	1	30 March 2012
Questionnaire: FSCS	1	30 March 2012
Questionnaire: Forms of self attacking		
Questionnaire: Functions of self attacking		
Questionnaire: HADS; Zigmond & Snaith, 1983	1	30 March 2012
Questionnaire: NAI-SF	1	30 March 2012
Questionnaire: PADS	1	30 March 2012
Questionnaire: P.D.I.-21	1	30 March 2012
Questionnaire: RQ	1	30 March 2012
Questionnaire: SCS	1	30 March 2012
Questionnaire: The Submissive Behaviour Scale	1	30 March 2012
Questionnaire: Socio-demographic Information Sheet	1	16 February 2012
REC application	3.4	03 March 2012

Membership of the Committee

The members of the Ethics Committee who were present at the meeting are listed on the attached sheet.

Statement of compliance

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

After ethical review

Reporting requirements

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
- Notification of serious breaches of the protocol
- 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.

Feedback

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.

Further information is available at National Research Ethics Service website > After Review

12/NW/0308	Please quote this number on all correspondence

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

Yours sincerely

Chair

Email:

Enclosures: *List of names and professions of members who were present at the meeting and those who submitted written comments*
"After ethical review – guidance for researchers"

Copy to:

NHS Trusts R&D approval

Greater Manchester West NHS
Mental Health NHS Foundation Trust

Research & Development Office
Room F036, Harrop House
Bury New Road
Prestwich
Manchester M25 3BL

Tel: 0161 772 3591/3954/3492
Email:

Standardised Process for
Electronic Approval of Research

13 July 2012

Ms Rosie Beck
Division of Clinical Psychology
University of Liverpool
Whelan Building
Quadrangle, Brownlow Hill
Liverpool L69 3GB

Information for ID Badge if required:
Research Project Ref No: 743
Expiry Date: 30 June 2013
You must take this letter with you.

Dear Ms Beck

Re: NHS Permission for Research

Project Reference: 743
Unique SPEAR Identifier: 1150
CSP Reference Number: N/A
IRAS/REC Reference Number: 12/NW/0308
Sponsor: University of Liverpool
Protocol Version and Date: Version 1, 1 August 2011
Project Title: Psychological processes distinguishing paranoia and depression
Date of Permission: 13 July 2012

Further to your request for permission to conduct the above research study at this Trust, we are pleased to inform you that this Trust has given NHS permission for the research. **Your NHS permission to conduct research at this site is only valid upon receipt of a signed 'Conditions for NHS Permission Reply Slip' which is enclosed**.

Please take the time to read the attached conditions for NHS permission. Please contact the R&D Office should you require any further information. You will need this letter as proof of NHS permission. Please note when contacting the R&D office about your study you must always provide the project reference numbers provided above.

NHS permission for the above research has been granted on the basis described in the IRAS application form, Protocol and supporting documentation.

Permission is granted on the understanding that the study is conducted in accordance with the Research Governance Framework and NHS Trust policies

and procedures. Permission is only granted for the activities for which a favourable opinion has been given by the Ethics Committee.

Permission covers all locations within the Trust, however, you should ensure you have liaised with and obtained the agreement of individual service/ward managers before commencing your research.

We would like to point out that hosting research studies incurs costs for the Trust such as: staff time, usage of rooms, arrangements for governance of research. We can confirm that in this instance we will not charge for these. However we would like to remind you that Trust costs should be considered and costed at the earliest stage in the development of any future proposals.

May I wish you every success with your research.

Yours sincerely

Dr
Medical Director and R&D Lead

cc : Chief Investigator, Professor Richard Bentall
Sponsor, University of Liverpool

Enc: Approval Conditions Leaflet
Induction & ID Badge Information, TrustTECH Leaflet

Greater Manchester West Mental Health NHS Foundation Trust, Trust HQ, Bury New Road, Prestwich, Manchester M25 3BL Tel 0161 773 9121

v2.1

Greater Manchester West NHS
Mental Health NHS Foundation Trust

Research & Development Office
Room F036, Harrop House
Bury New Road
Prestwich
Manchester M25 3BL

Email:

17 August 2012

Miss Rosie Beck
Whelan Building, Quadrangle
University of Liverpool
Brownlow Street
Liverpool L69 3GB

Dear Miss Beck

Letter of Access for Research

As an existing NHS employee you do not require an additional honorary research contract with this NHS organisation. We are satisfied that the research activities that you will undertake in this NHS organisation are commensurate with the activities you undertake for your employer. Your employer is fully responsible for ensuring such checks as are necessary have been carried out. Your employer has confirmed in writing to this NHS organisation that the necessary pre-engagement check are in place in accordance with the role you plan to carry out in this organisation. This letter confirms your right of access to conduct research through Greater Manchester West Mental Health NHS Foundation Trust for the purpose and on the terms and conditions set out below. This right of access commences on 17 August 2012 and ends on 31 August 2013 unless terminated earlier in accordance with the clauses below.

You have a right of access to conduct such research as confirmed in writing in the letter of permission for research from this NHS organisation. Please note that you cannot start the research until the Principal Investigator for the research project has received a letter from us giving permission to conduct the project.

You are considered to be a legal visitor to Greater Manchester West Mental Health NHS Foundation Trust premises. You are not entitled to any form of payment or access to other benefits provided by this organisation to employees and this letter does not give rise to any other relationship between you and this NHS organisation, in particular that of an employee.

While undertaking research through Greater Manchester West Mental Health NHS Foundation Trust, you will remain accountable to your employer, Mersey Care NHS Trust, but you are required to follow the reasonable instructions of the service managers in this NHS organisation or those given on her/his behalf in relation to the terms of this right of access.

Where any third party claim is made, whether or not legal proceedings are issued, arising out of or in connection with your right of access, you are required to co-operate fully with any investigation by this NHS organisation in connection with any such claim and to give all such assistance as may reasonably be required regarding the conduct of any legal proceedings.

You must act in accordance with Greater Manchester West Mental Health NHS Foundation Trust policies and procedures, which are available to you upon request, and the Research Governance Framework.

v2.1

You are required to co-operate with Greater Manchester West Mental Health NHS Foundation Trust in discharging its duties under the Health and Safety at Work etc Act 1974 and other health and safety legislation and to take reasonable care for the health and safety of yourself and others while on Greater Manchester West Mental Health NHS Foundation Trust premises. Although you are not a contract holder, you must observe the same standards of care and propriety in dealing with patients, staff, visitors, equipment and premises as is expected of a contract holder and you must act appropriately, responsibly and professionally at all times.

You are required to ensure that all information regarding patients or staff remains secure and *strictly confidential* at all times. You must ensure that you understand and comply with the requirements of the NHS Confidentiality Code of Practice (http://www.dh.gov.uk/assetRoot/04/06/92/54/04069254.pdf) and the Data Protection Act 1998. Furthermore you should be aware that under the Act, unauthorised disclosure of information is an offence and such disclosures may lead to prosecution.

Greater Manchester West Mental Health NHS Foundation Trust will not indemnify you against any liability incurred as a result of any breach of confidentiality or breach of the Data Protection Act 1998. Any breach of the Data Protection Act 1998 may result in legal action against you and/or your substantive employer.

You should ensure that, where you are issued with an identity or security card, a bleep number, email or library account, keys or protective clothing, these are returned upon termination of this arrangement. Please also ensure that while on the premises you wear your ID badge at all times, or are able to prove your identity if challenged. Please note that this NHS organisation accepts no responsibility for damage to or loss of personal property.

We may terminate your right to attend at any time either by giving seven days' written notice to you or immediately without any notice if you are in breach of any of the terms or conditions described in this letter or if you commit any act that we reasonably consider to amount to serious misconduct or to be disruptive and/or prejudicial to the interests and/or business of this NHS organisation or if you are convicted of any criminal offence. Where applicable, your substantive employer will initiate your Independent Safeguarding Authority (ISA) registration in-line with the phasing strategy adopted within the NHS and the applicable legislation. Once you are ISA-registered, your employer will continue to monitor your ISA registration status via the on-line ISA service. Should you cease to be ISA-registered, this letter of access is immediately terminated. Your substantive employer will immediately withdraw you from undertaking this or any other regulated activity and you MUST stop undertaking any regulated activity.

Your substantive employer is responsible for your conduct during this research project and may in the circumstances described above instigate disciplinary action against you.

If your circumstances change in relation to your health, criminal record, professional registration or ISA registration, or any other aspect that may impact on your suitability to conduct research, or your role in research changes, you must inform the NHS organisation that employs you through its normal procedures. You must also inform your nominated manager in this NHS organisation.

Yours sincerely

pp

Mersey Care NHS
NHS Trust

Research & Development Department
Hostel 1, Parkbourn
Maghull
Merseyside
L31 1HW
Tel: 0151 471 2638
Fax: 0151 473 2853
Email: |

Miss Rosie Beck
Division of Clinical Psychology
Whelan Building
Quadrangle
Brownlow Hill
Liverpool L69 3GB

20th July 2012

Dear Ms Beck

Formal Letter of Approval
Trust Ref: 2012/22 Investigating psychological processes distinguishing paranoia and depression

Thank you for your research application which was disseminated to the Trust's Research Governance Committee for electronic review.

Comments received were positive and after review by the Committee and the R&D department, I am happy to take Chair's Action to approve the study on behalf of the Committee.

As noted in the 18th July email, confirmation of support has been received from both Liverpool Clinical Business Unit and Positive Care Partnerships Clinical Business Unit. Both CBUs indicated that you will need to be very active in engaging teams to recruit and recommended that you discuss facilitation of the study, well in advance, with the relevant teams to be involved in the research.

Ethical approval has been granted by NRES Committee North West – Preston under reference 12/NW/0308.

Accordingly, please take this letter as confirmation of Trust R&D approval on the basis described in the application form, protocol and supporting documentation. Please read the attached *'Information for Researchers – Conditions of Research Governance Approval'* leaflet, which details the research governance R&D approval conditions. Please contact the R&D Office should you require any further information. You may need this letter as proof of your approval.

Please note when contacting the R&D office about your study you must always provide the project reference number quoted above.

May I wish you every success with your research.

Yours sincerely

Sponsor: The University of Liverpool

GM PC ReGrouP Greater Manchester Primary Care Research Governance Partnership NHS

NHS SalfoR+D
Acute & Primary Care Research

NHS SalfoR+D Director:
R&D Associate Director:

SalfoR+D web address: http://www.nhssalfordrd.org.uk/
ReGrouP web address: http://www.gmregroup.nhs.uk/index.html

16th August 2012

Professor Richard Bentall
Professor of Clinical Psychology
University of Liverpool
Institute of Psychology Health & Society,
Waterhouse Block B, B211, 2nd Floor,
University of Liverpool,
15 Brownlow Street
Liverpool
L69 3GL

Dear Professor Bentall,

Study Title: Psychological processes distinguishing paranoia and depression
REC Reference: 12/NW/0308
R&D Reference: 2012/141

Thank you for forwarding all the required documentation for your study as above. I am pleased to inform you that your study has been registered with NHS SalfoR+D and has gained NHS R&D approval from the following NHS Trusts:

- Manchester PCT
- Salford PCT

All clinical research must comply with the Health and Safety at Work Act, www.hse.gov.uk and the Data Protection Act. http://www.hmso.gov.uk/acts

It is a legal requirement for Principal Investigators involved in Clinical Trials to have completed accredited ICH GCP training within the last 2 years. Please ensure that you provide the R&D Department with evidence of this (certificate for completing the course). A list of GCP training courses can be obtained from the R&D Office.

All researchers who do not hold a substantive contract with the Trust must hold an honorary research contract before commencing any study activities related to this approval. The 'Research Passport Application Form'. This can be obtained from web addresses: http://www.gmregroup.nhs.uk/researchers/passports.html and http://www.hope-academic.org.uk/academic/salfordrd/Research%20Passports.html This form should be completed and returned, with a summary C.V and recent (within 6 months) CRB to the address shown above.

It is a condition of both NRES and NHS R&D approval that participant recruitment data should be forwarded on a regular basis. Therefore, progress reports must be submitted annually to the main REC and copied to the R&D office until the end of the study. http://www.nres.npsa.nhs.uk/applications/after-ethical-review/annual-progress-reports/

Where clinical trials of investigational medicinal products are sponsored by Salford Royal NHS Foundation Trust or Salford Primary Care Trust, it is a condition of Trust approval that Chief Investigators submit quarterly progress reports (to include Annual Safety Reports at the appropriate time) to R&D. For clinical trials of investigational medicinal products hosted within Salford Royal NHS Foundation Trust and Salford Primary Care Trust, the local PI will be expected to submit bi-annual progress reports to R&D. It is also a condition of approval that delegated duties (as agreed within clinical trial agreements and trial delegation logs) are fulfilled by only those delegated to undertake a specific duty. This will be monitored by the Sponsor's Representative during routine monitoring of the trial. Persistent non-compliance with these requirements may result in removal of Sponsorship or Trust R&D Approval.

Any amendments to the study should also be notified and approval sought by Ethics Committee and R&D Department. ***Where Salford Royal NHS Foundation Trust or Salford Primary Care Trust is acting as Sponsor then amendments or changes MUST be discussed with the Sponsor prior to REC submission.*** On completion of the study you are required to submit a 'Declaration of End of Study' form to the main REC, which should also be copied and forwarded to the R&D office at the address shown above.

Any serious adverse events or governance issues related to the research must be notified to the R&D office.

Yours sincerely,

Research & Development
3rd Floor, Mayo Building, SRI-T, Stott Lane, Salford, Manchester, M6 8HD

GM PC ReGrouP Greater Manchester Primary Care Research Governance Partnership NHS

NHS SalfoR+D Acute & Primary Care Research

NHS SalfoR+D Director:
R&D Associate Director:

Enquiries:
Email: Salford-Regroup-RD@manchester.ac.uk
Tele: 0161 206 8343
Fax: 0161 206 4205

SalfoR+D web address: http://www.nhssalfordrd.org.uk/
ReGrouP web address: http://www.gmregroup.nhs.uk/index.html

16th August 2012

Ms Rosie Beck
Trainee Clinical Psychologist
Merseycare NHS Trust and University of Liverpool
Clinical Psychology Doctoral Programme,
Whelan Building Quadrangle,
Univeristy of Liverpool,
Brownlow Hill
Liverpool
L69 3GB

Dear Rosie,

Study Title: Psychological processes distinguishing paranoia and depression
REC Reference: 12/NW/0308
R&D Reference: 2012/141

This letter confirms your right of access to conduct research through the following organisation for the purpose and on the terms and conditions set out below:

- Manchester PCT
- Salford PCT

This right of access commences on 16th August 2012 and ends on 30th April 2013 unless terminated earlier in accordance with the clauses below.

You have a right of access to conduct such research as confirmed in writing in the letter of permission for research from this NHS organisation. Please note that you cannot start the research until the Principal Investigator for the research project has received a letter from us giving permission to conduct the project.

The information supplied about your role in research at the above mentioned NHS Organisation has been reviewed and you do not require an honorary research contract with these NHS organisations. We are satisfied that such pre-engagement checks as we consider necessary have been carried out.

You are considered to be a legal visitor to the Trust premises. You are not entitled to any form of payment or access to other benefits provided by the Trust to employees and this letter does not give rise to any other relationship between you and this NHS organisation, in particular that of an employee.

While undertaking research through the Trust you will remain accountable to your employer but you are required to follow the reasonable instructions of the heads of the relevant NHS Departments in this NHS organisation or those given on her/his behalf in relation to the terms of this right of access.

Where any third party claim is made, whether or not legal proceedings are issued, arising out of or in connection with your right of access, you are required to co-operate fully with any investigation by this NHS organisation in connection with any such claim and to give all such assistance as may reasonably be required regarding the conduct of any legal proceedings.

You must act in accordance with the Trust's policies and procedures, which are available to you upon request, and the Research Governance Framework.

You are required to co-operate with the Trust in discharging its duties under the Health and Safety at Work etc Act 1974 and other health and safety legislation and to take reasonable care for the health and safety of yourself and others while on the Trust premises. You must observe the same standards of care and propriety in dealing with patients, staff, visitors, equipment and premises as is expected of any other contract holder and you must act appropriately, responsibly and professionally at all times.

You are required to ensure that all information regarding patients or staff remains secure and *strictly confidential* at all times. You must ensure that you understand and comply with the requirements of the NHS Confidentiality Code of Practice (http://www.dh.gov.uk/assetRoot/04/06/92/54/04069254.pdf) and the Data Protection Act 1998. Furthermore you should be aware that under the Act, unauthorised disclosure of information is an offence and such disclosures may lead to prosecution.

You should ensure that, where you are issued with an identity or security card, a bleep number, email or library account, keys or protective clothing, these are returned upon termination of this arrangement. Please also ensure that while on the premises you wear your ID badge at all times, or are able to prove your identity if challenged. Please note that this NHS organisation accepts no responsibility for damage to or loss of personal property.

We may terminate your right to attend at any time either by giving seven days' written notice to you or immediately without any notice if you are in breach of any of the terms or conditions described in this letter or if you commit any act that we reasonably consider to amount to serious misconduct or to be disruptive and/or prejudicial to the interests and/or business of this NHS organisation or if you are convicted of any criminal offence. Your substantive employer is responsible for your conduct during this research project and may in the circumstances described above instigate disciplinary action against you.

The Trust will not indemnify you against any liability incurred as a result of any breach of confidentiality or breach of the Data Protection Act 1998. Any breach of the Data Protection Act 1998 may result in legal action against you and/or your substantive employer.

If your current role or involvement in research changes, or any of the information provided in your Research Passport changes, you must inform your employer through their normal procedures. You must also inform your nominated manager in this NHS organisation.

Yours sincerely

Research & Development
3rd Floor, Mayo Building, SRFT, Stott Lane, Salford, Manchester, M6 8HD

MANCHESTER CITY COUNCIL

Manchester Mental Health NHS
and Social Care Trust

MMHSCT Research & Development Office
3rd Floor
Rawnsley Building
Manchester Royal Infirmary
Hathersage Road
Manchester M13 9WL

24th August 2012

Ms Rosie Beck
Trainee Clinical Psychologist
MerseyCare NHS Trust
Trust Offices
Parkbourn
Maghull
Liverpool
L31 1HW

Dear *Rosie,*

Letter of Access relating to the following project:

MMH&SCT: 1150 - Investigating psychological processes distinguishing paranoia and depression.

As an existing NHS employee you do not require an additional honorary research contract with this NHS organisation. We are satisfied that such checks as are necessary have been carried out by your employer and that the research activities that you will undertake in this NHS organisation are commensurate with the activities you undertake for your employer. This letter confirms your right of access to conduct research through Manchester Mental Health & Social Care Trust for the purpose and on the terms and conditions set out below. This right of access commences on **24/08/2012** and ends on **30 September 2013** unless terminated earlier in accordance with the clauses below.

You have a right of access to conduct such research as confirmed in writing in the letter of permission for research from this NHS organisation. Please note that you cannot start the research until the Principal Investigator for the research project has received a letter from us giving permission to conduct the project.

You are considered to be a legal visitor to Manchester Mental Health & Social Care Trust premises. You are not entitled to any form of payment or access to other benefits provided by this organisation to employees and this letter does not give rise to any other relationship between you and this NHS organisation, in particular that of an employee.

While undertaking research through Manchester Mental Health & Social Care Trust you will remain accountable to your employer **MerseyCare NHS Trust** but you are required to follow the reasonable instructions of your nominated manager [redacted] n this NHS organisation or those given on his behalf in relation to the terms of this right of access.

Where any third party claim is made, whether or not legal proceedings are issued, arising out of or in connection with your right of access, you are required to co-operate fully with any investigation by this NHS organisation in connection with any such claim and to give all such assistance as may reasonably be required regarding the conduct of any legal proceedings.

You must act in accordance with Manchester Mental Health & Social Care Trust policies and procedures, which are available to you upon request, and the Research Governance Framework.

You are required to co-operate with Manchester Mental Health & Social Care Trust in discharging its duties under the Health and Safety at Work etc Act 1974 and other health and safety legislation and to take reasonable care for the health and safety of yourself and others while on Manchester Mental Health & Social Care Trust premises. Although you are not a contract holder, you must observe the same standards of care and propriety in dealing with patients, staff, visitors, equipment and premises as is expected of a contract holder and you must act appropriately, responsibly and professionally at all times.

You are required to ensure that all information regarding patients or staff remains secure and *strictly confidential* at all times. You must ensure that you understand and comply with the requirements of the NHS Confidentiality Code of Practice (http://www.dh.gov.uk/assetRoot/04/06/92/54/04069254.pdf) and the Data Protection Act 1998. Furthermore you should be aware that under the Act, unauthorised disclosure of information is an offence and such disclosures may lead to prosecution.

Manchester Mental Health & Social Care Trust will not indemnify you against any liability incurred as a result of any breach of confidentiality or breach of the Data Protection Act 1998. Any breach of the Data Protection Act 1998 may result in legal action against you and/or your substantive employer.

You should ensure that, where you are issued with an identity or security card, a bleep number, email or library account, keys or protective clothing, these are returned upon termination of this arrangement. Please also ensure that while on the premises you wear your ID badge at all times, or are able to prove your identity if challenged. Please note that this NHS organisation accepts no responsibility for damage to or loss of personal property.

We may terminate your right to attend at any time either by giving seven days' written notice to you or immediately without any notice if you are in breach of any of the terms or conditions described in this letter or if you commit any act that we reasonably consider to amount to serious misconduct or to be disruptive and/or prejudicial to the interests and/or business of this NHS organisation or if you are convicted of any criminal offence. Your substantive employer is responsible for your conduct during this research project and may in the circumstances described above instigate disciplinary action against you.

If your circumstances change in relation to your health, criminal record, professional registration or any other aspect that may impact on your suitability to conduct research, or your role in research changes, you must inform the NHS organisation that employs you through its normal procedures. You must also inform your nominated manager in this NHS organisation.

Yours sincerely

Research & Development Manager

cc. HR department of MerseyCare NHS Trust

MANCHESTER CITY COUNCIL

Manchester Mental Health NHS and Social Care Trust

Standardised Process for Electronic Approval of Research

Research & Development Office
Manchester Mental Health & Social Care Trust
Room N.3.FC027
3rd Floor
Rawnsley Building
Manchester Royal Infirmary
Hathersage Road
Manchester
M13 9WL
t 0161 276 3311

24th August 2012

Ms Rosie Beck
Trainee Clinical Psychologist
Clinical Psychology Doctoral Programme,
Whelan Building Quadrangle,
University of Liverpool,
Brownlow Hill
Liverpool
L69 3GB

Information for ID Badge if required:
Research Project Ref No: 1150
Expiry Date: 30/04/2013
You must take this letter with you.

Dear *Rosie,*

Re: Research Governance Decision Letter

SPEAR/Trust Project Reference: 1150
Project Title : *Psychological processes distinguishing paranoia and depression*
REC No. : 12/NW/0308

Further to your request for research governance approval, we are pleased to inform you that this Trust has approved the study on condition you comply with the Trusts Argyl (Lone Working Policy) System (details of this will be emailed to you). Please note when contacting the R&D office about your study you must always provide the project reference numbers provided above

Trust R&D approval covers all locations within the Trust, however, you should ensure you have liaised with and obtained the agreement of individual service/ward managers before commencing your research.

Please take the time to read the attached 'Information for Researchers – Conditions of Research Governance Approval' leaflet, which give the conditions that apply when research governance approval has been granted. Please contact the R&D Office should you require any further information. You may need this letter as proof of your approval.

We would like to point out that hosting research studies incurs costs for the Trust such as: staff time, usage of rooms, arrangements for governance of research. We can confirm that in this instance we will not charge for these. However we

would like to remind you that Trust costs should be considered and costed at the earliest stage in the development of any future proposals. *Please find enclosed an example invoice of study costs incurred with research for your information.*

You will need to contact us before any new researchers join your team as they will need Trust permission before they start work on the project.

It is your responsibility to contact us **a week prior** to the expiry date we have recorded for this project to let us know if you wish to extend it, as we will need to send a new approval letter. You will also need to let us know immediately if for any reason the project finishes earlier.

It is a condition of our Trust approval that on completion of this study we are in receipt of an end of study report summary and a copy of the Ethics letter confirming that they have closed the study, we will remind you of this nearer the time. You will also be asked to complete an audit form for each year your study is supported by this Trust (including the year of its completion) this approval requirement and failure or refusal to complete it may result in Trust approval being withdrawn.

By beginning your research you are agreeing to all the terms and conditions as stated within this letter.

May I wish you every success with your research and if you have any queries do not hesitate to contact the R&D Team.

Yours sincerely

Research & Development Manager

cc : University of Liverpool Research Support Office (Research Governance Sponsor)
Merseycare (Employing Organisation)
Prof. Richard Bentall (Chief Investigator)

Enc: Approval Conditions Leaflet
Induction & ID Badge Information, TrustTECH Leaflet

APPENDIX C

Participant Information Sheet and Consent Form

C1 **Participant Information Sheet (service-users)**

C2 **Online Participant Information Sheet (general population)**

C3 **Consent Form (service-users)**

C4 **Online Consent Form (general population)**

Participant Information Sheet – Service Users – Part 1

You are invited to take part in a research study. Before you decide whether or not you wish to participate it is important you read the following information to understand why the research is being done and exactly what taking part will involve. You may ask the researcher any questions you may have.

Who is organising and funding the research?

The research is being carried out as part of a doctoral training programme. The researcher's name is Rosie Beck, who is training at the University of Liverpool. The university is funding the research. The research is supervised by Professor Richard Bentall and Dr William Sellwood from the University of Liverpool, and Dr James Kelly from Lancashire Care NHS Foundation Trust.

Why is the study taking place?

There has been a lot of research into the way people think and feel when they feeling very suspicious or holding unusual beliefs involving suspiciousness. Feeling suspicious and paranoid is common in the general population as well as in people who use mental health services. Research has shown that there are a lot of factors involved which are important in determining how people think and feel at a certain point in time. This study will look at these things in detail to see which are likely to be most important in feeling very suspicious and holding unusual beliefs.

What will the study ask?

In this study we will be asking people with experience of one or both of the experiences described above some questions in the following areas:

1. Asking questions about their current experiences or symptoms
2. Asking questions about how they deal with their emotions and thoughts

Asking questions and finding out about these ways of thinking and feeling may help us understand which factors are important in the pathways to these experiences and may help us develop psychological therapies to assist people in their recovery.

Why have I been asked to take part?

People are being asked to participate in the study who have current experience of unusual, very suspicious beliefs, who live in the North West of England and are aged 18-65. Your care coordinator has agreed for us to approach you.

Do I have to take part?

It is up to you whether you choose to take part or not. If you decide to take part you will be given a copy of this information sheet to keep asked to sign a consent form. You will also keep a copy of this form. After deciding to take part, you may still leave the study **at any time** should you wish. A decision to withdraw, or a decision not to take part will in no way affect the level or standard of care you receive.

What will happen if I choose to take part?

A researcher will meet with you for approximately an hour and a half over one to three occasions to go through a series of questionnaires, some that you complete yourself and others will be read out to you. In all cases you can discuss your answers with the researcher and ask any questions. You may take as many breaks as you wish. The questions you will be asked will be about yourself, your experiences, your views about your thoughts and emotions and how you manage these.

We will try to make appointments that suit you. This may be at home, at a service or local venue of your choice. It is very important however that the setting is quiet so not to be disturbed and you feel comfortable discussing the questions asked.

You will be given £10 in cash on completion of the study as a token of appreciation for your time.

What are the advantages and disadvantages of taking part?

The information we get from the study may help us to plan similar research in the future and tailor or develop psychological treatments to help people with similar experiences recover.
People often welcome the opportunity to talk about their experience and it is possible you may benefit emotionally from participating in the study. However it is possible that talking about your personal experiences may result in some distress. We will check if there are any concerns you would like to raise and, if necessary, you will be able to talk to a clinical psychologist who is a member of the research team.

What if I have a complaint or a problem with the research?
If you have a complaint or problem with any aspect of the study, this will be addressed. We will not overlook your complaints.

You may contact me, Rosie Beck at rbeck@liv.ac.uk , my supervisor, Professor Richard Bentall, Professor of Clinical Psychology, 0151 795 5367, rpb@liv.ac.uk about any problems or complaints and we will try to help.

Alternatively, you may choose to contact the Patient Advisory and Liaison Service (PALS) on 0151 471 2377.

Will my taking part be confidential?
Yes. We will follow ethical and legal practice and all information about you will be handled in confidence.

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

Participant Information Sheet – Service Users - Part 2

What happens if I agree to take part but don't wish to continue with the study?

You may withdraw from the study at any time without giving a reason. We will need to use the data already collected from you to complete the study and retain your identifiable information, but this will be kept confidential at all times.

What do I do if I have a complaint or something goes wrong?

We do not expect the study will cause any distress or concern. However if you are unhappy, or if there is a problem, please feel free to let us know by contacting me, Rosie Beck at rbeck@liv.ac.uk , or my supervisor

Professor Richard Bentall, Professor of Clinical Psychology, Waterhouse Building Block B, The University of Liverpool, Brownlow Street, Liverpool. L69 3GL
0151 795 5367
rpb@liv.ac.uk

and we will try to help.

If you believe yourself to be harmed by taking part in the study, there are no special compensation arrangements. If you are harmed due to someone's negligence, then you may have grounds for legal action but you may have to pay for it.

What are the arrangements for keeping my information confidential?

Any information you give the researcher will be kept strictly confidential and conform to the Data Protection Act of 1998 with respect to data collection, storage and destruction. Your name will not appear on any of the forms, you will be assigned an identification number instead. All information about your identity will be stored separately from from data gathered during the study. Any information you give the researcher will not be shared with anyone outside the research team without your consent, unless the researcher is very concerned for your psychological health or if she believes that either yourself or others are likely to be harmed. This will be discussed with you wherever possible.

If you agree to take part, the researcher may have to ask your care coordinator to check your medical notes to ensure you are suitable to take part in the study. If you are under the care of a NHS mental health trust, a copy of your consent form will be copied into your usual

medical notes and this may be reviewed by the trust clinical audit department to confirm you have given informed consent.

What will happen to the results of the research?

If you wish, we can inform you of the findings from the research by post or e-mail. These findings will also be presented to a range of mental health professionals. It is intended that the results of the research will be published in a scientific journal.

Who has reviewed the study?

All research in the NHS is looked at by an independent party called a Research Ethics Committee in order to protect your well-being, rights, safety and dignity. This study has been given favourable opinion by NHS NW Research Ethics Committee - Preston.

Further Information

If you have any questions or would like further information on the study, please contact:

Rosie Beck, Trainee Clinical Psychologist
Division of Clinical Psychology
Whelan Building, Quadrangle,
University of Liverpool
Brownlow Hill
Liverpool
L69 3GB

rbeck@liv.ac.uk

Each NHS trust also has a Patient Advisory and Liaison Service (PALS). If you would like any other general advice or information on taking part in research of this type you may contact PALS for Mersey Care NHS Trust:

PALS Office
Parkbourn
Maghull
Liverpool
L31 1HW

0151 471 2377

Participant Information Sheet – Non-Service Users- Part 1

You are invited to take part in a research study. Before you decide whether or not you wish to participate it is important you read the following information to understand why the research is being done and exactly what taking part will involve. You may ask the researcher any questions you may have.

Who is organising and funding the research?

The research is being carried out as part of a doctoral training programme. The researcher's name is Rosie Beck, who is training at the University of Liverpool. The university is funding the research. The research is supervised by Professor Richard Bentall and Dr Bill Sellwood from the University of Liverpool, and Dr James Kelly from Lancashire Care NHS Foundation Trust.

Why is the study taking place?

There has been a lot of research into the way people think and feel when they are feeling very suspicious or holding unusual beliefs involving suspiciousness. Suspiciousness is common in the general population as well as in people who use mental health services. Research has shown that there are a lot of factors involved which are important in determining how people think and feel at a certain point in time. This study will look at these things in detail to see which are likely to be most important in feeling very suspicious and holding unusual beliefs.

What will the study ask?

In this online study we will be asking people some questions in the following areas:

3. Questions about their current experiences or symptoms e.g.
   'There are times when I worry others are plotting against me',
   'I still enjoy doing things I used to enjoy'
4. Questions about how they deal with their emotions and thoughts e.g.
   'It's ok if I remember something unpleasant'
5. Questions about anger e.g.
   'You are talking to someone and they don't answer you. How annoyed would you be?'
6. Questions about self-criticism e.g.

'When things go wrong for me I have a sense of disgust with myself',
'When I fail at something important, I become consumed by feelings of inadequacy'

7. Questions about how you think and behave in relationships e.g.
'I avoid starting conversations at social gatherings',
'I am somewhat uncomfortable getting close to others'.

Asking questions and finding out about these ways of thinking and feeling may help us understand which factors are important in the pathways to these experiences and may help us develop psychological therapies to assist people in their recovery.

There are 11 questionnaires to complete. This should take half an hour to an hour.

Why have I been asked to take part?

In addition to people being asked to participate in the study who have experience of unusual, very suspicious beliefs, and who are involved in mental health services, we are also asking people in the general population to take part in the study. You may be asked to take part if you are:

- Aged 18-65
- Can read and write in English
- Able to log on to a website to complete the study

Do I have to take part?

It is up to you whether you choose to take part or not. If you decide to take part you will be asked to complete an online consent form. After deciding to take part, you may still leave the study **at any time** should you wish.

What will happen if I choose to take part?

You will be asked to complete an online consent form. You will then navigate your way through eleven questionnaires on the server. This should take no longer than one hour. The questions you will be asked will be about yourself, your experiences, your views about your thoughts and emotions and how you manage these.

It is very important that the setting in which you complete the questionnaires is quiet so not to be disturbed and you try to give your considered answers to all of the questions.

If you complete all of the questionnaires you will be entered into a prize draw for one prize of £100 as a token of appreciation for your time.

YOU MUST COMPLETE ALL OF THE QUESTIONS TO BE ENTERED INTO THE PRIZE DRAW.
The study will close after 3 weeks.

What are the advantages and disadvantages of taking part?

The information we get from the study may help us to plan similar research in the future and tailor or develop psychological treatments to help people with such experiences recover.
We do not expect people to find completing the questionnaires distressing. However it is possible that thinking about your personal experiences may result in some distress. If there are any concerns you would like to raise you may contact the researcher and, if necessary, you will be able to talk to a clinical psychologist who is a member of the research team. If participating in the study does raise issues for you, you may wish to speak to your GP about this, or call NHS Direct on Tel: 0845 46 47.
If you do not wish to visit your GP but think talking may be helpful, see the counselling services information for your area in part 2 of this information.

What if I have a complaint or a problem with the research?
If you have a complaint or problem with any aspect of the study, this will be addressed. We will not overlook your complaints.

You may contact me, Rosie Beck at rbeck@liv.ac.uk or my supervisor, Professor Richard Bentall, Professor of Clinical Psychology on 0151 795 5367 or rpb@liv.ac.uk about any problems or complaints and we will try to help.

Will my taking part be confidential?
Yes. We will follow ethical and legal practice and all information about you will be handled in confidence. Data will be held on a password protected server at the University of Liverpool with a participant number only.

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

Participant Information Sheet – Non-Service Users - Part 2

What happens if I agree to take part but don't wish to continue with the study?

You may withdraw from the study at any time without giving a reason. The data already submitted will be used in the research but kept confidential, unless you request for all information submitted to be withdrawn from the study.

What do I do if I have a complaint or something goes wrong?

We do not expect the study will cause any distress or concern. However if you are unhappy, or if there is a problem, please feel free to let us know by contacting the researcher, Rosie Beck at rbeck@liv.ac.uk , or the supervisor, Professor Richard Bentall, Professor of Clinical Psychology, 0151 795 5367, rpb@liv.ac.uk and we will try to help.

If you remain unhappy or if you have a complaint which you feel you cannot come to us with, then you should contact the Research Governance Officer on 0151 794 8290 (ethics@liv.ac.uk). When contacting the Research Governance Officer, please provide details of the name or description of the study (so that it can be identified), the researcher(s) involved and the details of the complaint you wish to make.

If any emotional issues are raised for you that you wish to discuss in confidence with a qualified practitioner, please contact your GP or NHS Direct on Tel: 0845 46 47.

If you think talking through any problems would be helpful you can make use of the counselling services in the North West:

Liverpool Counselling Services

Employees and students of the University of Liverpool can make use of the university counselling service:

14 Oxford Street, Liverpool L69 7WX
0151 794 3304
counserv@liverpool.ac.uk

Compass is a counselling service based in Liverpool:

151 Dale Street, Liverpool, Merseyside L2 2AH
0151 236 3993

Manchester Counselling Services

The Zion Centre, based in Hulme provides a free counselling service
0161 226 6775

For similar services closer to you in the Manchester area, see
www.horizonscounselling.com/helplines.html

NHS Trust Counselling Services

If you work for an NHS trust you may choose to access your trust counselling and support service.

What are the arrangements for keeping my information confidential?

Any information you give the researcher will be kept strictly confidential and conform to the Data Protection Act of 1998 with respect to data collection, storage and destruction. Your name will not appear in the database, you will be assigned an identification number instead. Information about your identity will be stored separately from from data gathered during the study.

What will happen to the results of the research?

If you wish, we can inform you of the findings from the research by e-mail. These findings will also be presented to a range of mental health professionals. It is intended that the results of the research will be published in a scientific journal.

Who has reviewed the study?

All research in the NHS is looked at by an independent party called a Research Ethics Committee in order to protect your well-being, rights, safety and dignity. This study has been given favourable opinion by NHS NW-Preston Research Ethics Committee.

Further Information

If you have any questions or would like further information on the study, please contact:

Rosie Beck, Trainee Clinical Psychologist
Division of Clinical Psychology
Whelan Building, Quadrangle,
University of Liverpool
Brownlow Hill
Liverpool
L69 3GB

rbeck@liv.ac.uk

Psychological Processes in Paranoia

Service Users
Version 2 30.05.12

Mersey Care NHS Trust

UNIVERSITY OF LIVERPOOL

CONSENT FORM

Participant Identification Number for this study: ...../...../...../.....

Title of Project: ***Psychological Processes in Paranoia***

Please initial box

1. I confirm that I have read and understand the information sheet (PIS) for the above study and have had the opportunity to ask questions ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected, however the data already collected will still need to be used ☐
3. I agree to take part in the study and agree to the necessary contact as outlined on the PIS (one, two or three visits and can take breaks as I wish) ☐
4. I understand that I may contact the research team if I have any complaints or concerns about the study and I have a copy of the PIS which bears their contact details ☐
5. I understand that my information will remain confidential unless there are concerns about the safety of myself or others, in which case this information will need to be passed on to the appropriate person ☐
6. I understand that data collected during the study may be seen by regulatory authorities and by individuals from the Trust where it is relevant to my taking part in this research. I give permission for these individuals to have access to this information ☐

_____	_____	_____
Name of Participant	Date	Signature
_____	_____	_____
Name of Researcher taking consent	Date	Signature

Psychological Processes in Paranoia

Non Service Users
Version 5 22.03.13

Mersey Care NHS Trust | University of Liverpool | Lancashire Care NHS Foundation Trust

ONLINE CONSENT FORM

Title of Project: ***Psychological Processes in Paranoia***

Please read these statements carefully and then select the box to indicate that you have read and agree with the statements below:

Please Check Box

1. I understand that, under the Data Protection Act, I can at any time ask for access to the information I provide and I can also request the destruction of that information if I wish ☐

2. I confirm that I have read and understand the information presented to me regarding the above study and have had the opportunity to consider it before taking part. I am aware that I may email the researcher to ask any questions prior to taking part ☐

3. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason and without my rights being affected. If I choose to withdraw the data already collected can be removed if I email rbeck@liv.ac.uk requesting this. If I do not request that my data be removed it will be assumed I do not mind my data being retained ☐

4. I am aged 18-65 ☐

5. I currently live in the UK ☐

6. I understand that data collected during the study may be seen by regulatory authorities and by individuals from the trust where it is relevant to my taking part in this research. I give permission for these individuals to have access to this information ☐

7. I agree to take part in the above study ☐

APPENDIX D

Advertisements

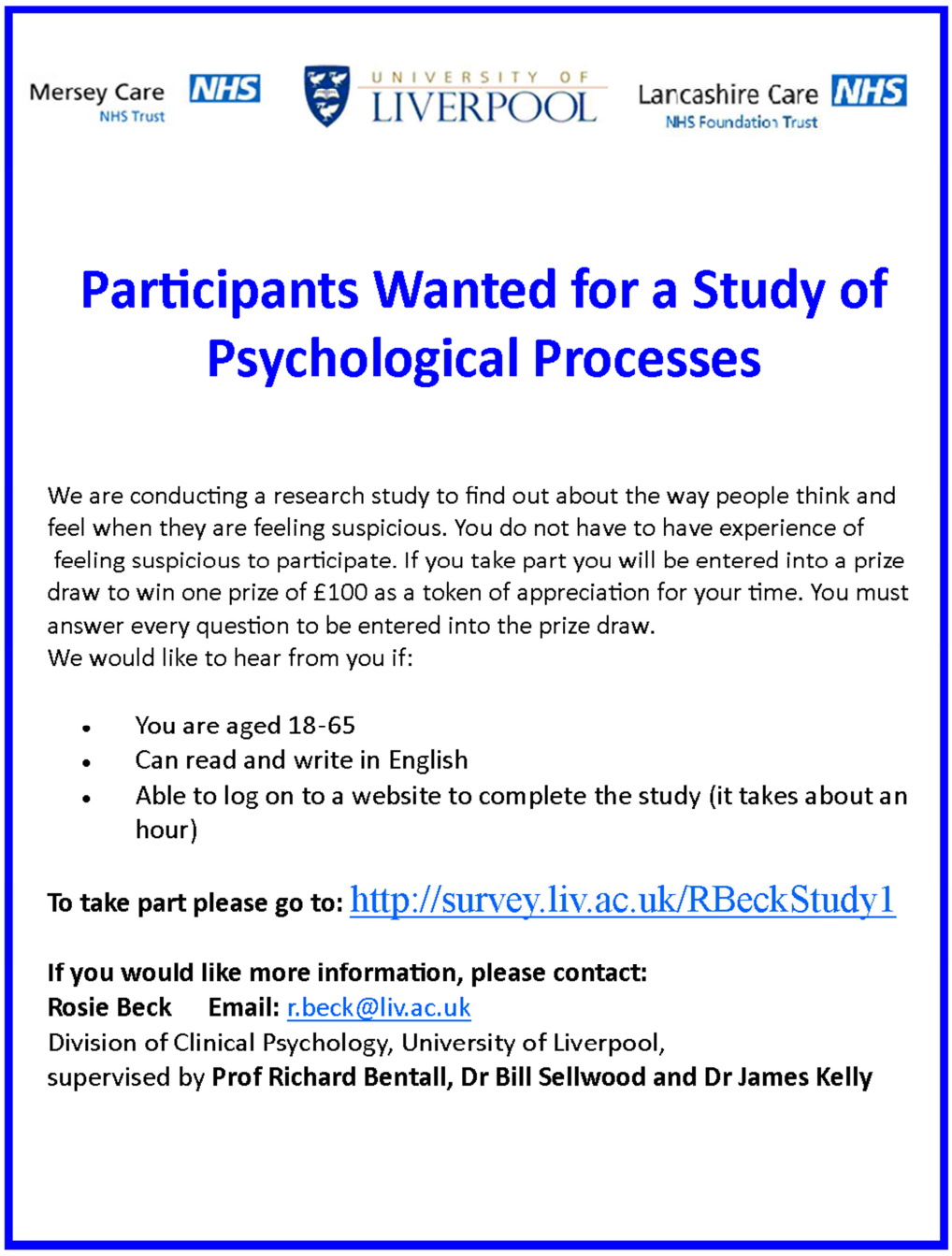
D1 **Poster advertising the study to general population**

D2 **Facebook advertisement for study to general population**

D3 **Poster advertising the study to clinical population**

D4 **Service user information leaflet**

D5 **Information for referrers**



http://survey.liv.ac.uk/RBeckStudy1 rbeck@liv.ac.uk
http://survey.liv.ac.uk/RBeckStudy1 rbeck@liv.ac.uk
http://survey.liv.ac.uk/RBeckStudy1 rbeck@liv.ac.uk
http://survey.liv.ac.uk/RBeckStudy1 rbeck@liv.ac.uk
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http://survey.liv.ac.uk/RBeckStudy1 rbeck@liv.ac.uk
http://survey.liv.ac.uk/RBeckStudy1 rbeck@liv.ac.uk

Participants wanted for a study of psychological processes

The aim of this study is to find out about the similarities and differences in the way people think and feel when they are feeling suspicious.

You do not have to have experience of feeling suspicious to take part.

If you take part you will be entered into a prize draw to receive £100 as a token of appreciation for your time. You must answer ALL of the questions to be entered in to the prize draw.

We would like to hear from you if you meet the following criteria:

- Aged 18-65
- Live in the UK
- Can read and write in English
- Able to log on to a website to complete the study (it takes about half an hour)

The questions that you will be asked will be about your thoughts and beliefs about your self and how you cope with these under times of stress. Your answers will be completely confidential and unidentifiable.

To take part please go to: http://survey.liv.ac.uk/RBeckStudy1

If you would like any further information or have any questions about the study, please contact Rosie Beck Email: rbeck@liv.ac.uk
Supervised by Professor Richard Bentall, Dr Bill Sellwood and Dr James Kelly
Division of Clinical Psychology, University of Liverpool.

Participant Information
survey.liv.ac.uk

You are invited to take part in a research study. Before you decide whether or not you wish to participate it is important you read the following information to understand why the research is being done and exactly what taking part will involve. You may ask the researcher any questions you may have.

Please ask your care coordinator about taking part and email: rbeck@liv.ac.uk
Please ask your care coordinator about taking part and email: rbeck@liv.ac.uk
Please ask your care coordinator about taking part and email: rbeck@liv.ac.uk
Please ask your care coordinator about taking part and email: rbeck@liv.ac.uk
Please ask your care coordinator about taking part and email: rbeck@liv.ac.uk
Please ask your care coordinator about taking part and email: rbeck@liv.ac.uk
Please ask your care coordinator about taking part and email: rbeck@liv.ac.uk
Please ask your care coordinator about taking part and email: rbeck@liv.ac.uk
Please ask your care coordinator about taking part and email: rbeck@liv.ac.uk

If I take part will you tell my care team?

If you would like to take part in the study and have a care coordinator or care team we would like to speak to them about your participation.

What will happen to the results of the research?

If you take part we can inform you of the findings from the research by post or e-mail. These findings will also be presented to a range of mental health professionals. It is intended that the results of the research will be published in a scientific journal.

Who has reviewed the study?

All research in the NHS is looked at by an independent party called a Research Ethics Committee in order to protect your well-being, rights, safety and dignity.

If you are interested in taking part in this study and would like to know more, then please contact:

Rosie Beck (researcher)

rbeck@liv.ac.uk

Clinical Psychology Doctoral Programme

Whelan Building, Quadrangle

University of Liverpool

Brownlow Hill
Liverpool

L69 3GB

Or show this information leaflet to your care coordinator or GP if you would rather they contact the researcher on your behalf.

This project is being supervised by:

Prof Richard Bentall

University of Liverpool

Dr William Sellwood

University of Liverpool

Dr James Kelly

Lancashire Care NHS Foundation Trust

Mersey Care NHS Trust | University of Liverpool

Participants Needed for Research into Psychological Processes Involved in 'Paranoia'

There has been a lot of research into the way people think and feel when they are feeling very suspicious or holding beliefs involving suspiciousness.

Suspiciousness and paranoia is also common in the general population.

Research has shown that there are a lot of factors involved which are important in determining how people think and feel at a certain point in time. This study will look at these things in detail to see which are likely to be most important in feeling very suspicious and holding suspicious beliefs.

Who is being asked to take part?

People are being asked to participate in the study who have current experience of suspiciousness and unusual beliefs involving suspiciousness, who live in the North West of England and are aged 18-65. You may be eligible to take part if you

- Are aged 18-65
- Have current experience of feeling very suspicious, having suspicious beliefs
- Are able to read and write in English

What will I be asked?

In this study we will be asking people with experience of suspicious beliefs some questions in the following areas:

1. Asking questions about your current experiences

2. Asking questions about how you deal with your emotions and thoughts

You will complete questionnaires by yourself and with a researcher. Asking questions and finding out about these ways of thinking and feeling may help us understand which factors are important in these experiences and may help us develop psychological therapies to assist people in their recovery.

What will happen if I choose to take part?

A researcher will meet with you for approximately an hour and a half over 1-3 occasions to go through a series of questionnaires, some that you complete yourself and others will be read out to you. In all cases you can discuss your answers with the researcher and ask any questions.

You may take as many breaks as you wish. The questions you will be asked will be about yourself, your experiences, your views about your thoughts and emotions and how you manage these.

We will try to make appointments that suit you. This may be at home, at a service or local venue of your choice. It is very important however that the setting is quiet so not to be disturbed and you feel comfortable discussing the questions asked.

You will be given £10 in cash on completion of the study as a token of appreciation for your time.

What are the advantages and disadvantages of taking part?

The information we get from the study may help us to plan similar research in the future and tailor or develop psychological treatments to help people with similar experiences recover.

People often welcome the opportunity to talk about their experience however it is possible that talking about your personal experiences may result in some distress. We will check if there are any concerns you would like to raise and you may discuss any concerns with the research team.

What if I have a complaint or a problem with the research?

If you have a complaint or problem with any aspect of the study, this will be addressed. We will not overlook your complaints.

Will my taking part be confidential?

Yes. We will follow ethical and legal practice and all information about you will be handled in confidence.

Mersey Care NHS Trust | University of Liverpool | Lancashire Care NHS Foundation Trust

Referring to the study, 'Psychological Processes in Paranoia'

This cross sectional questionnaire study aims to explore the levels of the common psychological processes known to be present in non-clinical and clinical paranoia. Although certain processes are common (e.g. self-criticism, avoidance) they may not be present to the same degree in clinical and non-clinical paranoia. We hope to gain a better picture of which processes are most important in predicting clinical paranoia by investigating them in detail.

The study takes approx 1.5 hours. Participants are given £10 to thank them for their time.

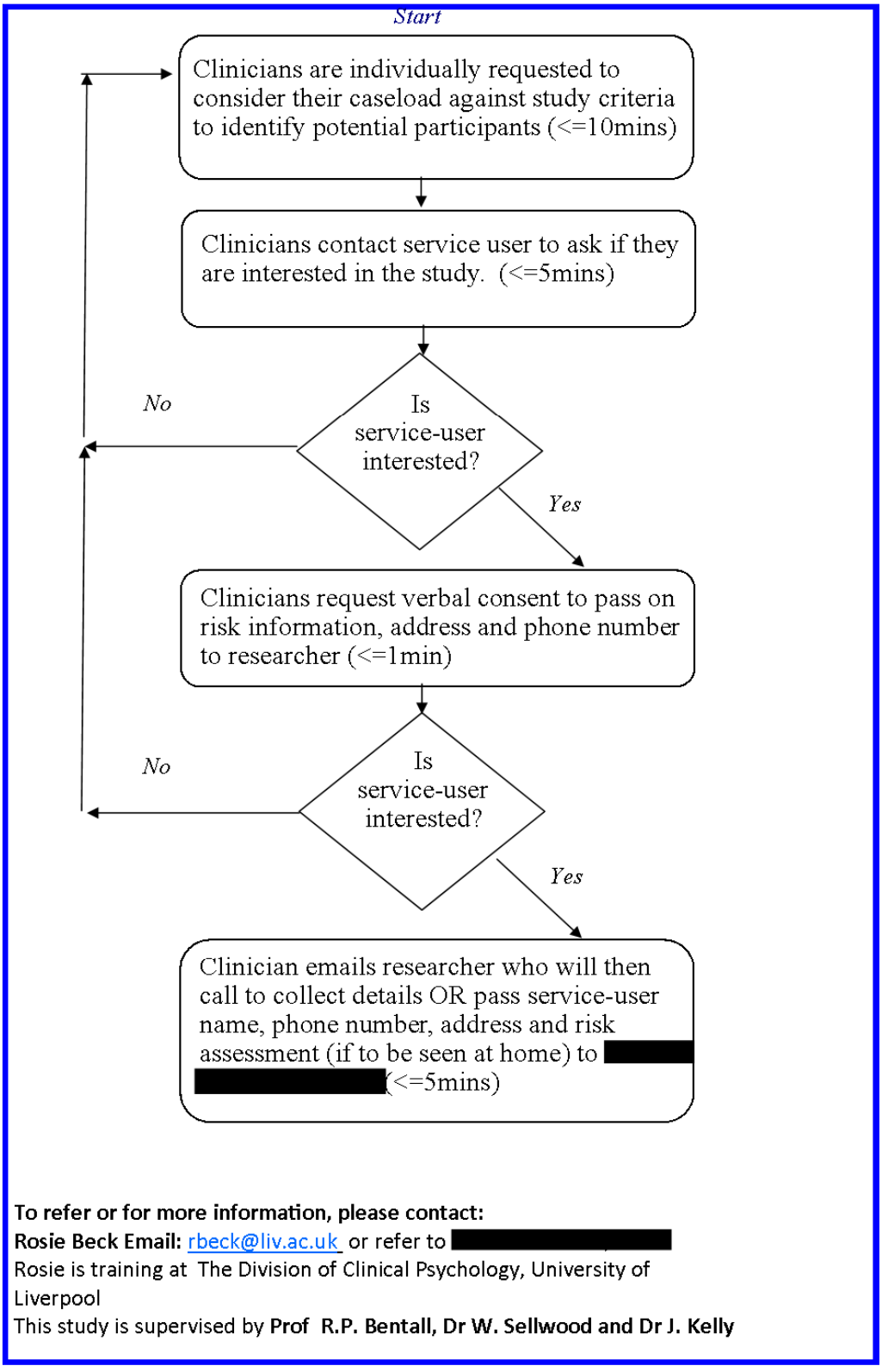
Who is eligible?

We are looking for service-users who are **currently** experiencing psychosis with prevalent paranoid, persecutory beliefs that others mean them harm. This 'active' paranoia must be at a high enough level to impact on normal functioning and perhaps relationships.
Participants may have a schizophrenia spectrum diagnosis.

Participants must be

- aged 18-65
- English speaking

If you know someone who fits the criteria and may like to take part, see overleaf for referring info :
rbeck@liv.ac.uk


Start
Clinicians are individually requested to consider their caseload against study criteria to identify potential participants (<=10mins)
Clinicians contact service user to ask if they are interested in the study. (<=5mins)
Is service-user interested?
No
Yes
Clinicians request verbal consent to pass on risk information, address and phone number to researcher (<=1min)
Is service-user interested?
No
Yes
Clinician emails researcher who will then call to collect details OR pass service-user name, phone number, address and risk assessment (if to be seen at home) to [redacted] (<=5mins)
To refer or for more information, please contact:
Rosie Beck Email: rbeck@liv.ac.uk or refer to [redacted]
Rosie is training at The Division of Clinical Psychology, University of Liverpool
This study is supervised by Prof R.P. Bentall, Dr W. Sellwood and Dr J. Kelly

APPENDIX E

Table to summarise persecutory beliefs of the clinical sample

Table C

Summary of the persecutory beliefs of the clinical sample

No.	Belief
1	Someone aims to murder them
2	The police want to imprison them for their son's criminal offences
3	Family members are conspiring against them to cause emotional harm
4	Their local church is in fact an evil cult who want to indoctrinate them
5	Police and the government want to control them personally and dumb down their mind
6	MI5 or a secret service are monitoring them so they can administer a punishment
7	They are being set up and deceived by their family to damage their mental health
8	Non-specific others want to kidnap them, poison them and give them a virus
9	Non-specific others want to harm them and the media are framing them for murder
10	People are spying on them and want to destroy their life because they are jealous
11	Non-specific others are conspiring to harm them
12	Non-specific others are monitoring them and spreading rumours about them to get them incarcerated and damage their mental health
13	Non-specific others are aiming to harm them
14	The Freemasons are monitoring them and aim to harm them

Note. Detail of beliefs and genders are omitted in the interest of confidentiality

APPENDIX F

Distribution tables

F1 **Table of distributions for all continuous variables**

F2 **Table of untransformed values for each group**

Table D

Distributions for all continuous variables (excluding participants declaring psychiatric history) N = 94:

	Z Skewness	*Z* Kurtosis	Kolmogorov-Smirnov	Shapiro-Wilk	Appearance of Histogram
Persecution	3.61	0.01	Significant	Significant	+ skew
Deservedness	3.41	.26	Significant	Significant	+ skew
Self model (anxiety)	.78	-1.17	Significant	Significant	Normal
Other model (avoidance)	1.83	-.075	Significant	Significant	Normal
Anger	-.13	.19	Non-significant	Non-significant	Normal
Depression	5.64	3.77	Significant	Significant	+ skew
Anxiety	2.33	-.25	Significant	Significant	Unclear
Submission	.10	-.23	Non sig	Non sig	Normal
Self-Attacking – inadequate self	1.19	-1.42	Significant	Significant	Normal
Self-Attacking – hated self	7.02	7.57	Significant	Significant	+ skew
Self-compassion	1.21	-.07	Non sig	Non sig	Normal
Psychological Flexibility (Inverse EA)	-2.60	.72	Non sig	Significant	- skew

Note. Highlighted text; denotes a problem/violation of assumption

Table E

Untransformed values for each group (excluding participants declaring psychiatric history) N = 94:

		Not paranoid (N=66)	Non-clinically paranoid (N=14)	Clinically paranoid (N=14)
Persecution	Sz	.83	2.73	-.40
	Kz	-0.24	1.42	-.18
	K-S / S-W	Sig/sig	Sig/sig	Non sig/ non sig
	Histogram	Unclear	+ skew	Normal
	Levene	Non sig		
Deservedness	Sz	2.88	-.15	1.98
	Kz	.10	-.09	.12
	K-S / S-W	Sig/sig	Non sig/non sig	Sig/sig
	Histogram	+skew	Unclear	+ skew
	Levene	Non sig		
Self-model	Sz	1.35	-.62	1.27
anxiety	Kz	-.67	-.30	-0.04
	K-S / S-W	Sig/sig	Non sig/non sig	Non sig/non sig
	Histogram	Normal	Unclear	Normal
	Levene	Non sig		
Other model	Sz	2.32	2.34	-1.93
avoidance	Kz	.03	1.15	.79
	K-S / S-W	Sig/sig	Sig/sig	Non sig/sig
	Histogram	normal	+skew	Unclear
	Levene	Non sig		
Anger	Sz	-.40	.58	-.96
	Kz	-.41	2.74	-.24

		Not paranoid (N=66)	Non-clinically paranoid (N=14)	Clinically paranoid (N=14)
	K-S / S-W	Non sig/non sig	Non sig/non sig	Non sig/non sig
	Histogram	Normal	Unclear	-skew
	Levene	Sig		
Depression	Sz	4.95	-.20	.43
	Kz	3.08	-1.09	-.50
	K-S / S-W	Sig/sig	Non sig/non sig	Non sig/non sig
	Histogram	+skew	Unclear	Normal
	Levene	Sig		
Anxiety	Sz	2.10	.45	.05
	Kz	-.28	1.39	-1.42
	K-S / S-W	Sig/sig	Non sig/non sig	Non sig/non sig
	Histogram	Unclear	Normal	Unclear
	Levene	Sig		
Submission	Sz	.84	.39	-2.18
	Kz	.30	-.99	3.21
	K-S / S-W	Non sig/non sig	Non sig/non sig	Non sig/non sig
	Histogram	Unclear	Unclear	Unclear
	Levene	Non sig		
Self-attacking	Sz	2.10	-.53	-.24
inadequate	Kz	-.15	-.12	-.95
	K-S / S-W	Sig/sig	Non sig/non sig	Non sig/non sig
	Histogram	Normal	Normal	Unclear
	Levene	Non sig		
Self-attacking	Sz	5.01	1.17	1.31
hated	Kz	2.80	-.08	.48

		Not paranoid (N=66)	Non-clinically paranoid (N=14)	Clinically paranoid (N=14)
	K-S / S-W	Sig/sig	Non sig/non sig	Non sig/non sig
	Histogram	+ skew	Unclear	Unclear
	Levene U-T/ T	Sig		
Self-compassion	Sz	.47	.72	-1.92
	Kz	-.55	-1.36	2.63
	K-S / S-W	Non sig/non sig	Non sig/non sig	Non sig/non sig
	Histogram	Normal	Unclear	-skew
	Levene	Non sig		
Psychological Flexibility (Inverse EA)	Sz	-.62	.58	1.78
	Kz	-1.69	-.34	2.85
	K-S / S-W	Non sig/sig	Non sig/non sig	Non sig/non sig
	Histogram	Unclear	Unclear	Normal
	Levene	Non sig		

Note. Highlighted text; denotes a problem / violation of assumption

APPENDIX G

Model of Attachment (Bartholomew, 1990)

MODEL OF OTHER (AVOIDANCE)	MODEL OF SELF (ANXIETY) Positive (Low)	MODEL OF SELF (ANXIETY) Negative (High)
Positive (Low)	**SECURE** High self-worth, believes that others are responsive, comfortable with autonomy and in forming close relationships with others.	**PREOCCUPIED** A sense of self-worth that is dependent on gaining the approval and acceptance of others. (Main's preoccupied category) (Hazan and Shaver's anxious-ambivalent category)
Negative (High)	**DISMISSING** Overt positive self-view, denies feelings of subjective distress and dismisses the importance of close relationships. (Main's dismissive category)	**FEARFUL** Negative self-view, lack of trust in others, subsequent apprehension about close relationships and high levels of distress. (Main's unresolved category) (Hazan and Shaver's avoidant category)

Figure A: Bartholomew's (1990) model of attachment

APPENDIX H

Feedback to Participants

PSYCHOLOGICAL PROCESSES IN PARANOIA:

Research Feedback

R. BECK, W. SELLWOOD, J. KELLY & R. P. BENTALL

You are receiving this feedback report because you took part in a research project. The study was organized by researchers from The University of Liverpool. The study was approved by a NHS Research Ethics Committee. The research team have put this information sheet together to let you know the findings. We would like to thank you again for taking part.

Background & aims:

Paranoia is not just experienced by people who use mental health services. Anyone can experience paranoia. Researchers tend to agree that there is a range of paranoid thinking in the general population. Disabling and distressing paranoia is less common. Paranoid people who use mental health services tend to hold more unusual beliefs.

We wanted to find out which psychological processes take place for people when they feel very suspicious or paranoid. For instance, we may criticise ourselves more. We might act in a way to avoid unpleasant thoughts or feelings. There are a lot of these processes that are thought to play a role when we feel paranoid. It is important to identify some of the main ones. This is because they can be addressed in psychological therapy.

We wanted to compare three groups:

1. People with paranoia who were mental health service users
2. People with paranoia who were not using mental health services
3. People with no paranoia

We wanted to see which processes were the most important in paranoia in general too. This was whether or not people used services or had any mental health problem. No one has looked at all these things in one study before.

Who took part?

14 people experiencing paranoia from mental health services. 129 people from NHS and University offices, or from Facebook.

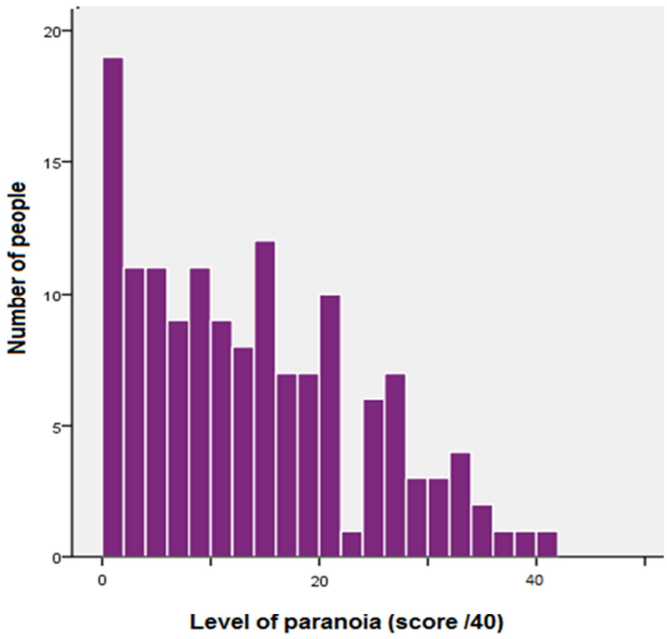
Findings:

Social findings connected to paranoia

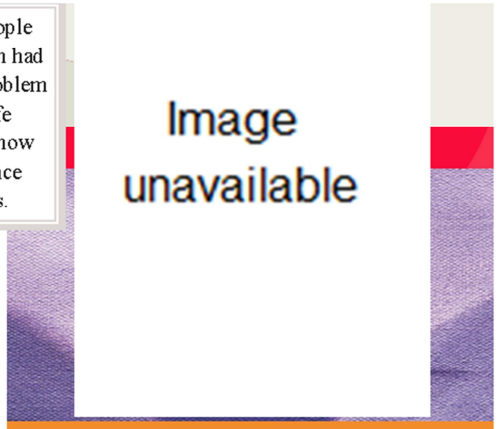
We found that paranoia was common in the general population. One in ten people who had never been involved with services had high paranoia levels. They reported approximately the same level of paranoia as the paranoid people who used services. Paranoia might be almost as common as anxiety and depression. Other researchers have noticed this too.

The graph shows the paranoia scores for all of the people who took part. You can see that most people do not experience much paranoia. The graph slopes off. This means fewer people report a lot of paranoia.

There was a big difference in education and employment between people who were paranoid and using services and people who were not. People using services were more likely to be out of work and have completed less education. This may mean that social factors like having a job may protect against the effects of distressing mental health problems. Being in work may boost self-worth and distract us from worries. Paid work could also reduce the stress associated with finances.



We found that a lot of people from the general population had help for a mental health problem at some time in their life (35.7%). This shows just how common it is to experience mental health problems.



Emotion-related findings

So we know that people in the general population can have experiences such as paranoia or hearing voices. But they might not always be very distressed by them. When people are very distressed, they might have contact with mental health services for support. We found that people experiencing paranoia, whether or not they were in services, had more 'depression' than people not experiencing paranoia but people using services were most depressed. How anxious people felt was found to be important as well. People were more anxious if they were paranoid. People using services were the most anxious.

Self-attacking

We can all get a bit self-critical at times, but some self-criticism is extreme. Self-attacking is a term used to describe criticising ourselves in this way. People who self-attack may really dislike themselves and think they are somehow not 'good enough'. We found paranoid people used self-attacking more than people who were not paranoid. Again, it was highest for people in services, although we think that self-attacking may be more to do with how depressed these people were than their paranoia.

Support from a trusted person can be helpful for people experiencing paranoia.

Paranoia can be very distressing, but trying to avoid unpleasant psychological experiences can actually make them worse.

Attachment

Attachment describes the type of bonds people make with others. It is concerned with how people feel about themselves and how they feel about others in relationships. Paranoia involves feeling worried that others might harm you in some way. Because there are worries about others, it is important to look at attachment.

One thing we thought would be associated with the highest levels of paranoia was how much people want other people around to depend on in order to feel ok. As well as this, we were interested in how difficult they find it to trust others or are motivated to avoid them.

People who were paranoid and using services had the greatest concerns about wanting someone to trust and felt bad about themselves. Like anxiety and depression, this set them apart from paranoid people not in services. People experiencing paranoia had some concerns about distrusting and avoiding others, seeing them as bad, but this were not as important as we had expected.

Experiential Avoidance

'Experiential avoidance' simply means how much a person tries to avoid painful or uncomfortable (psychological) experiences, rather than accepting them. When people felt paranoid, they wanted to avoid their experiences a great deal. People who were using services struggled the most. Experiential avoidance had the strongest connection to paranoia out of all of the factors we were interested in.

Other factors

The factors for which there was *no difference* between service-users and non-service-users were:

1. whether or not they thought that they deserved others to harm them
2. Anger
3. how submissive their behaviour was
4. how compassionate they were toward themselves.

These things were still important in paranoia, but were not *the most* important, or very different between people in and out of services.

What do the findings mean?

The findings of the study are useful because we can tackle these things in therapy. If you are feeling suspicious or paranoid, seeking out support from people you trust is likely to be a big help. Learning to become more psychologically flexible is important for dealing with paranoia (and probably its associated depression, and anxiety). Paranoid people may feel very bad and if psychological flexibility is low they may try lots of things to counteract this. Unfortunately, their strategies may keep the paranoia going. People might also benefit from being encouraged to be kinder toward themselves during times of stress. This might be difficult, but talking to a therapist might help to understand the problems and discover how things may be changed.

If you think therapy might be helpful for you, ask your mental health service or GP about seeing a psychological therapist.

If you have any questions or complaints about the study you can contact:

Rosie Beck
rbeck@liv.ac.uk.