**Responsibility beliefs and persecutory delusions**

**Abstract**

Recent research implicates cognitive processes traditionally linked to anxiety disorders in the maintenance of paranoia. Responsibility beliefs have traditionally been associated with OCD, and recent research suggests they may be transdiagnostic. The present study reports the first data on responsibility beliefs in individuals with persecutory delusions. 30 people with persecutory delusions completed measures of psychotic symptoms and responsibility beliefs. Participants were also asked to identify who they held responsible for their persecution. Quantitative data on responsibility beliefs were compared with 29 matched non-clinical control participants, and with published data from patients with OCD and anxiety disorders. People with persecutory delusions identified a number of different entities responsible for harm. The persecutory delusions group had higher responsibility beliefs than those with OCD, anxiety disorders and nonclinical controls. The results suggest that responsibility beliefs are a facet of the phenomenology of persecutory beliefs. Cognitive-behavioural therapy for psychosis might usefully draw from OCD interventions and focus on responsibility beliefs, perhaps especially in Bad Me paranoia.

*Key words: persecutory delusions, deservedness, responsibility beliefs, anxiety.*

1. **Introduction**

Persecutory delusions have received particular attention from researchers as they are one of the most common and distressing symptoms of psychosis. Anxiety and related cognitive processes are thought to be involved in both the formation and maintenance of persecutory delusions (Freeman et al., 2002), as both anxiety and paranoia are perceptions of threat. In support of this, anxiety symptoms have been shown to be associated with a greater likelihood of the severest level of paranoid thinking (Freeman et al., 2011) and high levels of anxiety have also been shown to lead to poorer prognosis in people with persecutory delusions (Naeem et al., 2006). In addition, high levels of worry have been found to be associated with higher levels of delusional distress and persistence (Startup et al., 2007), and people with persecutory delusions have also been found to engage in a variety of safety behaviours (Freeman et al., 2007).

Beliefs about threat and harm are one particular type of cognition that characterise both anxiety disorders and psychosis. Indeed, beliefs about causing or preventing harm are central to the cognitive model of OCD (Salkovskis, 1985, 1989). In support of this, individuals with OCD have been shown to have inflated levels of responsibility (Salkovskis et al., 2000; Foa et al., 2001) and make responsibility-related appraisals of intrusive thoughts about possible harm (Salkovskis et al., 2000). Furthermore, responsibility beliefs are thought to play a causal role in the development of OCD (Mancini et al., 2004; Arntz et al., 2007), and have been shown to predict specific OCD symptoms (Julien et al., 2005). Five primary pathways to the development of inflated responsibility beliefs have been proposed (Salkovskis et al., 1999), which include: (1) heightened responsibility as a child; (2) rigid and extreme codes of conduct as a child; (3) overprotective and critical parenting; (4) incidents in which one’s actions or inactions caused a serious misfortune; and (5) incidents which appear to bring about harm but are actually coincidental. Elucidating the origins of inflated responsibility beliefs might have significant implications for cognitive-behavioural interventions.

Recent research suggests that responsibility beliefs may be transdiagnostic (e.g. Tolin et al., 2006; Luzon et al., 2009). For example, using the responsibility/threat estimation subscale of the Obsessive Beliefs Questionnaire-44 (Obsessive Compulsive Cognitions Working Group [OCCWG], 2006), one study found no difference in responsibility/threat beliefs between individuals with OCD and anxious controls (Tolin et al., 2006). More recently, inflated responsibility/threat beliefs have also been found in individuals with acute and chronic psychosis (Luzon et al., 2009), taking the potential relevance of responsibility beliefs beyond the anxiety disorders. However, responsibility and threat beliefs are conflated in the Luzon study because both were measured using a single subscale of the OBQ-44, and the responsibility and threat items were not analysed separately. This is particularly important in the context of disorders such as psychosis where symptoms, including persecutory beliefs or omnipotent and malevolent voices, typically concern threat (Chadwick and Birchwood, 1995). Therefore, threat beliefs measured using the OBQ are likely to be elevated in this group due to the nature of their symptoms. Further studies are therefore needed to clarify the role of responsibility beliefs, particularly in relation to persecutory beliefs.

There is face validity to exploring the relevance of responsibility beliefs to persecutory beliefs, given Trower and Chadwick’s (1995) separation of two distinct paranoid processes, Poor me and Bad Me. People with Bad Me paranoia perceive their mistreatment to be a punishment, based on their inherent badness, where those with poor me paranoia perceive it as an undeserved persecution. Implicit within Bad Me paranoia is the sense of (some) personal responsibility for the mistreatment, whereas in Poor Me paranoia the responsibility lies chiefly with the persecutors. Research has established two distinct phenomenological profiles for these two paranoid processes (Chadwick et al., 2005). The importance of responsibility beliefs (a deserved punishment or an undeserved persecution) is central within this account of two types of paranoia.

The aim of the current study was therefore to examine responsibility beliefs in people with persecutory delusions. Two main methodologies are used. First, we use a semi-structured interview, asking participants who they believe is responsible for the harm that is occurring, to descriptively examine the content and relevance of responsibility beliefs to the phenomenology of persecutory delusions. Consistent with the theory of Poor Me/Bad Me paranoia (Trower and Chadwick, 1995), we predict that people with persecutory delusions will identify both the self and others as responsible for persecution. Second, we use established questionnaires to examine whether responsibility beliefs are inflated in people with persecutory beliefs, compared with matched controls and with existing data sets from people with OCD and anxiety disorders.

1. **Method**

***2.1 Participants***

Participants with persecutory delusions were recruited from inpatient (n=15) and outpatient (n=15) services in two London NHS Foundation Trusts. In total, 84 people were approached to take part in the study, of which 27 did not want to take part and a further 27 were screened but were excluded from the study (one participant refused to sign the consent form; 4 were deemed too unwell by their care coordinator to participate and 22 did not meet criteria for presence of a persecutory delusion). Therefore, the sample consisted of 30 participants who consented to take part in the study, met the inclusion criteria and completed all measures. To recruit non-clinical participants, the researcher approached people outside job centres, in libraries and other public places within the same London borough, and asked them if they were interested in taking part in the research. If they were, they were given an information sheet to read and written informed consent was obtained if they agreed to take part. All participants completed the questionnaires at the point of meeting with the researcher. Individuals were excluded from the nonclinical group if they had ever been diagnosed with, or treated for, a mental health problem.

Participants in the clinical group had a primary diagnosis of paranoid schizophrenia (*n*=23); schizoaffective disorder (*n*=2); residual schizophrenia (n=1); persistent delusional disorder (*n*=2) or schizophrenia (*n*=2). Diagnoses were made by Consultant Psychiatrists within each individual’s clinical team. Mean length of illness was 11.6 years (SD=8.53), with an average number of 4 episodes (range = 2-10, SD=2.09). The presence of positive symptoms of psychosis was assessed using the PANSS (positive subscale: mean= 21.28, SD= 3.73, range = 15-31) and SAPS delusion item (mean= 3.9, SD=0.7, range = 3-5). Exclusion criterion for the persecutory delusion group were: a primary diagnosis of alcohol or substance misuse, intellectual disability and known brain injury.

## ***2.2 Measures***

### *2.2.1 Measures of psychotic symptoms*

Two steps were taken to ensure that participants were currently experiencing a persecutory delusion of sufficient intensity to be included in the study: (1) the content of participants’ persecutory beliefs were required to meet Freeman and Garety’s (2000) criteria (2) a score of 3 or above on item 8 (persecutory delusion item) of the Scales for the Assessment of Positive Symptoms (SAPS; Andreasen, 1984). This assessment of persecutory delusions is consistent with previous studies (e.g. Phillips et al., 2000; Green et al., 2006; Ellett et al., 2008).

*Scales for Assessment of Positive Symptoms (SAPS, Andreasen, 1984)*

The SAPS is a 35-item, 6-point (0-5) rating instrument designed to assess the positive symptoms of schizophrenia. Higher ratings indicate more severe symptoms. The SAPS has been shown to have good internal consistency (Cronbach’s α= 0.71) and high inter-rater reliability (intra class correlation coefficient, r= 0.80) (Peralta et al., 1995). Only the persecutory delusions item from the delusions subscale was used in this study to identify eligible participants. Participants scored 3 or above on this item which corresponds to their delusion being rated as “moderate”, “marked” or “severe”. This score level has been used in previous research (e.g. Phillips et al., 2000) to ensure that the participant is experiencing a persecutory delusion of sufficient intensity.

*Positive and Negative Syndrome Scale (PANSS, Kay et al., 1987)*

The PANSS is a 30 item measure which assesses the level of symptomology associated with schizophrenia (Kay et al., 1987). Interviewers rate the presence of symptoms on a 1-7 scale (1= Absent and 7= Extreme). Only the positive subscale was used, which has been found to have good internal consistency (Cronbach’s α= 0.73) and good test-retest reliability (r= 0.80) (Kay et al., 1987).

### *2.2.2 Measures of responsibility beliefs*

*Obsessive Beliefs Questionnaire (OBQ-44: OCCWG, 2005)*

The OBQ-44 is a 44-item measure with three subscales (Responsibility/Threat estimation, Perfectionism/Certainty and Importance/Control of Thoughts) designed to measure belief and appraisal dimensions considered central to OCD (OCCWG, 2005). Only the Responsibility/Threat estimation subscale was used in the current study. This subscale consists of 16 statements, eight of which measure responsibility, seven measure threat estimation, and one measures intolerance of uncertainty. For each statement participants have to provide a rating of how much they agree with it from 1 (disagree very much) to 7 (agree very much). The subscale has been shown to have good internal consistency (Cronbach’s α= 0.92) in a psychosis sample (Luzon et al.,, 2009). In the current study, we present data for both the total responsibility/threat scale, as well as analysing the responsibility and threat items separately; internal consistency for each was acceptable (0.77 for responsibility items; 0.79 for threat items).

*Semi-structured interview: Responsibility beliefs about persecution*

Participants were first asked to describe the harm that was occurring or about to occur (i.e. their persecutory belief). Participants were subsequently asked “who do you believe is responsible for the harm that is happening to you?”, and participants then generated a list of people who they held responsible (which might be person(s), groups, or other causes). Therefore, entities were generated by participants, rather than being supplied. All responsible entities identified were coded initially by the first author (KP) and subsequently by an independent coder. The independent coder was provided with participants’ descriptions of their persecutory belief, their responsibility beliefs and the complete list of entities. Inter-rater agreement (for allocation of beliefs into the codes generated) was found to be good (Kappa = 0.8). A frequency count of total number of participants ascribing some responsibility to each entity was then conducted.

***2.3 Procedure***

Full ethical approval (NHS and Institutional ethics) was gained prior to the commencement of the study and all participants provided written informed consent. Participants in both the clinical and control group completed the questionnaires in one sitting in the same fixed order. The non-clinical control group only completed the Responsibility/Threat estimation items from the OBQ-44.

## **Results**

## ***3.1 Characteristics of the total sample***

The demographic characteristics of the sample are summarised in Table 1. The total sample consisted of 59 participants, of which 30 were in the persecutory delusions group and 29 in the non-clinical control group. The mean age of the sample was 40.34 years (sd = 12.88, range 18-64), the majority were male (62.7%), of White ethnicity (61%) and were educated up to the age of 16 (40.7%). As can be seen in Table 1, no significant differences were found between the two groups for age (*t*(53) = -0.08, *p*=.93), gender (*χ2*(1)= 0.19, *p*= .66), ethnicity (white vs. non-white) (*χ2*(1)= 8.20, *p*= .61) or highest education level achieved (*χ2*(2)= 4.71, *p*= .10).

*[Insert Table 1 about here]*

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## ***Semi-structured interview data***

The total number of responsible entities that participants identified ranged from 1 to 5 (mean = 2.07, SD= 0.87). Six participants identified only one responsible entity. Nineteen participants identified two responsible entities. Three participants identified three responsible entities. One participant identified four responsible entities. One participant identified five entities. While all but one participant attributed some responsibility to their persecutors, only 11 attributed *sole* responsibility to the persecutors. Ten of the 30 participants attributed some responsibility to themselves.

Table 2 below shows a breakdown of the responsible entities generated by participants, with examples. The responsible entities that people identified were categorised into seven groups. Five related to other people or beings – that is, persecutory people known currently (but not family members) such as neighbours or friends/acquaintances; persecutory family members; people known in the past, but no longer, who are implicated in the current persecution either directly or indirectly (e.g. involvement with these people in the past left the person vulnerable to persecution); strangers; and persecutory spiritual beings (e.g. spirits, a god or the devil). The two other responsible entities generated by the participants were illness/circumstances, and self. The most common identified responsible entity was persecutors known to the individual (n= 13), and the least common responsible entity was spiritual beings (n=4).

*[Insert Table 2 about here]*

## ***3.3 Differences in responsibility and threat beliefs between groups***

Table 3 shows mean scores for total responsibility and threat items on the OBQ-44 for the persecutory delusions and non-clinical groups from the present study, compared with previously published data. Total responsibility/threat subscale scores in the present study were significantly higher for the delusions group than the nonclinical controls (*t*(57)= 4.01, *p*< .0005). As can be seen from Table 3, the persecutory delusions group in the present study had higher total mean responsibility scores compared with OCD, anxious and nonclinical control groups across a range of published studies. Additionally, mean scores were comparable with the chronic psychosis group reported in the Luzon et al (2009) study, but lower than those with current acute psychosis. Direct comparison with the Luzon data is difficult because no details are provided in the paper about the presence/absence of psychotic symptoms, such that the groups reported are also likely to include participants reporting persecutory delusions.

Table 4 shows mean scores and standard deviations for analysis of the responsibility and threat items separately, both for the current study groups and for OCD and anxiety disorders (see Tolin et al., 2006 for details of the sample characteristics of the OCD and anxiety groups). As predicted, people with persecutory delusions scored significantly higher than the non-clinical group on the threat estimation items (*t*(57)= 5.25, *p*= .0005) and the responsibility items (*t*(57)= 2.46, *p*= .02) separately. In addition, the persecutory delusions group scored significantly higher on responsibility and threat estimation scores compared to both the OCD group (responsibility *t*(29)= 4.13, *p*= .0005; threat *t*(29)= 3.95, *p*= .0005), and the anxiety disorders group (responsibility *t*(29)= 4.66, *p*= .0005; threat *t*(29)= 4.72, *p*= .0005).

*[Insert Tables 3 & 4 about here]*

1. **Discussion**

The current study examines responsibility beliefs in people with persecutory delusions. This is done both descriptively in terms of identifying individuals’ particular beliefs about who is responsible for the harm that they believe is occuring, and also evaluatively through questionnaire assessment using the responsibility/threat subscale of the OBQ-44 (OCCWG, 2005). First, in terms of the phenomenology of persecutory thinking, individuals were able to respond verbally to prompts about responsibility, and all 30 participants identified one or more entities whom they held responsible for their mistreatment. It is striking that 80% of participants identified at least two responsible entities, suggesting that beliefs about responsibility for harm in persecutory thinking are complex. Seven categories of responsible entities were described – namely, five distinct classes of persecutor (people who were currently known, family members, strangers, people who had been known and caused harm in the past, and spiritual beings), one category of illness/experiences, and one category of self. More research into the phenomenology of persecutory beliefs is needed to understand the clinical implications of these multiple and diverse representations of persecutors.

Data from the responsibility/threat subscale of the OBQ-44 (OCCWG, 2005) also attested to relevance of responsibility beliefs to paranoia. Descriptive data indicated that individuals with persecutory delusions had higher scores on the responsibility/threat estimation subscale of the OBQ-44 compared to those with OCD, anxiety disorders and nonclinical controls across a range of studies. Additionally, when the responsibility and threat items were analysed separately, individuals with persecutory delusions were also shown to have higher responsibility beliefs than those with OCD, anxiety disorders and non-clinical controls. These data extend the finding that individuals with psychosis have high responsibility/threat beliefs (Luzon et al., 2009) in two main ways. First, the present study takes a symptom-based approach to the research question, focussing on people with current persecutory delusions. Second, unlike the Luzon et al., study, we have also analysed responsibility and threat scores separately – this is important because people with persecutory delusions would be expected to score highly on threat items. Overall, data from the present study suggest that responsibility beliefs are prominent features of the cognitive profile of people with persecutory delusions.

The present study supports a growing body of evidence that responsibility beliefs may be trans-diagnostic (Tolin et al., 2006, Luzon et al., 2009), that is, they might be characteristic of psychopathology in general, rather than being solely associated with a specific disorder. It would be important to link future research to the work identifying different pathways into responsibility beliefs (Salkovskis et al., 1999), and research if these vary by disorder. Also, it may be that inflated responsibility beliefs interact with other cognitive and affective features of different disorders in different ways. For example, whilst people with OCD and people with persecutory delusions both score above matched controls on measures of inflated responsibility beliefs, when it comes to the content of individual symptomatic beliefs, a person with OCD classically feels an inflated personal sense of responsibility for actual or threatened harm (Salkovskis et al., 2000), whereas findings from the present study suggest that in persecutory thinking, an individual is more likely to hold others responsible (74% attributed responsibility to persecutors).

As predicted, individuals with persecutory delusions identified both the self and others as responsible for harm, which is consistent with the theory of Poor Me/Bad Me paranoia (Trower and Chadwick, 1995; Chadwick et al., 2005). People with Bad Me paranoia would be expected to identify both the self (because they feel mistreatment is deserved) and others as responsible for harm, whilst those with Poor Me paranoia would be expected to locate responsibility solely with others (because mistreatment is deemed to be undeserved). Thus, within the context of this distinction, it is perhaps not surprising that responsibility for harm was located with both the self and others by participants in the current study. Future research might usefully examine whether responsibility beliefs are a useful new way of conceptualising key phenomenological differences between Poor Me and Bad Me paranoia (Trower and Chadwick, 1995).

Assessing responsibility beliefs in individuals with persecutory delusions could provide valuable insights into how they make sense of their experience and highlight additional beliefs that could be a focus for therapy. Consistent with this, research that has linked particular psychological processes with psychotic symptoms has led to the development of treatments that target these psychological processes with resulting improvements in psychotic symptoms (e.g. Foster et al., 2010; Freeman et al., 2016). Targeting general responsibility beliefs in therapy could impact on the person’s experience of their persecutory belief, although this would need to be tested in future research.

There are a number of limitations of the study, which need to be considered when interpreting the findings. The sample size was small, and using existing data sets to compare responsibility beliefs in different clinical groups is a limitation, as it was not possible to control for potential confounding variables or to determine how well matched the groups were. The cross-sectional nature of the design means that no conclusions regarding causality can be made; future longitudinal studies are therefore needed. Furthermore, analysing the OBQ responsibility and threat subscale items separately is a limitation in the absence of a psychometric analysis confirming that these items load onto separate factors, therefore these results in particular should be interpreted with extreme caution In addition, use of a diagnostic screening tool would have ensured a more rigorous screening procedure for participants in the non-clinical control group.

1. **Conclusions**

The current study suggests that responsibility beliefs may contribute to a fuller understanding of persecutory delusions, it adds to the evidence that responsibility beliefs may be trans-diagnostic, and offers preliminary evidence that they may contribute to conceptualisation and assessment of the distinction between Poor Me and Bad Me paranoia. Also, the findings show the strength of perceived personal responsibility for prevention of harm to self and others felt by participants with persecutory beliefs, and raise the possibility that cognitive behavioural interventions designed to reduce responsibility beliefs in people with OCD may be beneficial for people with persecutory delusions.

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**Table 1.** Demographic and clinical characteristics of the total sample

**Demographic Persecutory (N=30) Non-clinical (N=29)**

**delusions**

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| **Age (years)** | Mean= 40.20  S.D.=11.30  range (23-64) | Mean= 40.48,  S.D.= 14.53  range (18-63) |
| **Gender**  Male  Female | 18  12 | 19  10 |
| **Ethnicity**  White  Mixed  Asian  Black  Other | **Number**  16  2  8  3  1 | **Number**  20  1  6  2  0 |
| **Education level achieved** Up to secondary (age 16)  Further education  Higher education  **Anxiety**  **Depression** | **Number**  16  8  6  Mean 13.8  SD 10.46  Mean 16.9  SD 13.29 | **Number**  8  9  12  Mean 4.21  SD 4,56  Mean 6.07  SD 8.36 |

**Table 2.** Responsible entities identified with examples

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| **Responsible Entity** | **Example 1** | **Example 2** |
| Persecutors (known)  N= 13 | “My neighbour is mostly responsible for the harm that is happening to me but his sister also holds some responsibility” | “The Kenyan president and other governments are responsible. I am not responsible for the threats against me as I have not harmed anyone myself” |
| Persecutors (strangers)  N= 11 | “The scientists are responsible for this. I do not hold any responsibility” | “The Intelligence services are mostly responsible but I also feel responsible as I could have done something to control it” |
| Persecutors (family)  N= 8 | “My mother holds most of the responsibility for the harm that is happening to me but also my husband and my brother.” | “My family members are responsible but I am not” |
| Persecutors (spiritual)  N= 4 | “The devil and ghosts are responsible for this, but not myself” | “Satan and God are responsible. I do not hold any responsibility because I am ill” |
| Self  N= 10 | “I have been complacent as a parent and so I hold some responsibility” | “I must have done something before it happened for it to be happening to me” |
| Illness/Circumstances  N= 6 | “The drugs that I took when I was younger and the circumstances I was in when they started are responsible for the harm that is happening to me” | “My illness is responsible…I have made mistakes when I am weak” |
| Others (not directly involved in persecution)  N= 10 | “People who abused me in my past are responsible for the harm that is being caused now” | “The police are totally responsible for the harm that is happening to me” |

**Table 3.** Mean total scores on the OBQ-44 Responsibility/Threat subscale

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|  | Current Study |  |  |  | OCCWG (2006) |  | Tolin et al (2006) |  |  | Luzon et al (2009) |  |  | Jacoby et al (2014) |
|  | Persecutory Delusions | Nonclinical Control | OCD | Anxious Controls | Student Controls | Community Controls | OCD | Anxious Controls | Nonclinical Controls | Acute Psychosis | Chronic Psychosis | Nonclinical | OCD |
| Responsibility/  Threat Estimation | 71.5 | 52.7 | 64.5 | 59.8 | 48.4 | 34.2 | 58.19 | 51.47 | 32.06 | 84.1 | 72.8 | 38.0 | 63.25 |

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Present study | |  | | Tolin et al.,. (2006) | | |
| OBQ Subscale  Mean (SD) | Clinical  (N=30) | Non-clinical  (N=29) |  |  | OCD  (N=89) | Anxiety  disorders  (N=72) |  |
|  |
| Responsibility Beliefs | 36.72  (8.96) | 30.41  (10.70) |  |  | 29.96  (13.72) | 29.09  (10.85) |  |
| Overestimation of Threat | 30.17  (9.52) | 17.86  (8.43) |  |  | 23.31  (12.08) | 21.97  (10.79) |  |

**Table 4.** Descriptives for OBQ-44 Responsibility and Threat items for the present study as compared with previously published data.