



**DOCTORATE IN CLINICAL PSYCHOLOGY**

**An Exploration of Shame, the Psychosis Continuum and the  
Quality of the Voice-Hearing Relationship**

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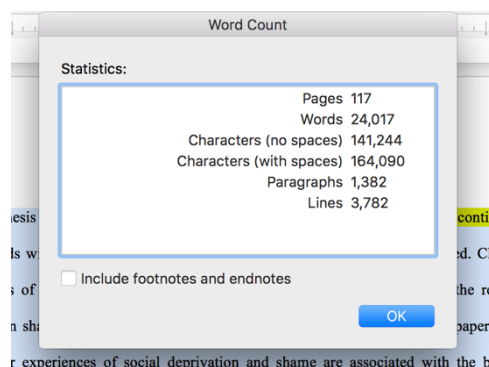
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### **Introductory Chapter: Thesis Overview**

This thesis examines the relationship between shame and the psychosis continuum and proceeds with a specific focus on hearing voices. Two chapters are presented. Chapter one consists of a systematic review of the literature examining the nature of the relationship between shame and the psychosis continuum. Chapter two is an empirical paper exploring whether experiences of social deprivation and shame are associated with the beliefs that individuals hold about their voices or the relationships that they have with them. This introductory chapter provides a brief overview of the constructs examined and the ethical standpoint of the research.

The term psychosis is used to describe disturbances in thinking, perception, mood, and behaviour (e.g., delusions, hallucinations, incoherent speech; Cooke, 2014; National Institute for Health and Care Excellence, 2014) that are often associated with a range of social adversities (Longden & Read, 2016). In England, the annual prevalence of psychotic disorder is four individuals per 1000. The pooled annual incidence, that is the number of individuals developing the disorder for the first time in one year, is 32 cases per 100,000, with incidence being higher in men prior to the age of 45 years and becoming increasingly equal thereafter (Kirkbride et al., 2012). Many individuals with psychotic experiences are often diagnosed with schizophrenia spectrum disorders with the use of diagnostic systems such as the Diagnostic and Statistical Manual of Mental Disorders (DSM; American Psychiatric Association, 2013). This is despite growing criticism regarding the reliability and construct validity of these systems, their failure to account for the impact of a range of social adversities and their limited ability to predict real-life outcomes (Read, 2013; Read, Bentall, & Fosse, 2009). There is growing evidence that psychotic experiences occur on a continuum in the general population (van Os, Hanssen, Bijl, & Ravelli, 2000) with clinical psychoses representing the upper or more extreme end of the continuum (Shevlin, McElroy, Bentall, Reininghaus, & Murphy, 2017).

‘Hearing voices’ is a term that is utilised by many including the Hearing Voices Network (HVN, 2013) to describe what is frequently referred to in the literature as auditory verbal hallucinations—sensory perceptions with a compelling sense of reality that occur without external stimulation (APA, 2007). Hearing voices is a common experience (Johns et al., 2014) that is often, yet not always, associated with distress (Birchwood, Meaden, Trower, Gilbert, & Plaistow, 2000). Research has identified associations between the relationships and beliefs that an individual has about their voices and the level of distress experienced (Birchwood & Chadwick, 1997). Findings have also identified a mirroring of the relational dynamic between the voice-hearer and their voices and others in their external environment (Birchwood et al., 2004).

The importance of negative emotions including shame is increasingly being recognised in relation to the development and maintenance of psychotic experiences (e.g., Birchwood, Iqbal, Chadwick, & Trower, 2000; Birchwood et al., 2004; Birchwood, Trower, Brunet, Gilbert, Iqbal, & Jackson, 2006; Freeman & Garety, 2003; Gumley, 2007). Shame is a negative emotion that involves intense feelings of inferiority and defectiveness and the desire to escape and hide (Tangney, 1995). It is an internal subjective emotion that involves evaluation of the self in relation to others (Gilbert, 1997; 1998) and therefore could be seen to be relevant to voice-hearing where mirroring of the relationship between the voice-hearer and their voice(s) and external others has been identified. Therapies that target shame such as compassion-focused therapy are being increasingly utilised in individuals experiencing or recovering from psychosis (Braehler, Gumley, Harper, Wallace, Norrie, & Gilbert, 2013; Gumley, Braehler, Laithwaite, MacBeth, & Gilbert, 2010).

The HVN is an international network of individuals with lived experience of voice-hearing who conceptualise voice-hearing as a meaningful response to difficult life experiences. They describe the importance of understanding the content and meaning of voice-

hearing experiences and of accepting individual interpretations or explanations (HVN, 2013). The ethos of the HVN is adopted as one of the primary frameworks for the current study. This framework—of viewing voice-hearing experiences as meaningful responses to difficult life events—is also utilised in chapter one when examining other experiences of psychosis. Despite reference to literature that uses diagnostic language, the current research aims to be transdiagnostic and to investigate associations between specific internal and external markers of status and specific psychotic experiences. Within this research it is also acknowledged that for some individuals' psychotic or more specifically voice-hearing experiences may not be distressing and that in fact they may be perceived to be valuable.

### References

- American Psychiatric Association. (2007). *APA dictionary of psychology*. Washington, DC: American Psychological Association.
- American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders (5th ed.)*. Washington, DC: American Psychological Association.
- Birchwood, M., & Chadwick, P. (1997). The omnipotence of voices: Testing the validity of a cognitive model. *Psychological Medicine*, 27, 1345-1353. doi: 10.1017/S0033291797005552
- Birchwood, M., Gilbert, P., Gilbert, J., Trower, P., Meaden, A., Hay, J., Murray, E., & Miles, J. N. V. (2004). Interpersonal and role related schema influence the relationship with the dominant 'voice' in schizophrenia: A comparison of three models. *Psychological Medicine*, 34, 1571–1580. doi: 10.1017/S0033291704002636
- Birchwood M., Iqbal, Z., Chadwick, P., & Trower, P. (2000). Cognitive approach to depression and suicidal thinking in psychosis. 1. Ontogeny of post-psychotic depression. *British Journal of Psychiatry*, 177, 516-521. doi: 10.1192/bjp.177.6.516
- Birchwood, M., Meaden, A., Trower, P., Gilbert, P. & Plaistow, J. (2000). The power and omnipotence of voices: Subordination and entrapment by voices and significant others. *Psychological Medicine* 30, 337–344. doi: 10.1017/S0033291799001828
- Birchwood, M., Trower, P., Brunet, K., Gilbert, P., Iqbal, Z., & Jackson, C. (2006). Social anxiety and the shame of psychosis: A study in first episode psychosis. *Behaviour Research and Therapy*, 45, 1025–1037. doi: 10.1016/j.brat.2006.07.011
- Braehler, C., Gumley, A., Harper, J., Wallace, S., Norrie, J., & Gilbert, P. (2013). Exploring change processes in compassion focused therapy in psychosis: Results of a feasibility randomized controlled trial. *British Journal of Clinical Psychology*, 52(2), 199–214. doi: 10.1111/bjc.12009



- Cooke, A. (2014). *Understanding psychosis and schizophrenia: Why people sometimes hear voices, believe things that others find strange, or appear out of touch with reality, and what can help*. British Psychological Society: Division of Clinical Psychology. Retrieved from [http://www.bps.org.uk/system/files/Public%20files/rep03\\_understanding\\_psychosis.pdf](http://www.bps.org.uk/system/files/Public%20files/rep03_understanding_psychosis.pdf)
- Freeman, D., & Garety, P. A. (2003). Connecting neurosis and psychosis: The direct influence of emotion on delusions and hallucinations. *Behaviour Research and Therapy*, 41, 923–947. doi: 10.1016/S0005-7967(02)00104-3
- Gilbert, P. (1997). The evolution of social attractiveness and its role in shame, humiliation, guilt and therapy. *British Journal of Medical Psychology*, 70, 113–147. doi: 10.1111/j.2044-8341.1997.tb01893.x
- Gilbert, P. (1998). What is shame? Some core issues and controversies. In P. Gilbert, & B. Andrews (Eds.), *Shame: Interpersonal behavior, psychopathology and culture* (pp. 3-36). New York: Oxford University Press.
- Gumley, A. I. (2007). Staying well after psychosis: A cognitive interpersonal approach to emotional recovery and relapse prevention. *Tidsskrift for Norsk Psykologforening*, 5, 667-676. Retrieved from [http://www.psykologtidsskriftet.no/index.php?seks\\_id=23937&a=3](http://www.psykologtidsskriftet.no/index.php?seks_id=23937&a=3)
- Gumley, A., Braehler, C., Laithwaite, H., MacBeth, A., & Gilbert, P. (2010). A compassion focused model of recovery after psychosis. *International Journal of Cognitive Therapy*, 3(2), 186–201. doi: 10.1521/ijct.2010.3.2.186
- Hearing Voices Network. (2013). *Position statement on DSM 5 & psychiatric diagnosis*. Retrieved from <http://www.hearing-voices.org/wp-content/uploads/2013/05/HVN-Position-Statement-on-DSM5-and-Diagnoses.pdf>

Johns, L. C., Kompus, K., Connell, M., Humpston, C., Lincoln, T. M., Longden, E., ...

McCarthy-Jones, S. (2014). Auditory verbal hallucinations in persons with and without a need for care. *Schizophrenia Bulletin*, 40(4), 255–264. doi:

10.1093/schbul/sbu005

Kirkbride, J. B., Errazuriz, A., Croudace, T. J., Morgan, C., Jackson, D., McCrone, P.,

Murray, R. M., & Jones, P. B. (2012). *Incidence and prevalence of schizophrenia and other psychoses in England*. University of Cambridge. Retrieved from

<http://www.psychiatry.cam.ac.uk/files/2014/05/Final-report-v1.05-Jan-12.pdf>

Longden, E., & Read, J. (2016) Social adversity in the etiology of psychosis: A review of the evidence. *American Journal of Psychotherapy*, 70(1), 5–34. doi:

10.1016/j.schres.2004.07.007

National Institute for Health and Care Excellence. (2014). *Psychosis and schizophrenia in adults: Treatment and management*. CG178. London: National Institute for Health and Care Excellence. Retrieved from <https://www.nice.org.uk/guidance/cg178>

Read, J. (2013). Does schizophrenia exist? Reliability and validity. In J. Read & J. Dillon (Eds.), *Models of madness: Psychological, social and biological approaches to psychosis* (2nd ed.), pp. 47-61. Hove, England: Routledge.

Read, J., Bentall, R. P., & Fosse, R. (2009). Time to abandon the bio-bio-bio model of psychosis: Exploring the epigenetic and psychological mechanisms by which adverse life events lead to psychotic symptoms. *Epidemiologia e Psichiatria Sociale*, 18(4), 299-310. doi: 10.1017/S1121189X00000257

Shevlin, M., McElroy, E., Bentall, R. P., Reininghaus, U., & Murphy, J. (2017). The psychosis continuum: Testing a bifactor model of psychosis in a general population sample. *Schizophrenia Bulletin*, 43(1), 133–141. doi: 10.1093/schbul/sbw067

- Tangney, J. (1995). Recent advances in the empirical study of shame and guilt. *The American Behavioral Scientist*, 38, 1132–1145. doi:10.1177/0002764295038008008
- van Os, J., Hanssen, M., Bijl, R. V., & Ravelli, A. (2000). Strauss (1969) revisited: A psychosis continuum in the general population? *Schizophrenia Research*, 45(1-2), 11–20. doi:10.1016/S0920-9964(99)00224-8

## **Chapter One: Literature Review**

### **Shame and the Psychosis Continuum: A Systematic Review of the Literature<sup>1</sup>**

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<sup>1</sup>Article prepared for submission to British Journal of Clinical Psychology. See Appendix A for journal author guidelines.

### Abstract

**Objectives:** Shame is increasingly implicated in the development and maintenance of several psychological problems including psychosis. The aim of the current paper is to review the research literature concerning the relationship between shame and the psychosis continuum, examining the nature and direction of this relationship. **Method:** Systematic searches of databases PsycINFO, Medline, Scopus and Web of Science were undertaken to identify papers that examined the relationship between shame and psychosis or psychotic experiences. **Results:** A total of 20 eligible papers were identified. Risk of bias assessment identified methodological shortcomings across the research in relation to small, unrepresentative samples and failure to control for confounding variables. Narrative synthesis suggested positive associations between shame and paranoia ( $n = 10$ ,  $r = .29-.62$ ), shame and psychosis ( $n = 1$ ,  $r = .40$ ), shame and affiliation with voices ( $n = 1$ ,  $\beta = .26$ ), and suggested that shame was greater in those with psychosis compared to controls ( $n = 4$ ,  $d = 0.76-1.16$ ). **Conclusions:** Overall several studies provide partial support for the theory that shame is an important factor in relation to psychotic experiences in both clinical and non-clinical populations, particularly paranoia. However, the predominance of cross-sectional designs prevents any conclusions being drawn concerning the directionality of effects. Additional research is necessary to further delineate the role of shame in relation to specific psychotic experiences such as voice-hearing. Longitudinal research is particularly needed to establish the direction of effects.

**Keywords:** Shame; Psychosis; Systematic Review; Paranoia

**Practitioner Points:**

- The current review identified moderate to strong positive associations between shame and psychotic experiences across the existing literature.
- The results suggest that shame may play a role in relation to psychosis and more specifically, paranoia.
- Findings should be interpreted with caution due to many disparities across the studies reviewed and methodological shortcomings (e.g., small sample sizes).
- It is not currently possible to determine causality or direction of effect due to the cross-sectional design of all existing studies.

## Introduction

Whilst benign for many individuals, psychotic experiences can also be highly distressing and associated with declines in social (Palmier-Claus, et al., 2016) and occupational functioning (Fornells-Ambrojo, Craig, & Garety, 2014), social deprivation (Kirkbride, Jones, Ullrich, & Coid, 2014), suicide, self-harm (Mork et al., 2013; Nordentoft, Mortensen, & Pedersen, 2011; Taylor, Hutton, & Wood, 2014) and poverty (Read, Seymour, & Mosher, 2004). Emotional processes have been increasingly recognised as important in understanding the emergence and maintenance of psychosis (e.g., Birchwood, 2003). Shame has been implicated in various psychological problems, including depression (Kim, Thibodeau, & Jorgensen, 2011) and self-injury (Andrews, 1998; Gilbert, 1998, 2002; Gilbert et al., 2010; Tangney & Dearing, 2002) and may also play a role in the development and maintenance of psychosis (Gumley, Braehler, Laithwaite, MacBeth, & Gilbert, 2010). The current paper is the first to review the extant literature for evidence that shame contributes to the onset and maintenance of psychosis.

Psychotic experiences include hearing voices, suspiciousness, holding beliefs that others may consider to be unusual, and speaking in a disorganised way (Cooke, 2014). Attempts to understand the causes of psychosis have highlighted several cognitive processes believed to play a role in the onset or maintenance of psychotic experiences, including source-monitoring deficits (Bentall & Slade, 1985; Johns et al., 2001), theory of mind deficits (Brune, 2005; Frith, 1994; Harrington, Siebert, & McClure, 2005; Healey, Bartholomeusz, & Penn, 2016), a jumping to conclusions bias (Dudley, Taylor, Wickham, & Hutton, 2016; Moritz & Woodward, 2005), and attributional processes such as external locus of control (Bentall, Corcoran, Howard, Blackwood, & Kinderman, 2001; Bentall, Kinderman, & Kaney, 1994). These mechanisms concern the way information is attended to, appraised, understood, or processed. However, emotional content also appears important in understanding psychosis (Birchwood & Trower, 2006; Freeman & Garety, 2003; Guillem, Pampoulova, Stip, Lalonde,

& Todorov, 2005; Smith et al., 2006). There is evidence that emotional disturbance often precedes psychotic experiences (Freeman & Garety, 2003; Kramer et al., 2014) and emotion-related processes have been associated with psychotic symptoms such as paranoia (Bentall et al., 2009). Emotional changes may be a precursor to the occurrence of psychotic experiences (e.g., Barrowclough et al., 2003; Krabbendam et al., 2005) but may also be important in the maintenance of difficulties (Morrison, 1998).

Shame is an emotion characterised by feelings of inadequacy, defectiveness, and negative evaluation of the self (Feiring, Taska, & Lewis, 2002; Lewis, 1971; Tangney & Dearing, 2002). Shame has been associated with several psychological problems including depression (mean weighted effect size across  $k = 86$  studies in meta-analysis  $r = .43$ ; Kim et al., 2011), anxiety ( $r = .40-.54$ ; Fergus, Valentiner, McGrath, & Jencius, 2010; Levinson, Byrne, & Rodebaugh, 2016), and posttraumatic stress disorder ( $r = .32-.37$ ; Andrews, Brewin, Rose, & Kirk, 2000; Harman & Lee, 2010). Shame has been conceptualised in various ways. It has been examined as a trait, or dispositional proneness to the emotional experience of shame (Tangney, Wagner, & Gramzow, 1989) and in terms of the actual level of experienced shame in a given period (Andrews, Qian, & Valentine, 2002). Theorists have also distinguished between external shame, which refers to internal cognitive representations of how one is viewed by those around them (Gilbert, 1997; 1998) and internal shame, which is concerned with negative thoughts and feelings regarding one's own perception of the self (Lewis, 1992; 2003). Shame memories are conditioned emotional memories resulting from early shaming traumatic experiences believed to influence self-identity and social engagement (Pinto-Gouveia & Matos, 2011).

Historically, shame and guilt have been referred to interchangeably in the psychological literature (Tomkins, 1962), but more recently a clear distinction between these constructs has been made (Gilbert, 2003a; Kim et al., 2011). With shame, negative evaluation is focused upon



the whole self at the expense of attention towards others (Tangney & Dearing, 2002), whereas with guilt, attention is directed outwards towards others and specific behaviours are the focus of negative evaluation (Lewis, 1971). Shame is associated with the urge to escape and withdraw (Tangney & Dearing, 2002) and with the function of repairing ones' reputation or social rank (Fessler, 2004; Gilbert & McGuire, 1998). Guilt is associated with the caring system and the reparation and resolution of relationships (Gilbert, 2004).

There are several theoretically plausible pathways through which shame may lead to psychotic experiences. Cognitive models of psychosis (e.g., Garety, Kuipers, Fowler, Freeman, & Bebbington, 2001) have suggested that two pathways lead to the development of positive symptoms of psychosis, involving triggering life events, biased appraisal processes, disturbed affect, and the perception of anomalous experiences. This disturbed affect could plausibly include shame, due to its inherently aversive nature. Shame is an aversive emotion that is associated with interpersonal threat (Gilbert, 2005; 2009) and so may trigger more extreme cognitive (particularly those concerning the actions of others) and coping responses than other emotions. People with psychotic experiences are more likely to have experienced threats to the self across their life course including childhood trauma and victimisation (Johnstone, 2009; Read, Agar, Argyle, & Aderhold, 2003; Read, van Os, Morrison, & Ross, 2005) and psychotic experiences, particularly paranoia, are associated with perceived interpersonal threat (Bentall et al., 2009). As an interpersonal emotion, shame maps onto experiences like paranoia where interpersonal concerns are dominant (Collip, Oorschot, Thewissen, van Os, & Bentall, 2011).

Negative emotions, including shame, may also be a consequence of psychosis, associated with pessimistic beliefs about psychotic experiences (e.g., I will never work again because of my psychosis; I am unable to control these experiences; Birchwood, Mason, MacMillan, & Healy, 1993) and perceptions of stigma and marginalization (Gumley & MacBeth, 2006). Emotional disturbance is often associated with experiences of psychosis

(Birchwood, Iqbal, Chadwick, & Trower, 2000) and this can impact upon recovery and increase individuals risk of relapse (Gumley, White, & Power, 1999; Gumley, 2007). Those with psychosis can experience loss, entrapment, and humiliation related to the loss of social and occupational roles (Rooke & Birchwood, 1998) and are likely to perceive themselves of low social rank (e.g., Allison, Harrop, & Ellett, 2013; Birchwood, Meaden, Trower, Gilbert, & Plaistow, 2000; Wood & Irons, 2016). Social rank theory has previously been utilised as a potential model for understanding how psychosis may develop and be maintained (Gilbert, 2000; Price, Sloman, Gardner Jr, Gilbert, & Rohde, 1994). Shame, like social rank, is concerned with ones positioning or status in relation to others. Feelings of inferiority and submissive behaviour in relation to social rank have been associated with shame (Gilbert, 2000).

In summary shame may be an important emotion in relation to psychosis or psychotic-like experiences, leading to the onset and maintenance of symptoms, but it may also be a consequence. The aim of this review is to examine the existing literature in relation to shame and the psychosis continuum and to determine whether: 1) shame is related to psychosis or psychotic/psychotic-like experiences (e.g., paranoia, hearing voices, delusions); and, 2) if so, what is the nature of this relationship? (i.e., its direction and strength)? Considering research evidence indicating that psychotic experiences exist on a continuum and occur in the general population (Van Os, Hanssen, Bijl, & Ravelli, 2000) the review will examine experiences that are characterised as psychotic symptoms and sub-clinical psychotic experiences in non-clinical populations.

## **Method**

### **Search Strategy**

A systematic review protocol was pre-registered on the PROSPERO database (ref: CRD42016043982). Online databases Medline, PsycINFO, Scopus, and Web of Science (from

the earliest available date for each database until November 2016) were searched using the following search terms: (shame\* OR ashamed) AND (Psychosis OR Psychotic OR Schizo\* OR Hallucinat\* OR Delusion\* OR Paranoi\* OR “Auditory hallucination\*” OR “Hearing voices” OR “Unusual belief\*” OR “Thought disorder\*”). All duplicate articles were removed from the papers identified and an initial screening of titles and abstracts was undertaken by the primary researcher (LC). Papers that did not appear to be eligible based upon title and abstract were omitted. Any papers where eligibility was uncertain were included at this stage. For the remaining articles, full text versions were examined and exclusion and inclusion criteria applied. Any papers that did not meet criteria were excluded. Where posters and conference abstracts were obtained, authors were contacted to request full text versions of studies. Authors were also contacted for additional data when papers were identified that examined shame and psychosis but did not include data on the relationship between the two within the paper. Supplementary steps of the search strategy included a) contacting corresponding authors of eligible articles to determine if they had produced any other published or unpublished research which may be eligible for the review; and b) hand-searching of reference lists from eligible studies.

Parallel screening was undertaken at stage by a second reviewer (NC). A random 10% (obtained with the use of a random number generator) of the initial 700 papers were secondary screened by the reviewer. There was 100% level of agreement between reviewers at the end of the parallel screening process.

### **Inclusion and Exclusion Criteria**

Studies were included if they met the following criteria: a) were written in English language; b) included a quantitative measure of shame; c) included a measure of psychotic/psychotic-like symptoms; d) specifically examined the relationship between shame

and psychotic/psychotic-like symptoms or compared the level of shame in a psychosis sample to the level of shame in a control sample.

### **Risk of Bias Assessment**

Risk of bias was assessed using the Agency for Healthcare Research and Quality risk of bias tool (Williams, Plassman, Burke, Holsinger, & Benjamin, 2010). This tool has been used for reviews of observational data in a variety of contexts (Dudley et al., 2016; Taylor et al., 2014) and criteria can be specifically adapted for the context of the review (see Appendix B). The tool covers eleven methodological domains with users required to grade each domain as being fully met, not met, or partially met. Risk of bias assessments were undertaken by the primary researcher (LC) and a second reviewer (MW). The initial level of agreement between the two reviewers was 71.4%, which after discussion was resolved to a 95.5% level of agreement. The outstanding disagreements (4.5%) were discussed and resolved with the inclusion of a third reviewer (PJT).

## **Results**

### **Study Characteristics**

The number of studies identified at each stage are summarised in Figure 1. A total of 20 papers met the inclusion criteria. A summary of study characteristics is presented in Table 1. All of the studies were cross-sectional. Studies included both clinical ( $n = 8$ ), non-clinical ( $n = 8$ ), and mixed clinical and non-clinical samples ( $n = 4$ ), and measured general psychotic symptoms ( $n = 8$ ), paranoia ( $n = 11$ ), and voice-hearing ( $n = 1$ ).

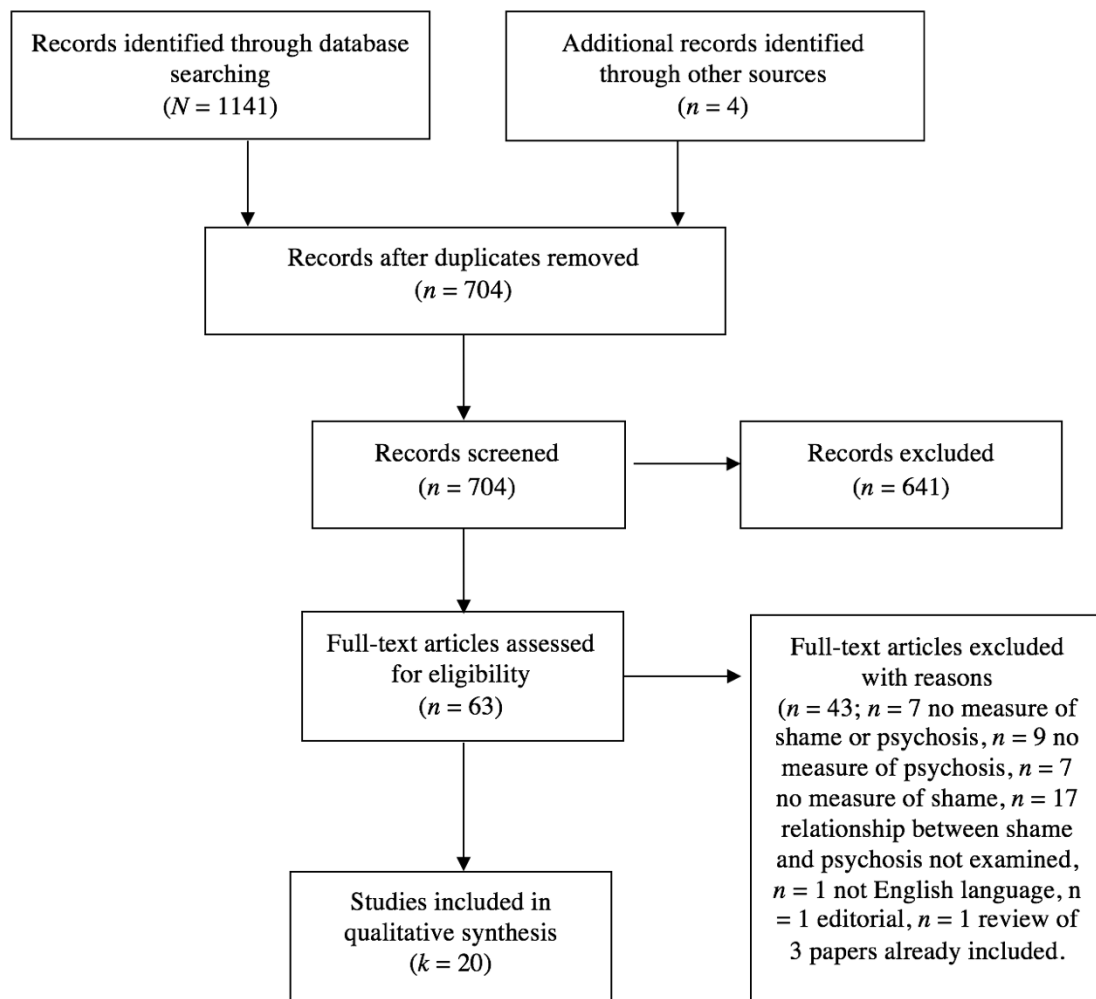


Figure 1. PRISMA flow diagram outlining the article search and screening process.

Table 1

*Study Characteristics*

Study	Sample	Design	Shame measure	Psychotic symptom measure	Findings	Bivariate effects	Multivariate effects
Birchwood et al. (2006) UK	Clinical – first-episode psychosis, aged 16-30 ( $N = 79$ ; $n = 56$ female; $n = 23$ socially anxious, $n = 56$ non-anxious). Relationship between shame and psychosis analysed with $n = 21$	Cross-sectional	OAS	PANSS	External shame or shame about illness not significantly correlated with positive or negative psychotic symptoms	$r = -.22$ -.05	
Keen et al. (2017) UK	Clinical ( $N = 60$ ; $n = 20$ schizophrenia group, $n = 20$ depression group, $n = 20$ arthritis group)	Cross-sectional	OAS TOSCA	DSM-IV-TR	External shame greater in schizophrenia group compared to arthritis group; shame-proneness less in schizophrenia group compared to depression group (trend towards significance but non-significant difference)	$d = 0.76$ $d = -0.72$ $p = .06$	
Turner et al. (2013) (UK)	Clinical – aged 19-37 ( $N = 50$ ) diagnosed with a psychotic disorder defined by ICD-10 criteria (only included if acute symptoms were in remission)	Cross-sectional	ISS OAS ESS	ICD-10	Internal shame due to psychosis, external shame due to psychosis and general shame were greater in the clinical sample compared a non-clinical sample obtained from another study	$d = 1.0$ $d = 0.52$ $d = 0.39$	
Wood & Irons (2016) UK	Clinical – aged 18-65 years ( $N = 52$ ; $n = 21$ female) diagnosed with schizophrenia-spectrum disorder (ICD-10) or were under an early intervention service	Cross-sectional	OAS	PANSS	External shame positively correlated with positive psychotic symptoms; significant indirect effect for external shame on positive symptoms via depression	$r = .40$	$\beta = .31$
Bertoldi (2001) USA	Clinical – adult outpatients, aged 18-77 ( $N = 100$ ; $n = 60$ female; $n = 25$ psychotic disorder, $n = 60$ affective disorder, $n = 9$ anxiety disorder)	Cross-sectional	ISS TOSCA-2	BSI (PI)	Maladaptive shame-proneness positively correlated with paranoia; shame-proneness positively correlated with paranoia; shame-proneness positively associated with paranoia controlling for guilt, sex, ethnicity and diagnosis	$r = .53$ $r = .29$	$\beta = .69$
Johnson et al. (2014) UK	Clinical – aged 16-25, not diagnosed with psychotic disorder ( $N = 60$ ; $n = 42$ female)	Cross-sectional	ESS	SSPS	Total shame, characterological and behavioural shame positively correlated with paranoia; total shame associated with paranoia adjusting for stressful events; shame moderates the association between stressful events and paranoia	$r = .46$ $r = .45$ $r = .37$	$R^2 = .31$ $\Delta R^2 = .14$
Morris et al. (2011) UK	Clinical – in-patients and out-patients experiencing persecutory delusions ( $N = 36$ adults; $n = 18$ female)	Cross-sectional	ESS	SAPS	The ‘bad me’ paranoia group scored significantly higher than the ‘poor me’ paranoia group	$d = 0.91$	

Connor & Birchwood (2013) UK	Clinical – diagnosis of schizophrenia or related disorder ( $N = 74$ voice-hearers; 59.5% male)	Cross-sectional	OAS	SCI-PANSS VPD	Shame positively associated thematic content of affiliation with voices controlling for depression; shame and FSCS “hated self” positively associated with VPD controlling for depression, self-correction, self-persecution, inadequate self, reassuring self	$\beta = .26$ $\beta = .38$
Castilho et al. (2015) Portugal	Non-clinical – general population, mean age 32.67, $SD = 11.15$ ( $N = 208$ ; $n = 98$ female)	Cross-sectional	OAS - Portuguese	GPS Portuguese	External shame positively correlated with paranoia; external shame a significant predictor of paranoia co-varying age, years of education and depression	$r = .62$ $\beta = .40$
El-Jamil (2003) USA)	Non-clinical – students ( $N = 188$ ; $n = 91$ from two American universities in Lebanon, $n = 97$ from two American universities)	Cross-sectional	TOSCA	BSI	Shame not correlated with paranoia	$r = .09$
Matos et al. (2012) Study 1 Portugal	Non-clinical – student population from Portuguese university ( $N = 292$ ; $n = 259$ female)	Cross-sectional	OAS Portuguese ISS Portuguese	PC Portuguese	Centrality of shame memory positively correlated with severity of paranoid symptoms; centrality of shame memory associated with PC frequency covarying centrality of fear and sadness memories; centrality of shame memory associated with PC distress covarying centrality of fear and sadness memories	$r = .17-.38$ $\beta = .23$ $\beta = .29$
Matos et al. (2013) Portugal	Non-clinical – Portuguese community population ( $N = 328$ ; $n = 220$ female)	Cross-sectional	OAS Portuguese ESS Portuguese	GPS Portuguese	External shame positively correlated with paranoia; internal shame positively correlated with paranoia; centrality of shame memory positively correlated with paranoia; SEM path analysis - external shame the strongest predictor of paranoia controlling for traumatic impact of shame memory and internal shame	$r = .61$ $r = .46$ $r = .45$ $\beta = .42$
Pinto-Gouveia et al. (2013) Portugal	Non-clinical – Portuguese community population ( $N = 204$ ; $n = 144$ female)	Cross-sectional	CES Portuguese	GPS Portuguese	Centrality of shame memory moderately associated with paranoia	$r = .39$
Pinto-Gouveia et al. (2014) Portugal	Non-clinical – Portuguese community population ( $N = 255$ ; $n = 174$ female)	Cross-sectional	OAS Portuguese ISS Portuguese	GPS Portuguese	Shame traumatic memory positively correlated with paranoia; external and internal shame positively correlated with paranoia; external shame associated with paranoia controlling for depression, submissive behaviour, early life experiences and trauma symptoms	$r = .45$ $r = .52$ $r = .50$ $\beta = .32$
Sombke (2001) USA	Non-clinical – student population aged 17-44 from two universities ( $N = 301$ ; $n = 133$ from Utah State University, $n = 93$ female; $n = 168$ from Louisiana State University, $n = 104$ female)	Cross-sectional	ASGS PFQ-2	SCL-90-R (PI)	Paranoia positively correlated with shame	$r = .42-.54$
Zlotkin (1994) USA	Non-clinical ( $N = 126$ : $n = 64$ females; $n = 40$ low paranoia and $n = 40$ high paranoia)	Cross-sectional	DES	SCL-90-R MMPI-2-R (Paranoia)	Shame greater in the high paranoia group compared to the low paranoia group	$d = 0.95$

Guimón et al. (2007) Portugal	Mixed clinical & non-clinical ( $N = 172$ ; $n = 79$ psychiatric patients; $n = 15$ psychotic, $n = 20$ depressive, $n = 12$ bipolar; $n = 15$ anxiety, $n = 17$ personality disorder; $n = 93$ students,)	Cross-sectional	TOSCA	DSM-IV	Shame less in schizophrenia group compared to depressive group and healthy controls	$d = 1.11$ $d = 0.94$
Lincoln et al. (2015) Germany	Mixed clinical & non-clinical – aged 18-65 ( $N = 95$ ; $n = 37$ psychotic disorders, $n = 30$ depressive disorders; $n = 28$ healthy controls)	Cross-sectional	ERSQ-ES	DSM-IV MINI PANSS CAPE	Shame greater in those with psychosis compared to those with depression and healthy controls	
Michail & Birchwood (2013) UK	Mixed clinical and non-clinical ( $N = 135$ ; $n = 60$ FEP, $n = 20$ FEP with SAD, $n = 31$ non-psychotic SAD; $n = 24$ age-matched healthy controls)	Cross-sectional	OAS	SCAN ICD-10 PANSS	No statistically significant difference between FEP and controls for shame	$d = 0.32$
Suslow et al. (2003) (Germany)	Mixed clinical and non-clinical ( $N = 68$ ; $n = 30$ schizophrenia with flat affect, $n = 30$ schizophrenia with anhedonia, $n = 28$ schizophrenia no flat affect/anhedonia ( $n = 30$ healthy controls)	Cross-sectional	DES	DSM-IV (SCID-I) German SANS	Shame greater in anhedonic schizophrenia group compared to healthy controls	$d = 1.16$

*Note.* Table layout organised into clinical/non-clinical/mixed clinical/non-clinical samples and by measurement of overall psychosis or specific psychotic/psychotic-like experiences. ISS = Internalised Shame Scale;

TOSCA-2 = Test of Self-Conscious Affect: Version 2; BSI = Brief Symptom Inventory; OAS = Other As Shamer scale; PANSS = Positive and Negative Syndrome Scale; OAS Portuguese = Other As Shamer scale:

Portuguese version; GPS Portuguese = General Paranoia Scale: Portuguese version; SCI-PANSS = Structured Clinical Interview for Positive and Negative Syndrome Scale; VPD = Voice Power Differential scale;

TOSCA = Test of Self-Conscious Affect; DSM-IV = Diagnostic and Statistical Manual-Fourth Edition; ESS = Experience of Shame Scale; SSPS = State Social Paranoia Scale; DSM-IV-TR = Diagnostic and Statistical

Manual-Training Revision; ERSQ-ES = Emotion Regulation Skills Questionnaire; MINI= Mini-International Neuropsychiatric Interview; CAPE = Community Assessment of Psychic Experiences; ISS Portuguese =

Internalised Shame Scale: Portuguese version; PC Portuguese = Paranoia Checklist; Portuguese version; ESS Portuguese = Experience of Shame Scale: Portuguese version; SCAN = Schedules for Clinical Assessment

in Neuropsychiatry; ICD-10 = International Statistical Classification of Diseases and Related Health Problems: 10th Revision; SAPS = Scale for Assessment of Positive Symptoms; CES Portuguese = Centrality of

Event Scale: Portuguese version; ASGS = Adapted Shame and Guilt Scale; PFQ-2 = Personal Feelings Questionnaire-2; SCL-90-R (PI) = Symptoms Checklist 90-R (Paranoid Ideation); DSM-IV (SCID-I) =

Structured Clinical Interview for DSM-IV: German version; SANS = Scale for Assessment of Negative Symptoms; DES = Differential Emotions Scale; MMPI-2 = Minnesota Multiphasic Personality Inventory:

Second edition.



**Risk of Bias**

The assessment of study quality is outlined in Table 2. The most common methodological problems were unjustified sample sizes, no reporting of power calculations, failure to control for confounding variables and in group comparison studies failure to match on key demographics variables. Several studies ( $k = 5$ ) utilised measures where a single item, a collection of several items or a single scale was taken from larger measures to assess shame, without further assessment of psychometric properties, which may have resulted in poor content validity and reliability. All five of the Portuguese studies (Castilho, Xavier, Pinto-Gouveia, & Costa, 2015; Matos, Pinto-Gouveia, & Duarte, 2012; Matos, Pinto-Gouveia, & Gilbert, 2013; Pinto-Gouveia, Castilho, Matos, & Xavier, 2013; Pinto-Gouveia, Matos, Castilho, & Xavier, 2014) utilised measures of shame or shame memories and psychotic/psychotic-like experiences that had been translated into Portuguese, yet they had been subject to validation in Portuguese samples. Lincoln, Hartmann, Kother, & Moritz (2015) utilised a German version of the ERSQ-ES to measure shame and the authors noted that previous validation of this adapted measure yielded good psychometric properties.

Only three studies (Johnson, Jones, Lin, Wood, Heinze, & Jackson, 2014; Pinto-Gouveia et al., 2014; Wood & Irons, 2016) reported conducting a power analysis or described some other rationale for determining the adequacy of sample sizes. It is therefore unclear if the remaining studies were adequately powered to identify relationships between the variables of interest. Several studies ( $k = 9$ ) had small sample sizes ( $n < 100$ ), where low power may have been an issue. Several studies controlled for the effects of confounding variables within their analyses, but two key confounders, guilt and depression, were often not adjusted for in analyses. This may be problematic as within the literature shame has been associated with depression and guilt (Kim et al., 2011). Parameter estimates could be biased if confounders are not accounted for within analyses leading to over or under estimations of effect sizes. The

representativeness of the sample was a concern in five cases, including studies with predominantly male or female samples, or non-clinical samples from a higher educational or socio-economic status (Johnson et al., 2014; Keen, George, Scragg, & Peters, 2017; Matos et al., 2012; Pinto-Gouveia et al., 2013; Pinto-Gouveia et al., 2014). These potential biases are problematic as they limit the generalisability of findings.

Table 2.

*Risk of Bias Assessment*

Study	Unbiased selection of the cohort	Selection minimises baseline differences	Sample size calculated	Adequate description of the cohort	Validated method for ascertaining shame	Validated method for ascertaining psychosis	Outcome Blind to exposure	Missing data	Analysis controls for confounding	Analytic methods appropriate
Bertoldi (2001)	Partially	N/A	No	Yes	Yes	Yes	N/A	Yes	Partially	Yes
Birchwood et al. (2006)	Yes	Partially	No	Partially	Yes	Yes	Yes	Yes	No	Partially
Castilho et al. (2015)	No	N/A	No	Yes	Yes	Yes	N/A	Yes	Partially	Yes
Connor & Birchwood (2013)	Partially	N/A	No	Partially	Yes	Yes	Cannot tell	Yes	Partially	Partially
El-Jamil (2003)	Partially	N/A	No	Yes	Yes	Yes	N/A	Yes	Partially	Yes
Guimón et al. (2007)	Yes	Partially	No	Partially	Yes	Partially	N/A	Yes	No	Partially
Johnson et al. (2014)	Partially	N/A	Yes	Partially	Yes	Yes	N/A	Yes	Partially	Yes
Keen et al. (2017)	Partially	No	No	Partially	Yes	Yes	N/A	Yes	No	Yes

Lincoln et al. (2015)	Yes	Yes	No	Partially	Partially	Yes	Cannot tell	Yes	Partially	No
Matos et al. (2012) Study 1	Partially	N/A	No	Partially	Yes	Yes	N/A	No	Partially	Yes
Matos, Pinto-Gouveia, & Gilbert (2013)	Partially	N/A	No	Partially	Yes	Yes	N/A	Yes	Partially	Yes
Michail & Birchwood (2013)	Yes	Partially	No	Yes	Yes	Yes	Cannot tell	Yes	No	Yes
Morris et al. (2011)	Yes	Yes	No	Partially	Yes	Yes	Cannot tell	Yes	Partially	Cannot tell
Pinto-Gouveia et al. (2013)	Partially	N/A	No	Yes	Yes	Yes	N/A	Yes	Partially	Yes
Pinto-Gouveia et al. (2014)	Partially	N/A	Yes	Yes	Yes	Yes	N/A	Yes	Partially	Yes
Sombke (2001)	No	No	No	Partially	Partially	Partially	N/A	Yes	No	Yes
Suslow et al. (2003)	Partially	Partially	No	Partially	Partially	Yes	N/A	Yes	No	Yes
Turner et al. (2013)	Yes	No	No	Partially	Yes	Yes	N/A	Yes	Partially	Yes
Wood & Irons (2016)	Yes	N/A	Partially	Partially	Yes	Yes	No	Yes	Partially	Partially
Zlotkin (1994)	Partially	No	No	No	Partially	Yes	N/A	Yes	No	Partially

*Note.* Adequate follow-up period criteria not reported here as N/A for all studies.

### Is Shame Related to Psychosis?

In studies measuring psychosis using group comparison designs ( $k = 6$ ) two studies identified greater levels of shame in clinical samples with psychosis than in healthy controls ( $d = 0.99-1.16$ ; Suslow, Roestel, Ohrmann, & Arolt, 2003; Turner, Bernard, Birchwood, Jackson, & Jones, 2013), one identified a trend towards greater shame in those with psychosis when compared to healthy controls (Lincoln et al., 2015) and another found greater external shame in a group diagnosed with schizophrenia than an arthritis control group ( $d = 0.76$ ; Keen et al., 2017). Two of the group comparison studies did not support these findings with one identifying no statistically significant difference between levels of shame in individuals with first-episode psychosis (FEP) and a healthy control group ( $d = 0.32$ ;  $n = 60$ ; Michail & Birchwood, 2013) and another identifying less shame in a group diagnosed with schizophrenia than a healthy comparison group ( $d = 1.11$ ;  $n = 15$ ; Guimón, Las Hayas, Guillén, Boyra, & González-Pinto, 2007). However, small clinical sub-samples sizes and low power may have been a factor here. Inconsistent findings emerged regarding comparisons between individuals with psychosis and those with experiences of depression, with one study reporting a trend towards greater shame in the latter group, one study reporting lesser shame, and another reporting a trend towards lesser shame in the depression group ( $d = 1.11$ ; Guimon et al., 2007;  $d = -0.72$ ; Keen et al., 2017; Lincoln et al., 2015). Only two of these studies measured level of depressive symptoms in the depression groups, both utilising different measures. Consequently, it is impossible to compare the level of depressive symptoms across the three studies and differing findings may reflect variations in depression group symptom severity. Furthermore, the TOSCA (Tangney et al., 1989) was utilised in both studies where lesser shame was identified in the psychosis group. This may not be a suitable measure as the TOSCA is based upon making hypothetical judgments about states of mind, an ability that may be affected in psychosis (Sprong, Schothorst, Vos, Hox, & van Engeland, 2007).

In studies measuring general psychosis using correlational designs ( $k = 2$ ) one study identified positive correlations between external shame and positive psychotic symptoms in a clinical sample ( $r = .40$ ; Wood & Irons, 2015) and identified a significant indirect effect of external shame on positive psychotic symptoms via depression. However, another found no significant relationship between external shame and either positive or negative symptoms of psychosis ( $r = -.03-.05$ ; Birchwood et al., 2006).

One study measuring internal and external shame specifically due to psychosis (i.e., shame related to the consequences of psychosis) reported significant positive associations between shame and the diagnosis of psychosis (Turner et al., 2013). In this study, the OAS was adapted to measure shame about psychosis and compared to the scores of healthy controls completing an unedited version of this measure (Turner et al., 2013). Those in the psychosis sample had greater shame than healthy controls ( $d = 0.52-1$ ), but this finding is limited as the healthy control sample were completing a different version of the measure.

### **Is Shame Related to Paranoia and Voice-Hearing?**

Two studies reported positive associations between shame (proneness, internal shame) and paranoia in clinical ( $r = .29-.52$ ; Bertoldi, 2001; Johnson et al., 2014) and general community populations ( $r = .42-.54$ , Sombke, 2001;  $d = 0.95$ , Zlotkin, 1994). Three studies identified positive correlations between shame and ‘subclinical’ paranoia utilising the General Paranoia Scale (GPS;  $r = .46-.62$ ; Fenigstein & Vanable, 1992; Portuguese version by Lopes & Pinto-Gouveia, 2005b; Castilho et al., 2015; Matos et al., 2013; Pinto-Gouveia et al., 2014). There is evidence that paranoid beliefs occur along a continuum of severity (Bebbington et al., 2013). At the less severe end of the continuum subclinical paranoia refers to non-pathological phenomena observed in individuals in their day to day interactions that are associated with exaggerated self-referential biases (Fenigstein & Vanable, 1992), interpersonal sensitivity and mistrust (Bebbington et al., 2013).

Three studies examined the relationship between shame memories and subclinical paranoia. Results suggested that centrality of shame memory (i.e. the extent to which a memory of a shameful event becomes a reference point for identity;  $r = .39-.45$ ; Matos et al., 2013; Pinto-Gouveia et al., 2013) and distress related to memories was positively correlated with paranoia ( $r = .45$ ; Pinto-Gouveia et al., 2014). One study measured the relationship between clinical paranoia and shame memories in a non-clinical population and reported that centrality of shame memory was positively correlated with paranoia frequency, conviction and distress ( $r = .17-.38$ ; Matos et al., 2012).

Some studies identified indirect effects between shame and paranoia. Pinto-Gouveia and colleagues (2014) identified an indirect effect of shame memories on paranoia via internal and external shame. Johnson and colleagues (2014) reported an indirect effect of stressful life events on paranoia via experiences of shame, suggesting that high levels of shame may be vulnerability factor for paranoia.

Only one study obtained examined the relationship between voice-hearing and shame (Connor & Birchwood, 2013). The authors identified that voice power differential (the difference in perceived power noted between the voice and the voice-hearer;  $\beta = 0.25$ ) and interpersonal or relational content of voices significantly predicted shame ( $\beta = -0.51$ ; Connor & Birchwood, 2013).

## Discussion

The aim of this review was to examine the existing research literature to establish whether shame was related to psychosis or psychotic/psychotic-like symptoms and if so, to examine the nature of this relationship. Overall, most of the studies obtained ( $k = 16$ ) suggested that shame had a moderate to strong positive association with psychosis and psychotic/psychotic-like experiences, including paranoia and voice-hearing, across both clinical and non-clinical populations. A great limitation regarding the studies obtained was that none utilised longitudinal designs and thus, no conclusions regarding causality or direction of effects can be made. Only one study examined the relationship between shame and negative symptoms of psychosis, only one looked at the experience of voice hearing in relation to shame, and no study examined the association between shame and other specific symptoms of psychosis such as thought disorder. This limits the conclusions that can be made regarding the relationship between shame and these aspects of psychosis.

The results partially support social rank, cognitive, and compassion-focused theories of psychosis (e.g., Freeman & Garety, 2003; Garety et al., 2001; Gilbert, 2000; Gumley et al., 2010) that suggest shame may be an important emotion in understanding psychosis/psychosis-like experiences. However, specific hypotheses that shame triggers or precedes psychosis have not been confirmed. Therefore, the reciprocal effect, where shame results from psychosis and is implicated in the maintenance and relapse of psychotic symptoms may be the case.

Despite variation in the questionnaires utilised to measure shame all capture the fundamental aspect of shame as a perception of an inadequate self (Lewis, 1971). Furthermore, most questionnaires used in the studies were validated in the relevant samples. Where study findings varied, this did not appear to be related to whether shame or psychotic/psychotic-like symptoms were measured via self-report tools or with psychiatric interview. Indeed, a variety



of measures were used across the studies that did not identify significant relationships between shame and psychosis/psychosis-like experiences.

### **Study Limitations**

Limitations regarding the studies obtained included small samples. This resulted in many studies seemingly being underpowered. Although associations tended to be moderate-to-large it should be noted that low power can also contribute to exaggerated effect sizes because of factors like publication bias (Button et al., 2013). This raises the possibility that the true effect size is smaller than those observed here. Several studies had unrepresentative samples in terms of gender; many used self-selected participants and some used participants obtained via institution agreements, where samples may be expected to be unrepresentative in terms of class, education, ethnicity and employment. This limits the ability to generalise findings to more representative samples. Many studies did not control for confounding variables. This is specifically pertinent where other psychological difficulties, for example, depression may have been present, increasing the potential for inflated effect sizes. Notably, a subset of studies did report that relationships between shame and psychotic experiences remained whilst adjusting for depression, suggesting that the association between shame and psychosis is not entirely a result of the confounding influence of depression.

In the current review a meta-analysis could not be undertaken due to the high level of diversity across the studies in terms of the measures used to quantify shame and psychotic/psychotic-like experiences, the populations examined and the psychotic/psychotic-like symptoms that were measured. Another limitation is that 17 studies had to be excluded at the final stage due to data regarding the association between shame and psychosis/psychosis-like experiences being unavailable. This was either in terms of this association not being included in the statistical analysis, not published in the paper or not available after contacting the study authors for the unpublished data. This raises the potential of publication bias since

these unreported effects are more likely to be small and not statistically significant. Furthermore, only papers that were written in English language were included.

### **Clinical Implications**

The findings of this review are of clinical importance when considering the impact of shame on the development and maintenance of psychosis/psychosis-like experiences and when considering possible therapeutic treatments to utilise when working with individuals who have psychotic experiences. If shame is prominent or causal in psychosis/psychosis-like experiences, then psychological therapies that address experiences of shame may be helpful. Cognitive-behavioural therapy is the most the widely studied, well supported psychological therapy in the literature in relation to the treatment of psychosis (e.g., Marshall & Rathbone, 2011; Morrison et al., 2014; Wykes, Steel, Everitt, & Tarrier, 2008) and is recommended in United Kingdom treatment guidelines (National Institute for Health and Care Excellence, 2014). The current findings suggest that it may be clinically useful to adapt cognitive-behavioural therapy to address beliefs and feelings of shame (Birchwood & Trower, 2006; Gilbert, 2003b). It could also be suggested that third wave cognitive-behavioural therapies such as compassion-focused therapy, acceptance and commitment therapy and mindfulness, may be beneficial. Compassion-focused therapy, which aims to reduce the threat-based emotional system associated with shame, has been successfully utilised with people with psychotic experiences (Braehler et al., 2013; Laithwaite et al., 2009; Mayhew & Gilbert, 2008). Acceptance and commitment therapy and mindfulness are effective in reducing emotional dysfunction following psychosis and are associated with a number of other therapeutic benefits (Aust & Bradshaw, 2017; Gumley et al., 2017; White et al., 2011; White et al., 2015). Though evidence of efficacy is currently lacking, cognitive-analytic therapy may be suited to the treatment of psychosis (Taylor, Perry, Hutton, Seddon, & Tan, 2014), and may be beneficial to address problems related to internalised shame due to its focus on interpersonal processes.

Furthermore, welfare and community interventions that are targeted at the wider societal level may help to reduce feelings of shame in the individual and may also help to target social stigma and marginalisation by others in society, which may impact upon shame. This may decrease the likelihood that psychotic symptoms will be maintained or remerge.

**Future Directions**

Further research should be conducted in this area to delineate the role of shame in relationship to specific psychotic/psychotic-like experiences. Specifically, new research should include experimental and longitudinal designs that enable causality and direction of effects to be established. This would enable models and theories in relation to the role of emotions in psychosis to be further refined and for interventions to be targeted more accurately. Research should also examine the role of shame in relation to other psychotic experiences such as voice-hearing as investigation of these experiences has been neglected in the literature thus far.

### References

- Aust, J., & Bradshaw, T. (2017). Mindfulness interventions for psychosis: A systematic review of the literature. *Journal of Psychiatric and Mental Health Nursing*, 24, 69–83. doi: 10.1111/jpm.12357
- Allison, G., Harrop, C., & Ellett, L. (2013). Perception of peer group rank of individuals with early psychosis. *British Journal of Clinical Psychology*, 52, 1–11. doi: 10.1111/j.2044-8260.2012.02041.x
- American Psychiatric Association. (1994). *Diagnostic and Statistical Manual of Mental Disorders (4th ed.)*. Seattle, WA: American Psychiatric Association.
- American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders (4th ed. Training, Rev.)*. Seattle, WA: American Psychiatric Association.
- Andreasen, N. C. (1984). *The Scale for Assessment of Positive Symptoms (SAPS)*. Iowa City, IA: The University of Iowa Press.
- Andreasen, N. C. (1989). Scale for the Assessment of Negative Symptoms (SANS). *British Journal Psychiatry*, 155(7), 53–58. 29.
- Andrews, B. (1998). Methodological and definitional issues in shame research. In P. Gilbert, & B. Andrews (Eds.), *Shame: Interpersonal behaviour, psychopathology and culture* (pp. 39–54). New York: Oxford University Press.
- Andrews, B., Brewin, C. R., Rose, S., & Kirk, M. (2000). Predicting PTSD symptoms in victims of violent crime: The role of shame, anger, and childhood abuse. *Journal of Abnormal Psychology*, 109, 69–73. doi: 10.1037/0021-843X.109.1.69
- Andrews, B., Qian, M., & Valentine, J. D. (2002). Predicting depressive symptoms with a new measure of shame: The Experience of Shame Scale. *British Journal of Clinical Psychology*, 41, 29–42. doi: 10.1348/014466502163778

- Barrowclough, C., Tarrier, N., Humphreys, L., Ward, J., Gregg, L., & Andrews, B. (2003). Self-esteem in schizophrenia: Relationships between self-evaluation, family attitudes, and Symptomatology. *Journal of Abnormal Psychology, 112*(1), 92–99. doi: 10.1037/0021-843X.112.1.92
- Bebbington, P. E., McBride, O., Steel, C., Kuipers, E., Radovanovic, M., Brugha, T., Jenkins, R., Meltzer, H., & Freeman, D. (2013). The structure of paranoia in the general population. *The British Journal of Psychiatry, 202*, 419–427. doi: 10.1192/bjp.bp.112.119032
- Bentall, R. P., Corcoran R., Howard, R., Blackwood, N., & Kinderman P. (2001). Persecutory delusions: A review and theoretical integration. *Clinical Psychology Review 21*, 1143-1192. doi: 10.1016/S0272-7358(01)00106-4
- Bentall, R. P., Kinderman, P., & Kaney, S. (1994). The self, attributional processes and abnormal beliefs: Towards a model of persecutory delusions. *Behaviour Research and Therapy, 32*, 331-341. doi: 10.1016/0005-7967(94)90131-7
- Bentall, R. P., Rowse, G., Shryane, N., Kinderman, P., Howard, R., Blackwood, N., Moore, R., & Corcoran, R. (2009). The cognitive and affective structure of paranoid delusions: A transdiagnostic investigation of patients with schizophrenia spectrum disorders and depression. *Archives of General Psychiatry, 66* (3), 236–247. doi: 10.1001/archgenpsychiatry.2009.1
- Bentall R. P., & Slade P. (1985). Reality testing and auditory hallucinations: A signal-detection analysis. *British Journal of Clinical Psychology, 24*, 159-169. doi: 10.1111/j.2044-8260.1985.tb01331.x
- Berntsen, D., & Rubin, D. C. (2006). The centrality of event scale: A measure of integrating a trauma into one's identity and its relation to post-traumatic stress disorder symptoms. *Behaviour Research and Therapy, 44*, 219-231. doi: 10.1016/j.brat.2005.01.009

- \* Bertoldi, J. M. (2001). The differential relationship of shame-proneness and guilt-proneness to overall psychological function and specific symptomatology in a clinical population. Dissertation Abstracts International: Section B: The Sciences and Engineering. ProQuest Information & Learning, US. Retrieved from <http://search.proquest.com.liverpool.idm.oclc.org/dissertations/docview/305504802/fulltextPDF/E53E48D3F1D4487APQ/1?accountid=12117>
- Birchwood, M. (2003). Pathways to emotional dysfunction in first-episode psychosis. *British Journal of Psychiatry*, 182, 373–376. doi: 10.1192/bjp.182.5.373
- Birchwood M., Iqbal, Z., Chadwick, P., & Trower, P. (2000). Cognitive approach to depression and suicidal thinking in psychosis. 1. Ontogeny of post-psychotic depression. *British Journal of Psychiatry*, 177, 516-521. doi: 10.1192/bjp.177.6.516
- Birchwood, M. J., Mason, R., Macmillan, F., & Healey, J. (1993). Depression, demoralisation and control over psychotic illnesses. *Psychological Medicine*, 23, 387–395. doi:10.1017/S0033291700028488
- Birchwood, M., Meaden, A., Trower, P., Gilbert, P., & Plaistow, J. (2000). The power and omnipotence of voices: Subordination and entrapment by voices and significant others. *Psychological Medicine*, 30, 337-344. doi: 10.1017/S0033291799001828
- Birchwood, M., & Trower, P. (2006). The future of cognitive-behavioural therapy for psychosis: Not a quasi-neuroleptic. *British Journal of Psychiatry* 188, 107–108. doi: 10.1192/bjp.bp.105.014985
- \* Birchwood, M., Trower, P., Brunet, K., Gilbert, P., Iqbal, Z., & Jackson, C. (2006). Social anxiety and the shame of psychosis: A study in first episode psychosis. *Behaviour Research and Therapy*, 45, 1025–1037. doi: 10.1016/j.brat.2006.07.011
- Braehler, C., Gumley, A., Harper, J., Wallace, S., Norrie, J., & Gilbert, P. (2013). Exploring change processes in compassion-focused therapy in psychosis: Results of a feasibility

- randomised controlled trial. *British Journal of Clinical Psychology*, 52(2), 199–214.  
doi: 10.1111/bjc.12009
- Brune, M. (2005). Theory of mind in schizophrenia: A review of the literature. *Schizophrenia Bulletin*, 31, 21-42. doi: 10.1093/schbul/sbi002
- Butcher, J. N., Dahlstrom, W. G., Graham, J. R., Tellegen, A. M., & Kaemmer, B. (1989). *Minnesota Multiphasic Personality Inventory-2 (MMPI-2): Manual for administration and scoring*. Minneapolis: University of Minnesota Press.
- Button, K. S., Ioannidis, J. P. A., Mokrysz, C., Nosek, B. A., Flint, J., Robinson, E. S. J., & Munafò, M. R. (2013). Power failure: Why small sample size undermines the reliability of neuroscience. *Nature Publishing Group*, 14(5), 365–376. doi: 10.1038/nrn3475
- \* Castilho, P., Xavier, A., Pinto-Gouveia, J., & Costa, T. (2015). When the “threat system” is switched on: The impact of anger and shame on paranoia. *Revista de Psicopatología Y Psicología Clínica*, 20(3), 199–207. doi:10.5944/rppc.vol.20.num.3.2015.1589510.5944/r ppc.vol.20.num.3.2015.15895
- Collip, D., Oorschot, M., Thewissen, V., Van Os, J., & Bentall, R. (2011). Social world interactions: How company connects to paranoia. *Psychological Medicine*, 41, 911–921. doi: 10.1017/S00332917110001558
- \* Connor, C., & Birchwood, M. (2013). Through the looking glass: Self-reassuring meta-cognitive capacity and its relationship with the thematic content of voices. *Frontiers in Human Neuroscience*, 7(213), 1-8. doi:10.3389/fnhum.2013.00213
- Cook, D. R. (1994; 2001). *Internalized Shame Scale: Technical manual*. North Tonawanda, NY: Multi-Health Systems Inc.
- Cook, D. R. (1996). Empirical studies of shame and guilt: The Internalized Shame Scale. In D. L. Nathanson (Ed.), *Knowing feeling: Affect, script and psychotherapy* (pp. 132–

165). New York: Norton.

Cooke, A. (2014). *Understanding psychosis and schizophrenia: Why people sometimes hear voices, believe things that others find strange, or appear out of touch with reality, and what can help*. British Psychological Society: Division of Clinical Psychology.

Retrieved from [http://www.bps.org.uk/system/files/Public%20files/rep03\\_understanding\\_psychosis.pdf](http://www.bps.org.uk/system/files/Public%20files/rep03_understanding_psychosis.pdf)

Derogatis, L. R. (1993). *Brief Symptom Inventory: Administration, scoring and procedures manual (3<sup>rd</sup> edition.)*. Minneapolis: National Computer Systems, Inc.

Derogatis, L. R. (1977). *SCL-90 administration, scoring and procedures manual I for the revised version*. Baltimore, MD: John Hopkins University School of Medicine.

Dudley, R., Taylor, P., Wickham, S., & Hutton, P. (2016). Psychosis, delusions and the “jumping to conclusions” reasoning bias: A systematic review and meta-analysis. *Schizophrenia Bulletin*, 42(3), 652–665. doi: 10.1093/schbul/sbv150

Ebert, D. D., Christ, O., & Berking, M. (2013). Entwicklung und Validierung eines Fragebogens zur emotions-spezifischen Selbsteinschätzung emotionaler Kompetenzen. *Diagnostica*, 59, 17–32. doi: 10.1026/0012-1924/a000079

\* El-Jamil, F. M. (2003). Shame, guilt, and mental health: A study on the impact of cultural and religious orientation. Dissertation Abstracts International: Section B: The Sciences and Engineering. ProQuest Information & Learning, US. Retrieved from <https://liverpool.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2003-95018-379&site=ehost-live&scope=site>

Feiring, C., Taska, L., & Lewis, M., (2002). Adjustment following sexual abuse discovery: The role of shame and attributional style. *Developmental Psychology*, 38, 79-92. doi: 10.1037/0012-1649.38.1.79



- Fenigstein, A., & Venable, P. A. (1992). Paranoia and self-consciousness. *Journal of Personality and Social Psychology*, 62, 129–138. doi: 10.1037/0022-3514.62.1.129
- Fergus, T. A., Valentiner, D. P., McGrath, P. B., & Jencius, S. (2010). Shame- and guilt-proneness: Relationships with anxiety disorder symptoms in a clinical sample. *Journal of Anxiety Disorders*, 24(8), 811–815. doi: 10.1016/j.janxdis.2010.06.002
- Fessler, D. M. T. (2004). Shame in two cultures: Implications for evolutionary approaches. *Journal of Cognition and Culture*, 4, 207–262. doi: 10.1163/1568537041725097
- Fornells-Ambrojo, M., Craig, T., & Garety, P. (2014). Occupational functioning in early non-affective psychosis: The role of attributional biases, symptoms and executive functioning. *Epidemiology and Psychiatric Sciences*, 23(1)71–84. doi:10.1017/S2045796013000103
- Freeman, D., & Garety, P. A. (2003). Connecting neurosis and psychosis: The direct influence of emotion on delusions and hallucinations. *Behaviour Research and Therapy*, 41, 923–947. doi: 10.1016/S0005-7967(02)00104-3
- Freeman, D., Garety, P. A., Bebbington, P. E., Smith, B., Rollinson, R., Fowler, D., Kuipers, E., Ray, K., & Dunn, G. (2005). Psychological investigation of the structure of paranoia in a non-clinical population. *British Journal of Psychiatry*, 186, 427–435. doi: 10.1192/bjp.186.5.427
- Freeman, D., Pugh, K., Green, C., Valmaggia, L., Dunn, G., & Garety, P. (2007). A measure of state persecutory ideation for experimental studies. *Journal of Nervous and Mental Disease*, 195, 781–784. doi: 10.1192/bjp.186.5.427
- Frith, C. (1994). Theory of mind in schizophrenia. In A. David & J. Cutting (Eds.), *The neuropsychology of schizophrenia* (pp. 147–161). Hove: Erlbaum.
- Garety, P. A., Kuipers, E., Fowler, D., Freeman, D., & Bebbington, P. E. (2001). A cognitive model of the positive symptoms of psychosis. *Psychological Medicine*, 31(2),

189–195. doi: 10.1017/S0033291701003312

Gilbert, P. (1997). The evolution of social attractiveness and its role in shame, humiliation, guilt and therapy. *British Journal of Medical Psychology*, 70, 113–147. doi:

10.1111/j.2044-8341.1997.tb01893.x

Gilbert, P. (1998). What is shame? Some core issues and controversies. In P. Gilbert, & B. Andrews (Eds.), *Shame: Interpersonal behavior, psychopathology and culture* (pp. 3–36). New York: Oxford University Press.

Gilbert, P. (2000). The relationship of shame, social anxiety and depression: The role of evaluation of social rank. *Clinical Psychology and Psychotherapy*, 7, 174–189. doi:

10.1002/1099-0879(200007)7:33.0

Gilbert, P. (2002). Body shame: A biopsychosocial conceptualisation and overview, with treatment implications. In P. Gilbert & J. Miles (Eds.), *Body shame:*

*Conceptualisation, research and treatment* (pp. 3-54). London: Brunner-Routledge.

Gilbert, P. (2003a). Evolution, social roles, and the differences in shame and Guilt. *Social Research*, 70(4), 1205-1230.

Gilbert, P. (2003b). Working with shame. *Reformulation*, 19, 13-15. Retrieved from

[http://www.acat.me.uk/reformulation.php?issue\\_id=18&article\\_id=158](http://www.acat.me.uk/reformulation.php?issue_id=18&article_id=158)

Gilbert, P. (2004). Evolution, attractiveness, and the emergence of shame and guilt in a self-aware mind: A reflection on Tracy and Robins. *Psychological Inquiry*, 15, 132–135.

Gilbert, P. (2005). *Compassion: Conceptualizations, research, and use in psychotherapy*.

London: Brunner-Routledge.

Gilbert, P. (2009). Introducing compassion-focused therapy. *Advances in Psychiatric Treatment*, 15, 199-208. doi: 10.1192/apt.bp.107.005264

Gilbert, P., & McGuire, M. T. (1998). Shame, status, and social roles: Psychobiology and evolution. In P. Gilbert & B. Andrews (Eds.), *Shame: Interpersonal behaviour*,

*psychopathology, and culture* (pp. 99– 125). New York, NY: Oxford University Press.

Gilbert, P., McEwan, K., Irons, C., Bhundia, R., Christie, R., Broomhead, C., & Rockliff, H. (2010). Self-harm in a mixed clinical population: The roles of self-criticism, shame, and social rank. *British Journal of Clinical Psychology*, *49*, 563-576. doi: 10.1348/014466509X479771

Goss, K., Gilbert, P., & Allan, S. (1994). An exploration of shame measures I. The ‘‘Other as Shamer Scale’’. *Personality and Individual Differences*, *17*, 713 717. doi: 10.1016/0191-8869(94)90149-X

Gumley, A. (2007). Staying well after psychosis: A cognitive interpersonal approach to emotional recovery and relapse prevention. *Tidsskrift for Norsk Psykologforening*, *44*(5), 667-676. Retrieved from [http://www.psykologtidsskriftet.no/index.php?seks\\_id=23937&a=3](http://www.psykologtidsskriftet.no/index.php?seks_id=23937&a=3)

Gumley, A., Braehler, C., Laithwaite, H., MacBeth, A., & Gilbert, P. (2010). A compassion focused model of recovery after psychosis. *International Journal of Cognitive Therapy*, *3*(2), 186–201. doi: 10.1521/ijct.2010.3.2.186

Gumley, A. I., & Macbeth, A. (2006). Trauma based model of relapse in psychosis. In W. Larkin & A. Morrison (Eds.), *Trauma and psychosis* (pp. 283-304). New York: Wiley.

Gumley, A. I., White, R. G., Briggs, A., Ford, I., Barry, S., Stewart, C., ... McLeod, H. (2017). A parallel group randomised open blinded evaluation of acceptance and commitment therapy for depression after psychosis: Pilot trial outcomes (ADAPT). *Schizophrenia Research*, *183*, 143–150. doi: 10.1016/j.schres.2016.11.026

- Gumley A. I., White, C. A., & Power, K. (1999). An interacting cognitive subsystems model of relapse and the course of psychosis. *Clinical Psychology and Psychotherapy*, 6, 261-279. doi: 10.1002/(SICI)1099-0879(199910)6:4<261::AID-CPP211>3.0.CO;2-C
- Guillem, F., Pampoulova, T., Stip, E., Lalonde, P., & Todorov, C. (2005). The relationships between symptom dimensions and dysphoria in schizophrenia. *Schizophrenia Research*, 75, 83-96. doi: 10.1016/j.schres.2004.06.018
- Guimón, J., Las Hayas, C., Guillén, V., Boyra, A., & González-Pinto, A. (2007). Shame, sensitivity to punishment and psychiatric disorders. *The European Journal of Psychiatry*, 21(2), 124–133. doi: 10.4321/S0213-61632007000200004
- Hanssen, M. S. S., Bijl, R. V., Vollebergh, W., & van Os, J. (2003). Self-reported psychotic experiences in the general population: A valid screening tool for DSM-III-R psychotic disorders? *Acta Psychiatrica Scandinavica*, 107, 369–377.
- Harder, D. H., & Zalma, A. (1990). Two promising shame and guilt scales: A construct validity comparison. *Journal of Personality Assessment*, 55, 729–745. doi: 10.1080/00223891.1990.9674108
- Harman, R., & Lee, D. (2010). The role of shame and self-critical thinking in the development and maintenance of current threat in post-traumatic stress disorder. *Clinical Psychology & Psychotherapy*, 17(1), 13–24. doi: 10.1002/cpp.636
- Harrington, L., Siegert, R. J., & McClure, J. (2005). Theory of mind in schizophrenia: A critical review. *Cognitive Neuropsychiatry*, 10(4), 249-286. doi: 10.1080/13546800444000056
- Healey, K. M., Bartholomeusz, C. F., & Penn, D. L. (2016). Deficits in social cognition in first episode psychosis: A review of the literature. *Clinical Psychology Review*, 50, 108-137. doi: 10.1016/j.cpr.2016.10.001

- Hoblitzelle, W. (1987). Differentiating and measuring shame and guilt: The relation between shame and depression. In H. B. Lewis (Ed.), *Advances in personality assessment* (pp. 89-114). Hillsdale, NJ: Earlbaum.
- Izard, C. E., Dougherty, F. E., Bloxom, B. M., & Kotsch, W. E. (1974). *The Differential Emotions Scale: A method of measuring the subjective experience of discrete emotions*. Nashville, TN: Vanderbilt University.
- Johns, L., Rossell S., Frith, C., Ahmad, F., Hemsley, D., Kuipers, E., & McGuire P. (2001). Verbal self-monitoring and auditory hallucinations in people with schizophrenia. *Psychological Medicine*, 31, 705-715. doi: 10.1017/S0033291701003774
- Johnstone, L. (2009). Controversial issues in trauma and psychosis. *Psychosis: Psychological, Social and Integrative Approaches*, 1, 185-190. doi: 10.1080/17522430902964677
- \* Johnson, J., Jones, C., Lin, A., Wood, S., Heinze, K., & Jackson, C. (2014). Shame amplifies the association between stressful life events and paranoia amongst young adults using mental health services: Implications for understanding risk and psychological resilience. *Psychiatry Research*, 220(1-2), 217–225. doi: 10.1016/j.psychres.2014.07.022
- Kay, S. R., Opler, L. A., & Lindenmayer, J. P. (1987). Reliability and validity of the positive and negative syndrome scale for schizophrenics. *Psychiatry Research*, 23, 111–114. doi: 10.1016/0165-1781(88)90038-8
- \* Keen, N., George, D., Scragg, P., & Peters, E. (2017). The role of shame in people with a diagnosis of schizophrenia. *British Journal of Clinical Psychology*, 56(2), 115-212. doi: 10.1111/bjc.12125

- Kim, S., Thibodeau, R., & Jorgensen, R. S. (2011). Shame, guilt, and depressive symptoms: A meta-analytic review. *Psychological Bulletin*, 137(1), 68–96. doi: 10.1037/a0021466
- Kirkbride, J., Jones, P. B., Ullrich, S., & Coid, J. (2014). Social deprivation, inequality, and the neighborhood-level incidence of psychotic syndromes in East London. *Schizophrenia Bulletin* 40, 169–180. doi: 10.1093/schbul/sbs151
- Krabbendam, L., Myin-Germeys, I., Hanssen, M., Graaf, R., De Vollebergh, W., Bak, M., & van Os, J. (2005). Development of depressed mood predicts onset of psychotic disorder in individuals who report hallucinatory experiences. *British Journal of Clinical Psychology*, 616, 113–125. doi: 10.1348/014466504X19767
- Kramer, I., Simons, C. J., Wigman, J. T., Collip, D., Jacobs, N., Derom, C., & Wichers, M. (2014). Time-lagged moment-to-moment interplay between negative affect and paranoia: New insights in the affective pathway to psychosis. *Schizophrenia Bulletin*, 40, 278–286. doi: 10.1093/schbul/sbs194
- Laithwaite, H., O'Hanlon, M., Collins, P., Doyle, P., Abraham, L., Porter, S., & Gumley, A. (2009). Recovery after psychosis (RAP): A compassion focused programme for individuals residing in high security settings. *Behavioural and Cognitive Psychotherapy*, 37, 511. doi: 10.1017/S1352465809990233
- Lewis, H. B. (1971). *Shame and guilt in neurosis*. New York: International Universities Press.
- Lewis, M. (1992). *Shame: The exposed self*. New York: Free Press.
- Lewis, M. (2003). The role of the self in shame. *Social Research*, 70, 1181–1204. URL: <http://www.jstor.org/stable/40971966>
- Lincoln, T. M., Hartmann, M., Köther, U., & Moritz, S. (2015). Do people with psychosis have specific difficulties regulating emotions? *Clinical Psychology & Psychotherapy*, 22(6), 637–646. doi: 10.1002/cpp.1923

Lopes, B., & Pinto-Gouveia, J. (2005). Portuguese version of the 'Paranoia Checklist'.

Unpublished manuscript.

Lopes, B., & Pinto-Gouveia, J. (2005b). Portuguese version of the 'General Paranoia Scale'.

Unpublished manuscript.

Marshall, M., & Rathbone, J. (2011). Early intervention for psychosis. *Schizophrenia*

*Bulletin*, 37, 1111–1114. doi: 10.1002/14651858.CD004718.pub3

Matos, M., Pinto-Gouveia, J., & Duarte, C. (2011a). Other as Shamer: Versão portuguesa e propriedades psicométricas de uma medida de vergonha externa. [Other as Shamer: Portuguese Version and psychometric properties of a measure of external shame]

Manuscript submitted for publication.

Matos, M., Pinto-Gouveia, J., & Duarte, C. (2011b). Study of the psychometric properties of the Portuguese version of the Experience of Shame Scale. Manuscript submitted for publication.

\* Matos, M., Pinto-Gouveia, J., & Duarte, C. (2012). Above and beyond emotional valence: The unique contribution of central and traumatic shame memories to psychopathology vulnerability. *Memory*, 20(5), 461–477. doi: 10.1080/09658211.2012.680962

Matos, M., Pinto-Gouveia, J., & Duarte, C. (2012b). When I don't like myself: Psychometric properties of the Portuguese version of the Internalised Shame Scale. *Spanish Journal of Psychology*, 15(3), 1141–1423. doi: 10.5209/rev\_SJOP.2012.v15.n3.39425

Matos, M., Pinto-Gouveia, J., & Duarte, C. (2014). Portuguese version of the Other As Shamer Scale. Manuscript in preparation.

\* Matos, M., Pinto-Gouveia, J., & Gilbert, P. (2013). The effect of shame and shame memories on paranoid ideation and social anxiety. *Clinical Psychology & Psychotherapy*, 20(4), 334–349. doi: 10.1002/cpp.1766

- Matos, M., Pinto-Gouveia, J., & Gomes, P. (2010). The centrality of shame experiences: Study of the psychometric properties of the Portuguese version of the Centrality of Event Scale. *Psicologia*, 24, 73–95. doi: 10.17575/rpsicol.v24i1.297
- Mayhew, S., & Gilbert P. (2008). Compassionate mind training with people who hear malevolent voices. A case series report. *Clinical Psychology and Psychotherapy*, 15, 113–138. doi: 10.1002/cpp.566
- \* Michail, M., & Birchwood, M. (2013). Social anxiety disorder and shame cognitions in psychosis. *Psychological Medicine*, 43(1), 133–142. doi: 10.1017/S0033291712001146
- Mork, E., Walby, F., Harkavy-Friedman, J., Barrett, E., Steen, N., Lorentzen, S., Andreassen, ... Mehlum, L. (2013). Clinical characteristics in schizophrenia patients with or without suicide attempts and non-suicidal self-harm: A cross-sectional study. *BMC Psychiatry*, 13, 255. doi: 10.1186/1471-244X-13-255
- \* Morris, E., Milner, P., Trower, P., & Peters, E. (2011). Clinical presentation and early care relationships in “poor-me” and “bad-me” paranoia. *The British Journal of Clinical Psychology*, 50(2), 211–216. doi: 10.1348/014466510X525498
- Morrison, A. P. (1998). Cognitive behaviour therapy for psychotic symptoms in schizophrenia. In N. Tarrier, A. Wells, & G. Haddock (Eds.), *Treating complex cases: The cognitive behavioural therapy approach* (pp. 195–216). Chichester: Wiley.
- Morrison, A. P., Turkington, D., Pyle, M., Spencer, H., Brabban, A., Dunn, G., Christodoulides, T... Hutton, P. (2014). Cognitive therapy for people with schizophrenia spectrum disorders not taking antipsychotic drugs: A single-blind randomised controlled trial. *Lancet*, 383, 1395–1403. doi: 10.1016/S0140-6736(13)62246-1



- Moritz, S., & Woodward, T. S. (2005). Jumping to conclusions in delusional and non-delusional schizophrenic patients. *British Journal of Clinical Psychology* 44, 193-207. doi: 10.1348/014466505X35678
- National Institute for Health and Care Excellence. (2014). *Psychosis and schizophrenia in adults: Treatment and management*. Retrieved from <http://publications.nice.org.uk/psychosis-and-schizophrenia-in-adults-treatment-and-management-cg178/recommendations#first-episode-psychosis-2>
- Nordentoft, M., Mortensen, P., & Pedersen, C. (2011). Absolute risk of suicide after first hospital contact in mental disorder. *Archives of General Psychiatry*, 68, 1058-1064. doi: 10.1001/archgenpsychiatry.2011.113.
- Opler, S. R., & Lindenmayer, J. P. (1988). Reliability and validity of the positive and negative syndrome scale for schizophrenics. *Psychiatry Research*, 23, 99–110. doi: 10.1016/0165-1781(88)90038-8
- Palmier-Claus, J., Berry, K., Darrell-Berry, H., Emsley, R., Parker, S., Drake, R., & Bucci, S. (2016). Childhood adversity and social functioning in psychosis: Exploring clinical and cognitive mediators. *Psychiatry Research*, 238, 25–32. doi: 10.1016/j.psychres.2016.02.004
- \* Pinto-Gouveia, J., Castilho, P., Matos, M., Xavier, A. (2013). Centrality of shame memories and psychopathology: The mediator effect of self-criticism. *Clinical Psychology: Science and Practice*, 20(3), 323–334. doi: 10.1111/cpsp.12044
- Pinto-Gouveia, J., & Matos, M. (2011). Can shame memories become a key to identity? The centrality of shame memories predicts psychopathology. *Applied Cognitive Psychology*, 25, 281–290. doi: 10.1002/acp.1689

- \* Pinto-Gouveia, J., Matos, M., Castilho, P., Xavier, A. (2014). Differences between depression and paranoia: The role of emotional memories, shame and subordination. *Clinical Psychology & Psychotherapy*, 21(1), 49–61. doi: 10.1002/cpp.1818
- Price, J., Sloman, L., Gardner Jr, R., Gilbert, P., & Rohde, P. (1994). The social competition hypothesis of depression. *British Journal of Psychiatry*, 164, 309–315. doi: 10.1192/bjp.164.3.309
- Read, J., Agar K., Argyle, N., & Aderhold, V. (2003). Sexual and physical abuse during childhood and adulthood as predictors of hallucinations, delusions and thought disorder. *Psychology and Psychotherapy: Theory, Research and Practice* 76, 1-22. doi: 10.1348/14760830260569210
- Read J., Seymour, F., & Mosher L. (2004). *Unhappy families*. In J. Read, L. Mosher, & R. Bentall (Eds.) *Models of Madness* (pp. 253-268). Routledge: London.
- Read, J., van Os, J., Morrison, A., & Ross, C. (2005). Childhood trauma, psychosis and schizophrenia: A literature review with theoretical and clinical implications. *Acta Psychiatrica Scandinavica*, 112, 330-350. doi: 10.1111/j.1600-0447.2005.00634.x
- Rooke, O., & Birchwood, M. (1998). Loss, humiliation and entrapment as appraisals of schizophrenic illness: A prospective study of depressed and non-depressed patients. *British Journal of Clinical Psychology*, 37, 259-268. doi: 10.1111/j.2044-8260.1998.tb01384.x
- Sheehan, D. V., Lecrubier, Y., Sheehan, K. H., Amorim, P., Janavs, J., Weiller, E., ... Dunbar, G. (1998). The MINI International Neuropsychiatric Interview (M.I.N.I.): The development and validation of a structured diagnostic psychiatric interview. *Journal of Clinical Psychiatry*, 59(Suppl. 20), 22–33.
- Smith, B., Fowler, D. G., Freeman, D., Bebbington, P., Bashforth, H., Garety, P., & Kuipers, E. (2006). Emotion and psychosis: Links between depression, self-esteem, negative

- schematic beliefs and delusions and hallucinations. *Schizophrenia Research*, 86, 181–188. doi: 10.1016/j.schres.2006.06.018
- Sprong, M., Schothorst, P., Vos, E., Hox, J., & van Engeland, H. (2007). Theory of mind in schizophrenia: Meta-analysis. *British Journal of Psychiatry*, 191, 5–13. doi:10.1192/bjp.bp.107.035899
- \* Sombke, C. R. (2001). Testing models of depression and paranoia in men and women: The role of cognitive style, guilt, shame, and defense mechanisms. Dissertation Abstracts International: Section B: The Sciences and Engineering. ProQuest Information & Learning, US. Retrieved from <http://search.proquest.com.liverpool.idm.oclc.org/pqdtglobal/docview/250707837/fulltextPDF/82E16C010CA481DPQ/1?accountid=12117>
- \* Suslow, T., Roestel, C., Ohrmann, P., & Arolt, V. (2003). The experience of basic emotions in schizophrenia with and without affective negative symptoms. *Comprehensive Psychiatry*, 44(4), 303–310. doi: 10.1016/S0010-440X(03)00085-3
- Tangney, J. P., & Dearing, R. L. (2002). *Shame and guilt: Emotions and social behaviour*. New York: Guilford Press.
- Tangney, J. P., Ferguson, T. J., Wagner, P., Crowley, S. L., & Gramzow, R. (1996). *The Test of Self-Conscious Affect - II*. George Mason University, Fairfax, VA.
- Tangney, J. P., Wagner, P. E., & Gramzow, R. (1989). *The Test of Self-Conscious Affect*. Fairfax, VA: George Mason University.
- Taylor, P., Hutton, P., & Wood, L. (2014). Are people at risk of psychosis also at risk of suicide and self-harm? A systematic review and meta-analysis. *Psychological Medicine*, 45, 911–926. doi: 10.1017/S0033291714002074
- Taylor, P., Perry, A., Hutton, P., Seddon, C., & Tan, R. (2014). Curiosity and the CAT: Considering cognitive analytic therapy as an intervention for psychosis. *Psychosis*, 7,

276-278. doi: 10.1080/17522439.2014.956785

Tomkins, S. S. (1962). *Affect, imagery, consciousness: Vol. 1. The positive affects*. New York, NY: Springer.

\* Turner, M. H., Bernard, M., Birchwood, M., Jackson, C., & Jones, C. (2013). The contribution of shame to post-psychotic trauma. *The British Journal of Clinical Psychology*, 52(2), 162–182. doi: 10.1111/bjc.12007

van Os, J., Hanssen, M., Bijl, R. V., & Ravelli, A. (2000). Strauss (1969) revisited: A psychosis continuum in the general population? *Schizophrenia Research*, 45(1-2), 11–20. doi: 10.1016/S0920-9964(99)00224-8

White, R. G., Gumley, A. I., McTaggart, J., Rattrie, L., McConville, D., Cleare, S., McLeod, H. J., & Mitchell, G. (2015). Acceptance and commitment therapy for depression following psychosis: An examination of clinically significant change. *Journal of Contextual Behavioral Science*, 4, 203-209. doi: 10.1016/j.jcbs.2015.06.004

White, R. G., Gumley, A. I., McTaggart, J., Rattrie, L., McConville, D., Cleare, S., & Mitchell, G. (2011). A feasibility study of acceptance and commitment therapy for emotional dysfunction following psychosis. *Behaviour Research and Therapy*, 49, 901-907. doi: 10.1016/j.brat.2011.09.003

Williams, J. W., Plassman, B. L., Burke, J., Holsinger, T., & Benjamin, S. (2010). Preventing Alzheimer's disease and cognitive decline. Evidence report/technology assessment No. 193. (Prepared by the duke evidence-based practice center under contract No. HHS 290-2007-10066-I). Rockville, MD: Agency for Healthcare Research and Quality. Retrieved from [https://www.ncbi.nlm.nih.gov/books/NBK47456/pdf/Bookshelf\\_NBK47456.pdf](https://www.ncbi.nlm.nih.gov/books/NBK47456/pdf/Bookshelf_NBK47456.pdf)

Wittchen, H. U., Wunderlich, U., Gruschwitz, S., Zaudig, M. (1997) SKID-I. Strukturiertes Klinisches Interview für DSM-IV. Göttingen, Germany: Hogrefe.

- \* Wood, L., & Irons, C. (2016). Exploring the associations between social rank and external shame with experiences of psychosis. *Behavioural and Cognitive Psychotherapy*, 44(5), 527–538. doi: 10.1017/S1352465815000570
- World Health Organisation. (1999). Schedules for Clinical Assessment in Neuropsychiatry, Version 2.1. World Health Organization: Geneva. <http://whoscan.org/wpcontent/uploads/2014/10/xinterview.pdf>
- World Health Organisation. (2007). International classification of mental and behavioural disorders 10th revision. Geneva. Retrieved from <http://www.who.int/classifications/icd/en/bluebook.pdf>
- Wykes, T., Steel, C., Everitt, B., & Tarrier, N. (2008). Cognitive behaviour therapy for schizophrenia: Effect sizes, clinical models, and methodological rigor. *Schizophrenia Bulletin*, 34, 523–537. doi: 10.1093/schbul/sbm114
- \* Zlotkin, B. M. (1994). The role of emotion patterns in psychological functioning. Dissertation Abstracts International: Section B: The Sciences and Engineering. ProQuest Information & Learning, US. Retrieved from <http://search.proquest.com/liverpool.idm.oclc.org/dissertations/docview/304177290/fulltextPDF/418DA038F0B040D9PQ/1?accountid=12117>

## **Chapter Two: Empirical Paper**

### **Shame, Social Deprivation and the Quality of the Voice-Hearing Relationship<sup>1</sup>**

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tables and appendices<sup>2</sup>): 4,386  
Abstract word count: 233

<sup>1</sup>Article prepared for submission to British Journal of Clinical Psychology. See Appendix A for journal author guidelines.

<sup>2</sup>Appendices B-G for thesis submission only. Not to be submitted to target journal.

### Abstract

**Objectives:** Many individuals hold different beliefs about the voices that they hear and have distinctive relationships with them, the nature of which often determines the distress experienced. Understanding what factors contribute to these beliefs and relationships and consequently the resulting distress is important. The current research examined whether shame and social deprivation, in a sample of adult voice-hearers, were related to the relationships that individuals had with their voices or the beliefs that they held about them. **Design:** The study utilised a cross-sectional, internet-based design. **Methods:** Eighty-eight adult voice-hearers from England were recruited to the online survey. Participants completed measures regarding shame, beliefs about voices and relationships with voices and provided demographic information and postcodes that were used to refer to Index of Multiple Deprivation data (IMD). **Results:** Social deprivation and shame were not associated. Shame was positively associated with variables describing negative voice-hearing beliefs/relationships, yet not associated with positive voice-hearing beliefs/relationships. Principal component analysis (PCA) on the eight voice-hearing variables yielded two components related to positive and negative voice-hearing qualities. A multiple regression conducted on the two components identified that only negative voice-hearing qualities were significant predictors of shame. **Conclusions:** The results suggest that therapies that target shame may be helpful when working with negative voice-hearing beliefs and relationships. Future research should utilise experimental or longitudinal designs to examine the direction of the relationship.

**Keywords:** Shame; Hearing Voices; Social Deprivation; Relationship

**Practitioner Points:**

- The results contribute to the limited research evidence available regarding the relationship between shame and psychosis.
- The results suggest the utility of psychological therapies which focus on shame such as compassion focused therapy and that conceptualise voices interpersonally such as cognitive analytic therapy.
- No conclusions can be made regarding causation. The sample size was relatively small and results cannot be generalised to other areas of the UK.
- Future research should use utilise experimental and longitudinal designs to examine the impact of shame on voice-hearing experiences and to examine other factors that may predict shame.



## Introduction

Hearing voices that others cannot hear is a common experience (Beavan, Read, & Cartwright, 2011) that is often associated with distress (Chadwick, Lees, & Birchwood, 2000). Understanding what contributes to positive and negative aspects of the voice-hearing experience is important; as such variables may determine the distress experienced. Research has identified parallels between voice-hearers' interpretations of their voices and the way they perceive themselves and others (Birchwood, Meaden, Trower, Gilbert, & Plaistow, 2000). Individuals who feel more powerless, inferior or of low social rank tend to attribute similar characteristics to their relationship with their voices (*ibid.*). Shame and social deprivation are two factors that are related to social rank (Gilbert & McGuire, 1998; Wilkinson & Pickett, 2009), one internal and subjective, and the other external and objective. This study examines the relationship of these factors to positive and negative aspects of the voice-hearing experience.

The term "hearing voices" has been adopted by user-led groups such as the Hearing Voices Network (Corstens, Longden, McCarthy-Jones, Waddingham, & Thomas, 2014) to describe auditory verbal hallucinations, "any percept like experience which a) occurs in the absence of an appropriate stimulus, (b) has the full force or impact of the corresponding actual (real) perception, and (c) is not amenable to direct and voluntary control by the experiencer" (Slade & Bentall, 1988, p. 23). Hearing voices is a common experience, with a systematic review of the literature identifying that an average of 13.2% of the general population hear voices at some point during their life course (Beavan et al., 2011). Despite some voice-hearers' reporting intimacy and companionship within their voice-hearing relationships (e.g., Nayani & David, 1996; Romme & Escher, 2000) many individuals describe that their voices cause them distress (Birchwood et al., 2000; Birchwood et al., 2004; Chadwick & Birchwood, 1994). Understanding what contributes to this distress is important.

Cognitive approaches suggest that individuals' beliefs about the identity and meaning of their voices (e.g., voice as omnipotent and powerful, voice as malevolent and harmful; Chadwick & Birchwood, 1994) has a resulting impact on levels of distress (Peters, Williams, Cooke, & Kuipers, 2012). Distress arising from voice-hearing may be understood according to the individuals' relationship with their voice, specifically where relating was characterised by subordination to a dominant other (Birchwood & Chadwick, 1997). Birchwood and colleagues (2000) examined the voice/voice-hearer relationship drawing on social rank theory (Gilbert & Allan, 1998) and noted that differences in power and rank identified in the voice/voice-hearer relationship were mirrored in the differences observed between voice-hearers and significant others in their social world. This suggests that if a person feels inferior to others in their external world, this dynamic is likely to emerge in terms of how they relate to their voices (i.e., voices as superior or judging, the individual as inferior). Individuals often attribute their voice to others and personify their voices with certain individualities (Chadwick, Birchwood, & Trower, 1996; Leudar, Thomas, McNally, & Glinski, 1997). This has led to the incorporation of interpersonal schemata in theories of voice-hearing (Birchwood et al., 2000; Birchwood et al., 2004).

Relational conceptualisations of the voice-hearing experience have developed beyond dimensions of power and rank, to consider the notion that individuals can form an interpersonal relationship with their voice (Benjamin, 1989), in the same way they form relationships with people in their external world. Birtchnell's theory of relating (1996; 2002) proposes that relating and interrelating occur on orthogonal intersecting axes of proximity (close and distant) and power (upperness and lowerness) and asserts that individuals can relate positively or negatively with regards to any four positions. This framework has been utilised within studies to examine the voice-hearing relationship. Findings have suggested that relating to voices is associated with external social relationships (Hayward, 2003) and levels of distress, with

greater levels of distress reported in those who attempt to distance themselves from voices that are perceived to be more dominant and intrusive (Sorrell, Hayward, & Meddings, 2010; Vaughan & Fowler, 2004). The Voice and You scale (VAY; Hayward, Denney, Vaughan, & Fowler, 2008) was developed based on relating theory as a psychometric measure to assess interrelating between the voice-hearer and their predominant voice.

Shame is an interpersonal emotional state that is characterised by feelings of inferiority, defectiveness and negative evaluation of the self (Feiring, Taska, & Lewis, 2002; Lewis, 1971; Tangney & Dearing, 2003), which has been defined as an emotional manifestation of low social rank – one's sense of status in relation to others (Birchwood et al., 2004; Gilbert et al., 2010). As such, shame could be expected to impact on how voices are perceived, with a mirroring between the emotion of shame and individuals' relationships with their voices. Hence those who feel more shame may also see their voices as more hostile or dominating. Voices are often perceived to be dominant and shaming and or to have access to shaming information about the individuals (Birchwood et al., 2004; Byrne, Trower, Birchwood, Meaden, & Nelson, 2003; Chadwick & Birchwood, 1994; Nayani & David, 1996). Relationships have been identified between the power of the voice and behavioural tendencies associated with shame, notably the desire to escape and hide (Gilbert et al., 2001). Despite growing interest regarding the psychological, evolutionary, and phenomenological aspects of shame and voice-hearing (McCarthy-Jones, 2017; Woods, 2017), little research has investigated shame in relation to specific psychotic symptoms, and none has explored how shame effects the relationship individuals hold with their voices.

Social deprivation can be described as lacking the material and social resources that are customary in the societies to which individuals belong (Townsend, 1993). It can be conceptualised as an external marker of social rank, much in the way that shame may be an internal marker of positioning or status. Within the literature relationships between social

deprivation and shame have been described (Peacock, Bissell, & Owen, 2014; Wilkinson & Pickett, 2009). Psychosis is associated with greater levels of social deprivation (Kirkbride, Jones, Ullrich, & Coid, 2014), though the direction of this relationship remains unclear, and could be bi-directional. Social deprivation may be a product of downward social drift (Goldberg & Morrison, 1963) whereby psychosis may lead to greater social deprivation, but deprivation also increases risk of psychosis (Harrison, Gunnell, Glazebrook, Page, & Kwiecinski, 2001; Read, Bentall, & Fosse, 2009; Wicks, Hjern, Gunnell, Lewis, & Dalman, 2005).

For many individuals, the experience of hearing voices can be a major source of distress, notably in terms of the content, meaning ascribed, and the relationship between the hearer and the voice. The current research aims to explore the possible psychosocial determinants of this relationship, focusing on shame and social deprivation as putative correlates of voice relationship. This study may provide an understanding of why voice-hearers feel a certain way in relation to their voices and inform social policy and intervention.

**Hypotheses:**

1. Shame will be positively associated with negative voice-hearing qualities (malevolence, omnipotence, dominance, intrusiveness, and hearer distance).
2. Shame will be negatively associated with positive voice-hearing qualities (benevolence and positive relating).
3. Social deprivation will be positively associated with shame.
4. Shame will mediate the association between social deprivation and negative voice-hearing qualities.

## **Method**

### **Participants**

One-hundred and seventy-one participants were recruited to the online study. Eighty-eight participants completed some of the questionnaire and 73 the whole questionnaire (see Figure 1). Recruitment was through multiple sources to maximise the identification of individuals who hear voices. Posters were placed in Community Mental Health Teams and Early Intervention services in three NHS Trusts (Mersey Care, Cheshire and Wirral and 5 Boroughs) and the researcher attended trust locations to disseminate information to professionals. The study was advertised on relevant websites (e.g., Hearing Voices Network, ISPS), social media (Twitter, Facebook) and the researcher attended NHS and Hearing Voices Network hearing voices groups to advertise the research.

Participants must have heard at least one voice, irrespective of any mental health diagnosis. Individuals hearing a single voice or multiple different voices were both eligible for the study. The voice(s) must have occurred for at least one month and must have been a current experience at the time of participation. The voice(s) could produce a word or words, but also other utterances that could be attributed to a being (e.g., laughing, crying). Other auditory hallucinations that could not be related to an individual (e.g., machine noises) were not classed as a voice. The voice(s) may have been perceived as human or non-human (e.g., god) or viewed as a product of psychosis or illness. Only participants who lived in England and who could understand or speak English were eligible for recruitment into the study. Adherence to inclusion criteria was determined by participant self-report.

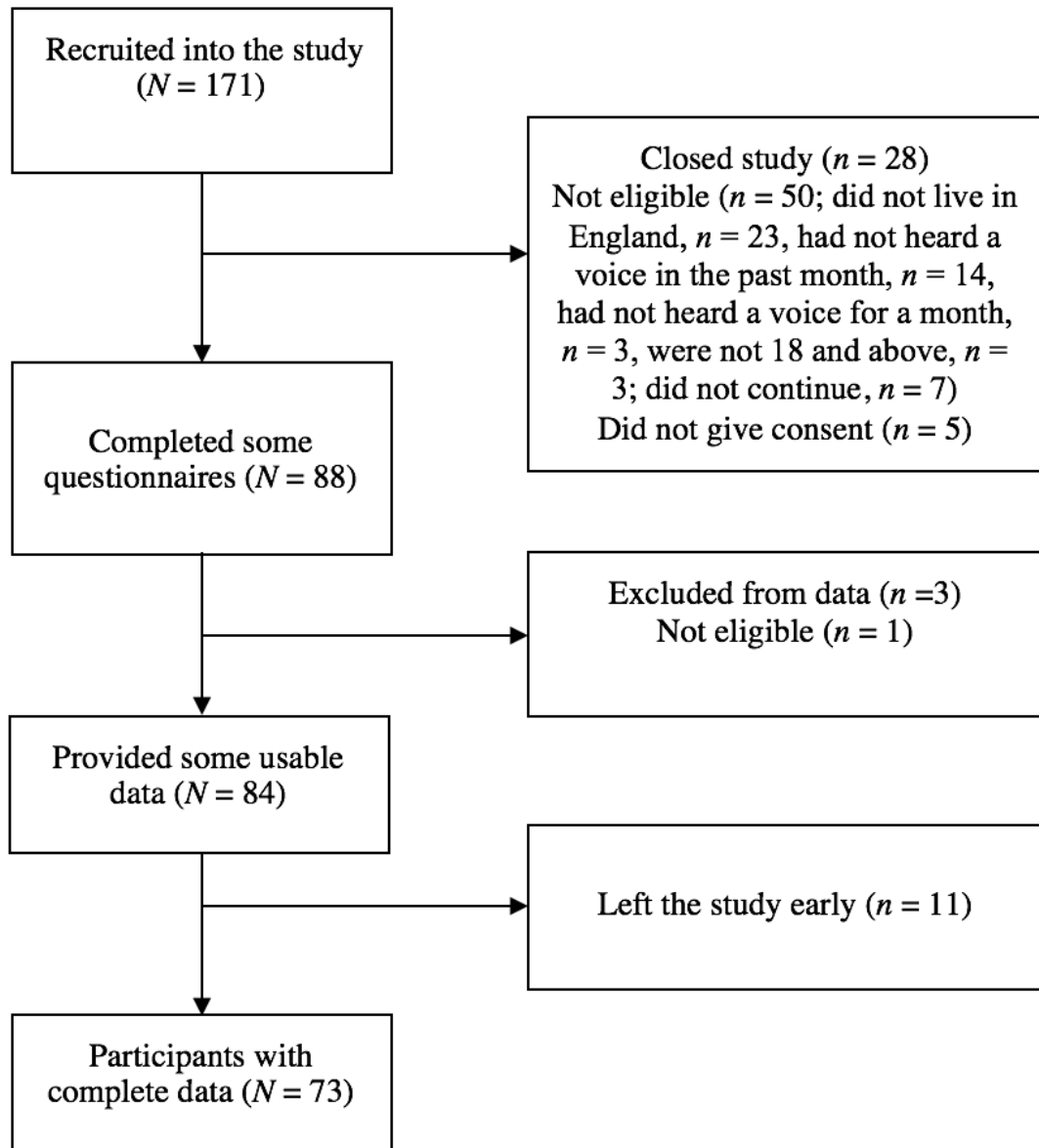


Figure 1. Flow chart of participation.

## Procedure

An online survey was created utilising the Qualtrics survey platform (Qualtrics, 2017). Research suggests that online recruitment methods are superior to offline methods in terms of efficiency and cost (Christensen et al. 2017) and result in larger voice-hearing sample sizes (Berry, Band, Corcoran, Barrowclough, & Wearden, 2007a; Lawrence, Jones, & Cooper, 2010). Those choosing to take part in the survey were asked to read the study information and

provide informed consent prior. Participants were then asked to provide demographic information (including the postal code of their current address) before completing the battery of measures. At the end of the study participants were given the option of entering a prize draw and receiving a summary of the results.

## **Measures**

### **Social deprivation data.**

Participants provided their full current post code. This information was entered in to GeoConvert (Office for National Statistics, 2015) to refer to the English Indices of Multiple Deprivation data 2015 (IMD; Department for Communities and Local Government, 2015). GeoConvert cross-references the participant postcode with an existing database of deprivation data and the corresponding IMD score, rank and decile is obtained. A total of 38 indicators over seven domains are used to obtain the IMD score (income, education, health, employment, living environment, access to services and crime). Participants also answered three scaling questions designed to measure subjective perceptions of social deprivation (in comparison to others in the UK, others in their community, and how deprived others may perceive them to be).

### **The Experience of Shame Scale (ESS; Andrews, Qian, & Valentine, 2002).**

The ESS is a 25-item self-report questionnaire that measures trait shame in relation to three aspects of shame: characterological shame, behavioural shame, and bodily shame. In the current study, characterological shame was utilised as the overall measure of shame. This type of shame was considered to be most relevant in relation to the focus of the current research. Participants are required to answer items in relation to how they have felt in the past year. Each response is rated on a 4-point scale (1 = not at all, to 4 = very much). The 3-factor structure is supported in the literature in addition to the construct validity and discriminant validity of the ESS total scale and its component subscales (Andrews et al., 2002). In the current study the

ESS demonstrated good internal reliability (Cronbach's  $\alpha$  range = .86-.95).

**Beliefs About Voices Questionnaire-Revised (BAVQ-R; Chadwick, Lees, & Birchwood, 2000).**

This measure contains 35-items relating to an individual's beliefs about their voices, and the behavioural and emotional responses that they have to them. There are five subscales; three subscales relating to beliefs: omnipotence, malevolence and benevolence; and two subscales relating to an individual's behavioural and emotional responses: resistance or engaging. Responses are indicated according to a 4-point Likert scale (0 = disagree to 3 = strongly agree). The authors report construct validity with strong negative correlations identified between most subscales. In the current study Cronbach's  $\alpha$  range = .73-.91.

**The Voice and You scale (VAY; Hayward, Denney, Vaughan, & Fowler, 2008).**

The VAY is a 29-item measure of the relationship between a voice-hearer and their predominant voice that was developed from the theoretical underpinnings of Birtchnell's (1996, 2002) relating theory. There are four subscales within the VAY, two which contain items regarding the hearers' relationship with their voice (distance and dependence), and two which contain items relating to the hearer's perception of the voice's relationship with them (dominance and intrusiveness). Responses are indicated according to a 4-point scale (0 = nearly always true, to 3 = rarely true). The authors report good internal consistency (Cronbach's  $\alpha$  range = .92-.77), test-retest reliability ( $r = .91-.72$ ), and concurrent validity with other measures of voice-hearing ( $r = .87-.48$ ). In the current study the VAY demonstrated good internal consistency (Cronbach's  $\alpha$  range = .83-.94).

**Positively-framed relational items to accompany the Voice and You scale.**

Eight items to capture positive relating to voices (e.g., voices as comforting/entertaining) were developed to be included in the study. With reference to service user advice and to the relevant literature this was noted to be important, yet underrepresented



in the measures used. The items were developed with the assistance of two individuals (females aged 25 and 60) with lived experience of hearing voices and upon consultation of existing literature. Responses were indicated according to a 4-point Likert scale (0 = disagree, to 3 = strongly agree).

### **Power Calculation and Data Analysis**

According to Fritz & Mackinnon (2007) the sample size required to detect a medium indirect (mediated) effect with 80% power using the bias-corrected bootstrap method was  $n = 71$ . A power calculation was conducted using G\* Power 3.1 (Faul, Erdfelder, Buchner, & Lang, 2009) to compute the achieved power for a sample size of 71 participants for a linear multiple regression with four predictors being tested with a medium effect size based on associations between shame and psychosis identified in the literature. The analysis suggested that power obtained for this sample size would be .99.

Data analysis was conducted using SPSS v24 (IBM, 2016). Study data was prepared by coding the data for the analysis, generating total subscale scores for each measure and conducting mean imputation on data that had less than 20% of data missing from each scale. Non-parametric Spearman's correlational analyses were performed to explore relationships between the variables, as variables were non-normally distributed. To adjust for multiple testing Bonferroni correction was applied. A principal component analysis (PCA) was performed to test the validity of summing the voice-hearing variables and creating total summary scores to capture the shared contribution of the voice-hearing variables. Oblique rotation (promax) was used as components were expected to be correlated. A multiple linear regression with bias-corrected bootstrapping was conducted on the components identified by the model as predictors of shame, as tests of assumptions identified non-normally distributed residuals.

## Results

### Participant Characteristics

Eighty-eight adult participants were recruited to the study, four participants were excluded due to questionable responses ( $n = 3$ ) and being under the age of 18 ( $n = 1$ ). Eleven participants left prior to completing the study and of these participants one was included with the use of mean imputation data. Participants age ranged from 18 to 65 years old ( $N = 73$ ;  $M = 37.9$ ;  $SD = 12.4$ ), there were 49 females, 21 males, and 3 individuals that characterised themselves as 'other'. Table 1 provides demographic information.

Table 1

#### *Participant Characteristics*

Variable	<i>n</i>	%
Gender (female)	49	67.1
Employed	32	43.8
Student	11	15.1
Given diagnosis	55	75.3
Taking mental health medication	50	68.5

### Missing Data Analysis

There was 4.8-14.3% missing data per variable. The most common patterns of missing data were participants not completing any of the questionnaires ( $n = 4$ ) or not continuing with the study past the first questionnaire (the VAY;  $n = 5$ ).

### Principal Components Analysis

When examining the relationships between social deprivation, shame and the voice-hearing variables a high degree of intercorrelation was identified amongst the voice-hearing

variables. Therefore, it was useful to ascertain if these numerous lower-order subscales could be combined into a smaller number of higher-order variables, capturing key dimensions in voice-hearing quality. To do this a principle component analysis (PCA) with oblique rotation (promax) was conducted on the eight variables from the VAY, the BAVQ-R, and the positive-relating items. The Kaiser–Meyer–Olkin statistic verified the adequacy of the sample for analysis,  $KMO = .78$  ('good' according to Field, 2009). Bartlett's test of sphericity  $\chi^2(28) = 468.47, p < .01$ , indicated that correlations between variables were significantly large for PCA. An initial analysis provided eigenvalues for each component. Two components had eigenvalues over 1 and in combination explained 81.8% of the variance. The scree plot also demonstrated inflexions that would justify retaining two components. Table 1 demonstrates the pattern matrix factor loadings after rotation (converging 3 iterations). All standardised component loadings were high (above .4). Results of the structure matrix are similar and thus not reported.

The variables that clustered on to Component 1 were voice-hearing beliefs and relationship variables that could be described as representing negative voice-hearing qualities; voice dominance, voice intrusiveness, hearer distance, malevolence, and omnipotence. The variables that clustered on to Component 2 were voice-hearing beliefs and relationship variables that represented positive voice-hearing qualities; benevolence and positive-relating items. The subscales within each of the components were then summed to obtain two new variables, one providing a total score for positive voice-hearing qualities (Cronbach's  $\alpha = .87$ ) and the other providing a total score for negative voice-hearing qualities (Cronbach's  $\alpha = .89$ ). Hearer dependence was excluded from the summing of the two new scales due to problematic cross-loading across both Components 1 and 2.

Table 2

*Factor Loadings for Principal Component Analysis with Promax Rotation of the Eight Voice-Hearing Variables (Pattern Matrix)*

Variable	Component	
	1	2
Voice dominance	<b>.80</b>	-.26
Voice intrusiveness	<b>.85</b>	.14
Hearer distance	<b>.44</b>	-.70
Malevolence	<b>.84</b>	-.26
Omnipotence	<b>.94</b>	.19
Benevolence	-.12	<b>.86</b>
Positive items	-.03	<b>.92</b>

*Note.* Factor loadings > .40 are in boldface and indicate loadings on to each component.

### Correlational Analyses

Spearman's correlations were conducted on the eight voice-hearing variables, positive voice-hearing qualities, negative voice-hearing qualities, social deprivation, and shame (Table 3). Consistent with hypothesis one, positive associations were identified between shame and several negative voice-hearing variables including dominance, intrusiveness, hearer distance, omnipotence, and malevolence. Results did not support hypothesis two; there was no association between shame and positive voice-hearing variables (benevolence and positive items). Shame was not associated with social deprivation (Hypothesis 3) and therefore, the hypothesized indirect effect of social deprivation on the quality of the voice-hearing relationship via shame was not supported (Hypothesis 4). However, significant associations were identified between shame and all subjective deprivation items.

Table 3

*Spearman's Non-Parametric Correlations for the Eight Voice-Hearing Variables, Social deprivation and Shame*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Voice dominance	1														
2. Voice intrusiveness	.57** <sup>a</sup>	1													
3. Hearer dependence	.07	.38** <sup>a</sup>	1												
4. Hearer distance	.66** <sup>a</sup>	.46** <sup>a</sup>	-.31**	1											
5. Malevolence	.80** <sup>a</sup>	.60** <sup>a</sup>	.07	.59** <sup>a</sup>	1										
6. Benevolence	-.47**	-.21*	.46** <sup>a</sup>	-.66** <sup>a</sup>	-.48** <sup>a</sup>	1									
7. Omnipotence	.65** <sup>a</sup>	.66** <sup>a</sup>	.47** <sup>a</sup>	.39** <sup>a</sup>	.75** <sup>a</sup>	-.20*	1								
8. Positive items	-.42** <sup>a</sup>	-.03	.64** <sup>a</sup>	-.63** <sup>a</sup>	-.42** <sup>a</sup>	.71** <sup>a</sup>	-.03	1							
9. Characterological shame	.50** <sup>a</sup>	.28*	.30**	.24*	.42** <sup>a</sup>	-.05	.42** <sup>a</sup>	-.01	1						
10. IMD score	-.05	.11	-.08	.13	.01	-.12	.07	-.07	-.04	1					
11. Sub dep (UK)	-.17	-.39** <sup>a</sup>	-.26*	-.11	-.19	.09	-.28*	.01	-.37** <sup>a</sup>	-.15	1				
12. Sub dep (Community)	-.20	-.50** <sup>a</sup>	-.38** <sup>a</sup>	-.16	-.16	.02	-.42** <sup>a</sup>	-.05	-.34*	-.03	.74** <sup>a</sup>	1			
13. Sub dep (Others)	-.25	-.43** <sup>a</sup>	-.33**	-.08	-.26*	.04	-.44** <sup>a</sup>	.05	-.42** <sup>a</sup>	-.06	.71** <sup>a</sup>	.82** <sup>a</sup>	1		
14. Positive voice qualities	-.47** <sup>a</sup>	-.10	.63** <sup>a</sup>	-.69** <sup>a</sup>	-.47** <sup>a</sup>	.86** <sup>a</sup>	-.08	.96** <sup>a</sup>	-.03	-.07	.03	-.04	.04	1	
15. Negative voice qualities	.87** <sup>a</sup>	.74** <sup>a</sup>	.10	.74** <sup>a</sup>	.91** <sup>a</sup>	-.51** <sup>a</sup>	.81** <sup>a</sup>	-.39** <sup>a</sup>	.44** <sup>a</sup>	.03	-.26*	-.30*	-.33**	-.46** <sup>a</sup>	1

*Note.* \*  $p < .05$ , two-tailed; \*\*  $p < .01$ , two-tailed; <sup>a</sup>  $p < .003$  (alpha adjusted by Bonferroni correction); sub dep = subjective deprivation.

### Regression Analysis

A multiple regression with forced entry was conducted with positive voice-hearing qualities, negative voice-hearing qualities, number of voices, and length of time hearing voices entered as predictors of characterological shame (Table 4). This analysis allowed us to examine the independent association that positive voice-hearing qualities and negative voice-hearing qualities had with shame, accounting for their overlapping variance and adjusting for other potential confounders. Forced entry is the appropriate technique to test theories (Studenmund & Cassidy, 1987), whereas stepwise methods are subject to random variation in the data (Field, 2009). Assumptions were tested utilising histograms, P-P plots, and scatterplots (see Appendix G). Residuals were not normally distributed and therefore, bias-corrected bootstrapping was utilised. The two components and two demographic variables predicted 19% of the variance in shame ( $R^2 = .19$ ,  $F(4, 67) = 3.97$ ,  $p < .01$ ). Only negative voice-hearing qualities were identified as significant predictor of shame within the model, predicting 17.6% of the variance.

Table 4

*Multiple Linear Regression with Positive Voice-hearing Qualities, Negative Voice-Hearing Qualities, Number of Voices and Length of Time Hearing Voices as Predictors of Characterological Shame*

Predictor variable	B	CI (95%)	$\beta$	Part correlation
Positive voice-hearing qualities	.17	-.07-.40	.18	.16
Negative voice-hearing qualities**	.21	.10-.32	.48	.42
Number of voices	-.51	-6.22-5.20	-.02	-.02
Length of time hearing voices	.08	-.99-1.15	.02	.02

Note. \*\*  $p < .01$ , two-tailed.

## Discussion

The primary aim of this study was to examine whether shame and social deprivation were associated with the quality of the voice-hearing relationship and if so, whether a mediational model could explain this association. Correlational hypotheses were partially supported. No relationship was identified between shame and social deprivation, yet associations were identified between shame and subjective ratings of deprivation and several of the voice-hearing variables. Additional analyses identified two higher order variables relating to positive and negative voice-hearing qualities, with only those categorised as negative voice-hearing qualities being significantly predictive of shame.

In the current study, objective social deprivation was not identified as an important factor in relation to the beliefs that individuals had regarding their voices or the relationships that they had with them. This is consistent with previous research using IMD data that has identified significant associations between deprivation and paranoia but not auditory hallucinations (Wickham, Taylor, Shevlin, & Bentall, 2014). Objective social deprivation was not related to shame, yet subjective deprivation was significantly associated with both shame and negative voice hearing qualities. This suggests that personal evaluations of material and social resources are more significant in relation to shame and voice-hearing than the material and social resources available in the area that individuals live within. The findings are consistent with the notion that shame, like subjective deprivation, can be described as an internal marker of positioning and status in relation to others (Gilbert & McGuire, 1998).

Consistent with preliminary hypotheses, several of the negative voice-hearing variables were positively associated with shame. However, there was a high degree of inter-correlation between the belief and relational variables suggesting that they contained a large proportion of shared variance. Other research has also identified inter-correlations between belief and relational voice-hearing subscales (Sorrell, Hayward, & Meddings, 2010), suggesting that it is

combination of beliefs about and relationships with voices that determines levels of shame or that the variables are in part examining the same constructs. To address this question future factor analytic studies could examine the structure of these constructs.

The current findings support the notion of a mirroring between voice-hearers' experiences of shame and the quality of the voice-hearing relationship. Specifically, that where voice-hearers experience feelings of inferiority and defectiveness in relation to the self, this is mirrored in the voice being experienced as powerful, dominant, harming, and intrusive. This is consistent with research that describes an emotional mirroring of the relationship between the voice-hearer/voice and significant others in their external world (Birchwood et al., 2004). As expected, relationships between shame and voice-hearing were only identified in the context of negative voice-hearing qualities, suggesting that positive voice-hearing qualities are not impacted by shame and can thrive despite the presence of this negative emotion. This supports the notion that those who experience shame and negative voice-hearing qualities may also experience positive voice-hearing qualities. This is consistent with qualitative accounts of voice-hearers who describe coexisting positive and negative voice-hearing experiences; for example, voices that are perceived to provide companionship, despite being distressing (Mawson, Berry, Murray & Hayward, 2011; Romme & Escher, 2000).

The direction of the relationship between shame and negative voice-hearing qualities remains unclear. It could be that experiences of shame across the life course inform the quality of the voice-hearing relationship. This is consistent with previous research that identifies associations between traumatic and shaming life adversities and voice-hearing (Bentall, Wickham, Shevlin, & Varese, 2012; Longden, Madill, & Waterman, 2012a). However, it could be that the quality of the voice-hearing relationship contributes to and reinforces voice-hearers' experiences of shame and inferiority and this is in keeping with research that describes qualitative accounts of this (Mawson et al., 2011). In the current study shame was treated as



outcome variable with regression analyses. This was convenient in terms of preserving statistical power and reducing the number of analyses conducted and allowed several voice-related variables to be included as predictors of shame. However, as the study was cross-sectional the direction of effect cannot be inferred and future longitudinal work is needed.

### **Clinical Implications**

The present study contributes to existing literature that identifies the importance of shame in relation to psychotic experiences. The findings suggest that interventions that target shame such as compassion-focused therapy (Gilbert, 2009) or that address negative voice-hearing beliefs such as cognitive behavioural therapy for psychosis (CBTp) may be helpful. Interventions such as acceptance and commitment therapy that help individuals to non-judgmentally acknowledge distressing experiences whilst pursuing valued goals, and mindfulness, which focuses upon changing the nature of the relationship that individuals have with their voices, may also play a role in relation to reducing the emotional dysfunction associated with psychosis (Aust & Bradshaw, 2017; Gumley et al., 2017; White et al., 2011; White et al., 2015). Results also suggest the use of therapies that address the interpersonal relationship between the voice-hearer and the voice such as relating therapy (Hayward, Overton, Dorey, & Denney, 2009) or cognitive analytic therapy (CAT; Ryle, 1995), which has several features that suggest its suitability for working with experiences of psychosis (Taylor, Perry, Hutton, Seddon, & Tan, 2014). Furthermore, the findings imply that HVN support groups that facilitate voice-hearers to develop a sense of meaning regarding their experiences in a safe and supportive environment, where positive and trusting external social relationships can be developed may also be effective (Dillion & Hornstein, 2013; Oakland & Berry, 2015; Payne, Allen, & Lavender, 2017). Indeed, recent research has begun to examine how CBTp and HVN approaches may complement one another (Kay, Kendall, & Dark, 2017).

**Study Limitations**

Some limitations were identified in relation to the current study. As previously mentioned, the study design was cross-sectional thus making direction of causality impossible. Despite achieving the minimum sample size recommended by the power analysis, a relatively small sample size was utilised. This limited the ability, once mediational analysis was deemed inappropriate, to conduct more advanced statistical techniques such as structural equation modelling (SEM) that may have allowed for the creation of latent variables and simultaneous consideration of multiple outcomes. The study was conducted online and was self-report, this may have biased the sample and limited to it to those who have internet access. The positively-framed relational voice-hearing questions that were developed for the purposes of the study were not previously piloted and the psychometric properties were unknown. There was a larger proportion of females in the sample and participants were not asked about their ethnicity or where they saw the study advertised, which may have been informative. Both correlational and regression data were not normally distributed; however, this was addressed with the use of non-parametric techniques and in utilising bootstrapping within regression models.

**Future Directions**

Future research should further delineate the role of shame in relation to hearing voices using experimental or longitudinal research designs. Specifically, this should involve larger sample sizes, should address specific negative relational and belief qualities, and should utilise more advanced statistical techniques that are able to account for the shared variance between specific voice-hearing variables. Furthermore, research should aim to identify other proximal relational and environmental factors that may be related to current experiences of shame and contribute to ongoing negative voice-hearing experiences.

### References

- Andrews, B., Qian, M., & Valentine, J. D. (2002). Predicting depressive symptoms with a new measure of shame: The Experience of Shame Scale. *British Journal of Clinical Psychology, 41*, 29–42. doi: 10.1348/014466502163778
- Aust, J., & Bradshaw, T. (2017). Mindfulness interventions for psychosis: A systematic review of the literature. *Journal of Psychiatric and Mental Health Nursing, 24*, 69–83. doi: 10.1111/jpm.12357
- Beavan, V., Read, J., & Cartwright, C. (2011). The prevalence of voice-hearers in the general population: A literature review. *Journal of Mental Health, 20*(3), 281-292. doi: 10.3109/09638237.2011.562262
- Benjamin, L. S. (1989). Is chronicity the function of the relationship between the person and the auditory hallucination? *Schizophrenia Bulletin, 15*(2), 291-309. doi: 10.1093/schbul/15.2.291
- Bentall, R.P., Wickham, S., Shevlin, M., & Varese, F. (2012). Do specific early-life adversities lead to specific symptoms of psychosis? A study from the 2007 The Adult Psychiatric Morbidity Survey. *Schizophrenia Bulletin, 38*(4), 734-740. doi:10.1093/ schbul/sbs049
- Berry, K., Band, R., Corcoran, R., Barrowclough, C., & Wearden, A. (2007a). Attachment styles, earlier interpersonal relationships and schizotypy in a non-clinical sample. *Psychology and Psychotherapy: Theory, Research and Practice 80*(4), 563-576. doi: 10.1348/147608307X188368
- Birchwood, M., & Chadwick, P. (1997). The omnipotence of voices: Testing the validity of a cognitive model. *Psychological Medicine, 27*, 1345-1353. doi: 10.1017/S0033291797005552
- Birchwood, M., Gilbert, P., Gilbert, J., Trower, P., Meaden, A., Hay, J., Murray, E., & Miles,

- J. N. V. (2004). Interpersonal and role related schema influence the relationship with the dominant 'voice' in schizophrenia: A comparison of three models. *Psychological Medicine*, 34, 1571–1580. doi: 10.1017/S0033291704002636
- Birchwood, M., Meaden, A., Trower, P., Gilbert, P., & Plaistow, J. (2000). The power and omnipotence of voices: Subordination and entrapment by voices and significant others. *Psychological Medicine*, 30, 337–344. doi: 10.1017/S0033291799001828
- Birtchnell, J. (1996). *How humans relate: A new interpersonal theory*. Hove: Psychology Press.
- Birtchnell, J. (2002). *Relating in psychotherapy: The application of a new theory*. Hove: Brunner-Routledge.
- Byrne, S., Trower, P., Birchwood, M., Meaden, A. & Nelson, A. (2003). Command hallucinations: Cognitive theory and therapy. *Journal of Cognitive Psychotherapy, An International Quarterly*, 17, 67–84. doi: 10.1891/jcop.17.1.67.58271
- Chadwick, P., & Birchwood, M. (1994). The omnipotence of voices: A cognitive approach to auditory hallucinations. *British Journal of Psychiatry*, 164, 190–201. doi: 10.1192/bjp.164.2.190
- Chadwick, P., Birchwood, M., & Trower, P. (1996). *Cognitive therapy for delusions, voices and paranoia*. Chichester: John Wiley and Sons.
- Chadwick, P., Lees, S., & Birchwood, M. (2000). The revised beliefs about voices questionnaire (BAVQ-R). *British Journal of Psychiatry*, 177, 229–232. doi: 10.1192/bjp.177.3.229
- Corstens, D., Longden, E., McCarthy-Jones, S., Waddingham, R., & Thomas, N. (2014). Emerging perspectives from the Hearing Voices Movement: Implications for research and practice. *Schizophrenia Bulletin*, 40(4), 285–294. doi: 10.1093/schbul/sbu007

- Creed, P. A., & Muller, J. (2006) Psychological distress in the labour market: Shame or deprivation? *Australian Journal of Psychology*, 58(1), 31-39. doi: 10.1080/00049530500125116
- Christensen, T., Riis, A. H., Hatch, E. E., Wise, L. A., & Marie, G. (2017). Costs and efficiency of online and offline recruitment methods: A web-based cohort study corresponding author. *Journal of Medical Internet research*, 19(3), 1-12. doi: 10.2196/jmir.6716
- Dillon, J., & Hornstein, G. A. (2017). Hearing voices peer support groups: A powerful alternative for people in distress. *Psychosis*, 5(3), 286-295. doi: 10.1080/17522439.2013.843020
- Department for Communities and Local Government (2015). *The English indices of multiple deprivation 2015*. Retrieved from: <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2015>
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G\*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41, 1149-1160. doi: 10.3738/BRM.41.4.1149
- Feiring, C., Taska, L., & Lewis, M. (2002). Adjustment following sexual abuse discovery: The role of shame and attributional style. *Developmental Psychology*, 38, 79-92. doi: 10.1037//0012-1649.38.1.79
- Field, A. (2009). *Discovering statistics using SPSS* (3rd Ed.) London: SAGE.
- Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science*, 18(3), 233-239. doi: 10.1111/j.1467-9280.2007.01882.x
- Gilbert, P. (2009). Introducing compassion focused therapy. *Advances in Psychiatric Treatment*, 15, 199-208. doi: 10.1192/apt.bp.107.005264
- Gilbert, P. & Allan, S. (1998). The role of defect and entrapment (arrested flight) in

- depression: An exploration of an evolutionary view. *Psychological Medicine* 28, 585-598. doi: 10.1017/S0033291798006710
- Gilbert, P., Birchwood, M., Gilbert, J., Trower, P., Hay, J., Murray, E., Meaden, A., Olsen, K. & Miles, J. N. V. (2001). An exploration of evolved mental mechanisms for dominant and subordinate behaviour in relation to auditory hallucinations in schizophrenia and critical thoughts in depression. *Psychological Medicine*, 31, 1117-1127. doi: 10.1017/S0033291701004093
- Gilbert, P., McEwan, K., Irons, C., Bhundia, R., Christie, R., Broomhead, C., & Rockliff, H. (2010). Self-harm in a mixed clinical population: The roles of self-criticism, shame, and social rank. *British Journal of Clinical Psychology*, 49, 563-576. doi: 10.1348/014466509X479771
- Gilbert, P., & McGuire, M. T. (1998). Shame, status, and social roles: Psychobiology and evolution. In P. Gilbert & B. Andrews (Eds.), *Shame: Interpersonal behaviour, psychopathology, and culture* (pp. 99- 125). New York, NY: Oxford University Press.
- Goldberg, E. M., & Morrison, S. L. (1963). Schizophrenia and social class. *British Journal of Psychiatry*, 109, 785-802. doi: 10.1192/bjp.109.463.785
- Gumley, A. I., White, R. G., Briggs, A., Ford, I., Barry, S., Stewart, C., ... McLeod, H. (2017). A parallel group randomised open blinded evaluation of acceptance and commitment therapy for depression after psychosis: Pilot trial outcomes (ADAPT). *Schizophrenia Research*, 183, 143-150. doi: 10.1016/j.schres.2016.11.026
- Harrison, G., Gunnell, D., Glazebrook, C., Page, K., & Kwiecinski, R. (2001). Association between schizophrenia and social inequality at birth: Case-control study. *British Journal of Psychiatry*, 179, 346-350. doi: 10.1192/bjp.179.4.346

- Hayward, M. (2003). Interpersonal relating and voice hearing: To what extent does relating to the voice reflect social relating? *Psychology and Psychotherapy: Theory Research and Practice*, 76, 369–383. doi: 10.1348/147608303770584737
- Hayward, M., Denney, J., Vaughan, S., & Fowler, D. (2008). The Voice and You: Development and psychometric evaluation of a measure of relationships with voices. *Clinical Psychology and Psychotherapy*, 15, 45-52. doi: 10.1002/cpp.561
- Hayward, M., Overton, J., Dorey, T., & Denney, J. (2009). Relating therapy for people who hear voices: A case series. *Clinical Psychology and Psychotherapy*, 16, 216–227. doi: 10.1002/cpp.615
- IBM (2016). *IBM SPSS Statistics for Windows, Version 24.0*. Armonk, NY: IBM Corp.
- Kay, G., Kendall, E., & Dark, F. (2017). Are Hearing Voices Networks compatible with cognitive behavioural therapy for psychosis? *Australian Social Work*, 0(0), 1–12. doi: 10.1080/0312407X.2016.1262883
- Kirkbride, J. B., Jones, P. B., Ullrich, S., & Coid, J. (2014). Social deprivation, inequality, and the neighborhood-level incidence of psychotic syndromes in East London. *Schizophrenia Bulletin* 40, 169–180. doi: 10.1093/schbul/sbs151
- Lawrence, C., Jones, J., & Cooper, M. (2010). Hearing voices in a non-psychiatric population. *Behavioural and Cognitive Psychotherapy*, 38(3), 363-373. doi: 10.1017/S1352465810000172
- Leudar, I., Thomas, P., McNally, D., & Glinski, A. (1997). What voices do with words: Pragmatics of verbal hallucinations. *Psychological Medicine*, 27, 885–898. doi: 10.1017/S0033291797005138
- Lewis, H. B. (1971). *Shame and guilt in neurosis*. New York: International Universities Press.
- Longden, E., Madill, A., & Waterman, M.G. (2012a). Dissociation, trauma, and the role of lived experience: Toward a new conceptualization of voice hearing. *Psychological*

- Bulletin*, 138, 28–76. doi: 10.1037/a0025995
- Mawson, A., Berry, K., Murray, C., & Hayward, M. (2011). Voice hearing within the context of the voice hearers' social worlds: An interpretative phenomenological analysis. *Psychology and Psychotherapy: Theory, Research and Practice*, 84, 256–272. doi:10.1348/147608310X524883
- McCarthy-Jones, S. (2017). Is shame hallucinogenic? *Frontiers in Psychology*, 8, 1310. doi: 10.3389/fpsyg.2017.01310
- Nayani, T. H., & David, A. S. (1996). The auditory hallucination: A phenomenological survey. *Psychological Medicine*, 26, 177–189. doi: 10.1017/S003329170003381X
- Oakland, L., & Berry, K. (2017). "Lifting the veil": A qualitative analysis of experiences in Hearing Voices Network groups. *Psychosis*, 7(2), 119–129. doi: 10.1080/17522439.2014.937451
- Office for National Statistics, Postcode Directories (2015): *GeoConvert*. UK Data Service. doi: 10.5257/census/geoconvert-1
- Payne, T., Allen, J., & Lavender, T. (2017) Hearing Voices Network groups: Experience of eight voice hearers and the connection to group processes and recovery. *Psychosis*, 1–11. doi: 10.1080/17522439.2017.1300183
- Peacock, M., Bissell, P., & Owen, J. (2014). Shaming encounters: Reflections on contemporary understandings of social inequality and health. *Sociology*, 48(2), 387–402. doi: 10.1177/0038038513490353
- Peters, E. R., Williams, S. L., Cooke, M. A. & Kuipers, E. (2012). It's not what you hear, it's the way you think about it: Appraisals as determinants of affect and behaviour in voice hearers. *Psychological Medicine*. 42, 1507–1514. doi: 10.1017/S0033291711002650
- Qualtrics [Computer software]. (2017). Retrieved from <https://www.qualtrics.com/>



- Read, J., Bentall, R. P., & Fosse, R. (2009). Time to abandon the bio-bio-bio model of psychosis: Exploring the epigenetic and psychological mechanisms by which adverse life events lead to psychotic symptoms. *Epidemiologia e Psichiatria Sociale*, 18(4), 299-310. doi: 10.1017/S1121189X00000257
- Romme, M. A., & Escher, S. (2000). *Making sense of voices*. London: Mind Publications.
- Ryle, A. (Ed.). (1995). *Cognitive analytic therapy: Developments in theory and practice*. Chichester: Wiley.
- Slade, P. D., & Bentall, R. P. (1988). *Sensory deception: A scientific analysis of hallucination*. London: Johns Hopkins University Press.
- Sorrell, E., Hayward, M., & Meddings, S. (2010). Interpersonal processes and hearing voices: A study of the association between relating to voices and distress in clinical and non-clinical hearers. *Behavioural and Cognitive Psychotherapy*, 38, 127–140. doi: 10.1017/S1352465809990506
- Studenmund, A. H., & Cassidy, H. J. (1987). *Using econometrics: A practical guide*. Boston: Little Brown.
- Tangney, J. P., & Dearing, R. L. (2003). *Shame and Guilt*. Guildford Press: New York.
- Taylor, P., Perry, A., Hutton, P., Seddon, C., & Tan, R. (2014). Curiosity and the CAT: Considering cognitive analytic therapy as an intervention for psychosis. *Psychosis*, 7, 276-278. doi: 10.1080/17522439.2014.956785
- Townsend, P. (1993). *The International Analysis of Poverty*. London: Harvester Wheatsheaf.
- Vaughan, S., & Fowler, D. (2004). The distress experienced by voice hearers is associated with the perceived relationship between the voice hearer and the voice. *British Journal of Clinical Psychology*, 43, 143-153. doi: 10.1348/014466504323088024
- White, R. G., Gumley, A. I., McTaggart, J., Rattrie, L., McConville, D., Cleare, S., McLeod, H. J., & Mitchell, G. (2015). Acceptance and commitment therapy for depression

- following psychosis: An examination of clinically significant change. *Journal of Contextual Behavioral Science*, 4, 203-209. doi: 10.1016/j.jcbs.2015.06.004
- White, R. G., Gumley, A. I., McTaggart, J., Rattrie, L., McConville, D., Cleare, S., & Mitchell, G. (2011). A feasibility study of acceptance and commitment therapy for emotional dysfunction following psychosis. *Behaviour Research and Therapy*, 49, 901-907. doi: 10.1016/j.brat.2011.09.003
- Wickham, S., Taylor, P., Shevlin, M., & Bentall, R. P. (2014). The impact of social deprivation on paranoia, hallucinations, mania and depression: The role of discrimination social support, stress and trust. *PLoS ONE* 9(8), e105140. doi:10.1371/journal.pone.0105140
- Wicks, S., Hjern, A., Gunnell, D., Lewis, G., Dalman, C. (2005). Social adversity in childhood and the risk of developing psychosis: A national cohort study. *American Journal of Psychiatry*, 162, 1652–1657. doi: 10.1176/appi.ajp.162.9.1652
- Wilkinson, R., & Pickett, K. E. (2009). *The spirit level: Why more equal societies almost always do better*. London: Penguin.
- Woods, A. (2017). On shame and voice-hearing. *Medical Humanities*, 0, 1–6. doi:10.1136/medhum-2016-011167

## **Appendices**

Appendix A: Guidelines for Publication

Appendix B: Literature Review Risk of Bias Assessment

Appendix C: Measures

Appendix D: Power Calculation

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Appendix F: Information Sheet, Consent Form, Debriefing Sheet, & Advertising

Appendix G: Testing Assumptions

## **Appendix A: British Journal of Clinical Psychology Author Guidelines for Publication**

The British Journal of Clinical Psychology publishes original contributions to scientific knowledge in clinical psychology. This includes descriptive comparisons, as well as studies of the assessment, aetiology and treatment of people with a wide range of psychological problems in all age groups and settings. The level of analysis of studies ranges from biological influences on individual behaviour through to studies of psychological interventions and treatments on individuals, dyads, families and groups, to investigations of the relationships between explicitly social and psychological levels of analysis.

All papers published in The British Journal of Clinical Psychology are eligible for Panel A: Psychology, Psychiatry and Neuroscience in the Research Excellence Framework (REF).

The following types of paper are invited:

- Papers reporting original empirical investigations
- Theoretical papers, provided that these are sufficiently related to the empirical data
- Review articles which need not be exhaustive but which should give an interpretation of the state of the research in a given field and, where appropriate, identify its clinical implications
- Brief reports and comments

### **1. Circulation**

The circulation of the Journal is worldwide. Papers are invited and encouraged from authors throughout the world.

### **2. Length**

The word limit for papers submitted for consideration to BJCP is 5000 words and any papers that are over this word limit will be returned to the authors. The word limit does not include the abstract, reference list, figures, or tables. Appendices however are included in the word limit. The Editors retain discretion to publish papers beyond this length in cases where the clear and concise expression of the scientific content requires greater length. In such a case, the authors should contact the Editors before submission of the paper.

### **3. Submission and reviewing**

All manuscripts must be submitted via Editorial Manager. The Journal operates a policy of anonymous (double blind) peer review. We also operate a triage process in which submissions that are out of scope or otherwise inappropriate will be rejected by the editors without external peer review to avoid unnecessary delays. Before submitting, please read the terms and conditions of submission and the declaration of competing interests. You may also like to use the Submission Checklist to help you prepare your paper.

### **4. Manuscript requirements**

- Contributions must be typed in double spacing with wide margins. All sheets must be numbered.
- Manuscripts should be preceded by a title page which includes a full list of authors and their affiliations, as well as the corresponding author's contact details. You may like to use this template. When entering the author names into Editorial Manager, the corresponding author will be asked to provide a CRediT contributor role to classify the role that each author played in creating the manuscript. Please see the Project CRediT website for a list of roles.

- The main document must be anonymous. Please do not mention the authors' names or affiliations (including in the Method section) and refer to any previous work in the third person.
- Tables should be typed in double spacing, each on a separate page with a self-explanatory title. Tables should be comprehensible without reference to the text. They should be placed at the end of the manuscript but they must be mentioned in the text.
- Figures can be included at the end of the document or attached as separate files, carefully labelled in initial capital/lower case lettering with symbols in a form consistent with text use. Unnecessary background patterns, lines and shading should be avoided. Captions should be listed on a separate sheet. The resolution of digital images must be at least 300 dpi. All figures must be mentioned in the text.
- All papers must include a structured abstract of up to 250 words under the headings: Objectives, Methods, Results, Conclusions. Articles which report original scientific research should also include a heading 'Design' before 'Methods'. The 'Methods' section for systematic reviews and theoretical papers should include, as a minimum, a description of the methods the author(s) used to access the literature they drew upon. That is, the abstract should summarize the databases that were consulted and the search terms that were used.
- All Articles must include Practitioner Points – these are 2–4 bullet points to detail the positive clinical implications of the work, with a further 2–4 bullet points outlining cautions or limitations of the study. They should be placed below the abstract, with the heading 'Practitioner Points'.
- For reference citations, please use APA style. Particular care should be taken to ensure that references are accurate and complete. Give all journal titles in full and provide DOI numbers where possible for journal articles.
- SI units must be used for all measurements, rounded off to practical values if appropriate, with the imperial equivalent in parentheses.
- In normal circumstances, effect size should be incorporated.
- Authors are requested to avoid the use of sexist language.
- Authors are responsible for acquiring written permission to publish lengthy quotations, illustrations, etc. for which they do not own copyright. For guidelines on editorial style, please consult the APA Publication Manual published by the American Psychological Association. If you need more information about submitting your manuscript for publication, please email Melanie Seddon, Managing Editor ([bjc@wiley.com](mailto:bjc@wiley.com)) or phone +44 (0) 1243 770 108.

## 5. Brief reports and comments

These allow publication of research studies and theoretical, critical or review comments with an essential contribution to make. They should be limited to 2000 words, including references. The abstract should not exceed 120 words and should be structured under these headings: Objective, Method, Results, Conclusions. There should be no more than one table or figure, which should only be included if it conveys information more efficiently than the text. Title, author name and address are not included in the word limit.

## 6. Supporting Information

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## 8. Colour illustrations

Colour illustrations can be accepted for publication online. These would be reproduced in greyscale in the print version. If authors would like these figures to be reproduced in colour in print at their expense they should request this by completing a Colour Work Agreement form upon acceptance of the paper. A copy of the Colour Work Agreement form can be downloaded **here**.

## 9. Pre-submission English-language editing

Authors for whom English is a second language may choose to have their manuscript professionally edited before submission to improve the English. A list of independent suppliers of editing services can be found at [http://authorservices.wiley.com/bauthor/english\\_language.asp](http://authorservices.wiley.com/bauthor/english_language.asp). All services are paid for and arranged by the author, and use of one of these services does not guarantee acceptance or preference for publication.

## 10. Author Services

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Visit <http://authorservices.wiley.com/bauthor/> for more details on online production tracking and for a wealth of resources including FAQs and tips on article preparation, submission and more.

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The corresponding author will receive an email alert containing a link to a web site. A working e-mail address must therefore be provided for the corresponding author. The proof can be downloaded as a PDF (portable document format) file from this site. Acrobat Reader will be required in order to read this file. This software can be downloaded (free of charge) from the following web site: <http://www.adobe.com/products/acrobat/readstep2.html>.

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#### 12. Early View

British Journal of Clinical Psychology is covered by the Early View service on Wiley Online Library. Early View articles are complete full-text articles published online in advance of their publication in a printed issue. Articles are therefore available as soon as they are ready, rather than having to wait for the next scheduled print issue. Early View articles are complete and final. They have been fully reviewed, revised and edited for publication, and the authors' final corrections have been incorporated. Because they are in final form, no changes can be made after online publication. The nature of Early View articles means that they do not yet have volume, issue or page numbers, so they cannot be cited in the traditional way. They are cited using their Digital Object Identifier (DOI) with no volume and issue or pagination information. E.g., Jones, A.B. (2010). Human rights Issues. *Human Rights Journal*. Advance online publication. doi:10.1111/j.1467-9299.2010.00300.x

Further information about the process of peer review and production can be found in this document: What happens to my paper? Appeals are handled according to the procedure recommended by COPE.

## **Appendix B: Literature Review Risk of Bias Assessment**

### **Quality of observational studies**

General instructions: Grade each criterion as “Yes,” “No,” “Partially,” or “Can’t tell.”

Factors to consider when making an assessment are listed under each criterion. Note that some criteria will only apply to specific types of study. Where appropriate (particularly when assigning a “No,” “Partially,” or “Can’t tell” score), please provide a brief rationale for your decision (in parentheses) in the evidence table.

#### **1. Unbiased selection of the cohort?**

Factors that help reduce selection bias:

- Inclusion/exclusion criteria
  - Clearly described
  - In clinical samples, criteria for achieving mental health status (e.g., schizophrenia disorder) clearly outlined or previous literature outlining these criteria are referred to.
- Recruitment strategy
  - Clearly described
  - Sample is representative of the population of interest. Note this will be determined by looking at things such as self-selection bias.
  - The sample may be a clinical or non-clinical sample e.g., general population sample, student sample, patient sample, but would be eligible for the review if psychotic experiences are measured.



**2. Selection minimizes baseline differences in prognostic factors (For controlled studies only)?**

Factors to consider:

- Was selection of the comparison group appropriate? Consider whether these two sources are likely to differ on factors related to the outcome (besides mental health status). Note that in instances of clinical groups versus non-clinical controls, differences in clinical characteristics would be expected, but matching on key demographics (age, gender, ethnicity, education, etc.) would still be required to minimize bias.
- Did the study investigators do other things to ensure that exposed/unexposed groups were comparable, e.g., by using stratification or propensity scores?

**3. Sample size calculated?**

Factors to consider:

- Did the authors report conducting a power analysis or describe some other basis for determining the adequacy of study group sizes for the primary outcome(s) of interest to us?
- Did the eventual sample size deviate by  $\leq 10\%$  of the sample size suggested by the power calculation?

**4. Adequate description of the cohort?**

Consider whether the cohort is well-characterized in terms of baseline demographics?

- Consider key demographic information such as age, gender and ethnicity.

- Information regarding education or socio-economic characteristics is also important.
- Information regarding level of psychotic symptoms in the sample should be given.

#### **5. Validated method for ascertaining shame?**

Factors to consider:

- Was shame assessed using valid and reliable measures? Note that measures that consist of single items of scales taken from larger measures are likely to lack content validity and reliability.
- Were these measures implemented consistently across all study participants?

#### **6. Validated method for ascertaining psychotic symptoms/experiences?**

Factors to consider:

- Was a valid and reliable measure used to measure psychotic experiences? Note self-report measures tend to have lower reliability and validity than structured clinical interviews (e.g., Positive and Negative Syndrome Scale; PANSS) or diagnostic interviews (e.g., Structured Clinical Interview for DSM Disorders; SCID-V).

#### **7. Outcome assessment blind to exposure?**

- Were the study investigators who assessed shame blind to the psychotic experiences of the participants? Were the study investigators measuring psychotic experiences blind to level of participant shame? Note that even in single-arm studies some degree of blinding is possible, for example using

external interviewers with no knowledge of participants' clinical status. Note for some designs – e.g., online – there is no room for rater bias, therefore this only applies to studies with a rate-implemented assessment of some kind.

#### **8. Adequate follow-up period (longitudinal studies only)?**

Factors to consider:

- Minimum adequate follow-up period is 3-months.
- A justification of the follow-up period length is preferable.
- Follow-up period should be the same for all groups
  - OK if differences in follow-up time were adjusted for using statistical techniques, e.g., survival analysis.

#### **9. Missing data**

Factors to consider:

- Did missing data from any group exceed 20%?
- In longitudinal studies consider attrition over time as a form of missing data.

Note that the criteria of < 20% missing data may be unrealistic over longer follow-up periods.
- If missing data is present and substantial, were steps taken to minimize bias (e.g., sensitivity analysis or imputation).

#### **10. Analysis controls for confounding?**

- Does the study identify and control for important confounding variables and effect modifiers? Confounding variables are risk factors that are correlated with psychotic symptoms and outcome and may therefore bias the estimation

of the effect of psychosis on shame if unmeasured. These may include demographic and clinical variables (e.g., guilt, comorbid depression or other comorbid psychopathology).

- In case control studies if groups matched on these variables then statistical control not needed.

#### **11. Analytic methods appropriate?**

Factors to consider:

- Was the kind of analysis done appropriate for the kind of outcome data (categorical, continuous, etc.)?
- Was the number of variables used in the analysis appropriate for the sample size? (The statistical techniques used must be appropriate to the data and take into account issues such as controlling for small sample size, clustering, rare outcomes, multiple comparison, and number of covariates for a given sample size).

**Appendix C: Measures  
Demographic Questions**

**1. What is your age (please type below)?**

**2. What is your gender (please tick the appropriate answer, below)?**

Male

Female

Other

Prefer not to state

**3. What is your occupational status (please tick the appropriate answer, below)?**

Full-time employed

Part-time employed

Unemployed

Student

Student and employed

**4. Approximately how many different voices have you heard in the past month (please tick the appropriate answer, below)?**

1

2-5

6-10

10 or more

**5. Approximately how long have you heard a voice or voices for (please tick the appropriate answer, below)?**

1-6 months

6 months-1 year

2-5 years

6-10 years

11-15 years

16-20 years

21-30 years

31-40 years

41 years and above

- 6. Approximately what age were you when you first heard a voice or voices (please type below)?**

- 7. Have you ever been given any mental health diagnosis (please tick the appropriate box, below)?**

Yes

No

Not Sure

**If YES then question 8 and 9 will be presented**

- 8. In the space below, please feel free to tell us what mental health diagnoses you have been given.**

- 9. In the space below, please feel free to tell us your opinions regarding your mental health diagnoses (this is optional)**

- 10. Do you take any medication related to your mental health (e.g., anti-depressants, anti-psychotics)?**

Yes

No

Not sure

**11. Please provide your full postcode in the space below \***

**\*This information is used to get information about the social and economic resources available in the area where you live. Your postcode will be deleted from our secure survey database within 21 days, after this information has been obtained.**

**12. Approximately how long have you lived at this address (please tick the appropriate answer, below)?**

Less than 6 months

6 months-1 year

1-3 years

4-10 years

11-20 years

20 years or more

# The Voice and You (VAY)

**A PERSON'S ASSESSMENT OF THE RELATIONSHIP THEY HAVE WITH  
THEIR PREDOMINANT VOICE**

**Mark Hayward  
Psychology Department  
University of Surrey  
Guildford  
2008**



**PLEASE READ THIS BEFORE YOU START**

The statements listed here are the sorts of feelings and attitudes which people sometimes have about or towards the voices they hear. Please read each statement carefully and indicate, by ticking the appropriate column, the extent to which you think it applies to you in relation to your predominant voice.

Try to be completely frank and honest about yourself. Avoid answering the way you would like to be or the way you would like others to think of you, rather than the way you really are.

Try as far as possible, to place your ticks in the "Nearly always true" and "Rarely true" columns. The two middle columns are really for if you cannot make up your mind.

**Please state -**

Your age: .....

Sex: M / F

Duration of voice hearing experience (years) .....

Diagnosis: (if relevant) .....

Are you currently taking anti-psychotic medication? Yes / No

	Nearly always true	Quite often true	Sometimes true	Rarely true
1. My voice wants things done his/her way				
2. My voice helps me make up my mind				
3. I prefer to keep my voice at a safe distance				
4. My voice makes hurtful remarks to me				
5. My voice does not let me have time to myself				
6. I have a tendency to look up to my voice				
7. When my voice gets too close to me, it makes me feel uneasy				
8. My voice constantly reminds me of my failings				
9. My voice dislikes it when I exclude him/her by showing an interest in other people				
10. I allow my voice to take control of me				
11. I feel I have little to offer my voice				
12. It is easy for my voice to change my mind				
13. My voice does not give me credit for the good things I do				

	Nearly always true	Quite often true	Sometimes true	Rarely true
14. My voice tries to accompany me when I go out				
15. I feel deserted when my voice is not around				
16. I try to hide my feelings from my voice				
17. My voice tries to get the better of me				
18. My voice dislikes spending time on his/her own				
19. My voice's judgment is better than mine				
20. I do not like to get too involved with my voice				
21. My voice makes me feel useless				
22. I need to have my voice around me a great deal				
23. I don't like my voice to know what I am thinking				
24. I have difficulty letting go of my voice				
25. My voice tries to make me out to be stupid				
26. My voice finds it hard to allow me to have time away from him/her				
27. I have a great need to talk to my voice				
28. I don't wish to spend much time listening to my voice				

**BAVQ - R**

CHADWICK, PAUL, LEES, SUSAN, BIRCHWOOD, MAX

**The revised Beliefs About Voices Questionnaire (BAVQ-R)**

(from The British Journal of Psychiatry 2000 177: 229-232)

There are many people who hear voices. It would help us to find out how you are feeling about your voices by completing this questionnaire. Please read each statement and tick the box which best describes the way you have been feeling in the *past week*.

If you hear more than one voice, please complete the form for the voice which is dominant.

Thank you for your help.

Name: .....

Age: .....

		Disagree	Unsure	Slightly Agree	Strongly Agree
1	My voice is punishing me for something I have done				
2	My voice wants to help me				
3	My voice is very powerful				
4	My voice is persecuting me for no good reason				
5	My voice wants to protect me				
6	My voice seems to know everything about me				
7	My voice is evil				
8	My voice is helping to keep me sane				
9	My voice makes me do things I really don't want to do				
10	My voice wants to harm me				
11	My voice is helping me to develop my special powers or abilities				
12	I cannot control my voices				
13	My voice wants me to do bad things				
14	My voice is helping me to achieve my goal in life				

15	My voice will harm or kill me if I disobey or resist it				
		Disagree	Unsure	Slightly Agree	Strongly Agree
16	My voice is trying to corrupt or destroy me				
17	I am grateful for my voice				
18	My voice rules my life				
19	My voice reassures me				
20	My voice frightens me				
21	My voice makes me happy				
22	My voice makes me feel down				
23	My voice makes me feel angry				
24	My voice makes me feel calm				
25	My voice makes me feel anxious				
26	My voice makes me feel confident				

When I hear my voice, usually ...

		Disagree	Unsure	Slightly Agree	Strongly Agree
27	I tell it to leave me alone				
28	I try and take my mind off it				
29	I try and stop it				
30	I do things to prevent it talking				
31	I am reluctant to obey it				
32	I listen to it because I want to				
33	I willingly follow what my voice tells me to do				
34	I have done things to start to get in contact with my voice				
35	I seek the advice of my voice				

### Positive Relational Items

The items below will be included in the online survey to capture positive relating to voices. The items will be presented immediately after the Beliefs About Voices Questionnaire-Revised and consequently the instructions to participants will be the same and as follows.

Instructions: There are many people who hear voices.

It would help us to find out how you are feeling about your voices by completing this questionnaire.

Please read each statement and tick the box which best describes the way you have been feeling in the past week.

If you hear more than one voice, please complete the form for the voice which is dominant (e.g., most frequent). Thank you for your help.

	Disagree	Unsure	Slightly agree	Strongly agree
My voice helps me to express how I am feeling				
My voice keeps me entertained				
My voice understands how I feel				
My voice helps me to cope with things				
My voice keeps me company				
I would feel alone without my voice				
My voice helps me to solve my problems				
My voice is comforting				

### Appendix: Experience of Shame Scale

Everybody at times can feel embarrassed, self-conscious or ashamed. These questions are about such feelings if they have occurred **at any time in the past year**. There are no 'right' or 'wrong' answers. Please indicate the response which applies to you with a tick.

	not at all ( 1 )	a little ( 2 )	moderately ( 3 )	very much ( 4 )
1. Have you felt ashamed of any of your personal habits?	( )	( )	( )	( )
2. Have you worried about what other people think of any of your personal habits?	( )	( )	( )	( )
3. Have you tried to cover up or conceal any of your personal habits?	( )	( )	( )	( )
4. Have you felt ashamed of your manner with others?	( )	( )	( )	( )
5. Have you worried about what other people think of your manner with others?	( )	( )	( )	( )
6. Have you avoided people because of your manner?	( )	( )	( )	( )
7. Have you felt ashamed of the sort of person you are?	( )	( )	( )	( )
8. Have you worried about what other people think of the sort of person you are?	( )	( )	( )	( )
9. Have you tried to conceal from others the sort of person you are?	( )	( )	( )	( )
10. Have you felt ashamed of your ability to do things?	( )	( )	( )	( )
11. Have you worried about what other people think of your ability to do things?	( )	( )	( )	( )
12. Have you avoided people because of your inability to do things?	( )	( )	( )	( )
13. Do you feel ashamed when you do something wrong?	( )	( )	( )	( )
14. Have you worried about what other people think of you when you do something wrong?	( )	( )	( )	( )
15. Have you tried to cover up or conceal things you felt ashamed of having done?	( )	( )	( )	( )
16. Have you felt ashamed when you said something stupid?	( )	( )	( )	( )
17. Have you worried about what other people think of you when you said something stupid?	( )	( )	( )	( )
18. Have you avoided contact with anyone who knew you said something stupid?	( )	( )	( )	( )
*19. Have you felt ashamed when you failed in a competitive situation?	( )	( )	( )	( )

- |  |     |     |     |     |
|--|-----|-----|-----|-----|
| *20. Have you worried about what other people think of you when you failed in a competitive situation? | ( ) | ( ) | ( ) | ( ) |
| 21. Have you avoided people who have seen you fail?  | ( ) | ( ) | ( ) | ( ) |
| 22. Have you felt ashamed of your body or any part of it?  | ( ) | ( ) | ( ) | ( ) |
| 23. Have you worried about what other people think of your appearance?                                 | ( ) | ( ) | ( ) | ( ) |
| 24. Have you avoided looking at yourself in the mirror?  | ( ) | ( ) | ( ) | ( ) |
| 25. Have you wanted to hide or conceal your body or any part of it?                                    | ( ) | ( ) | ( ) | ( ) |

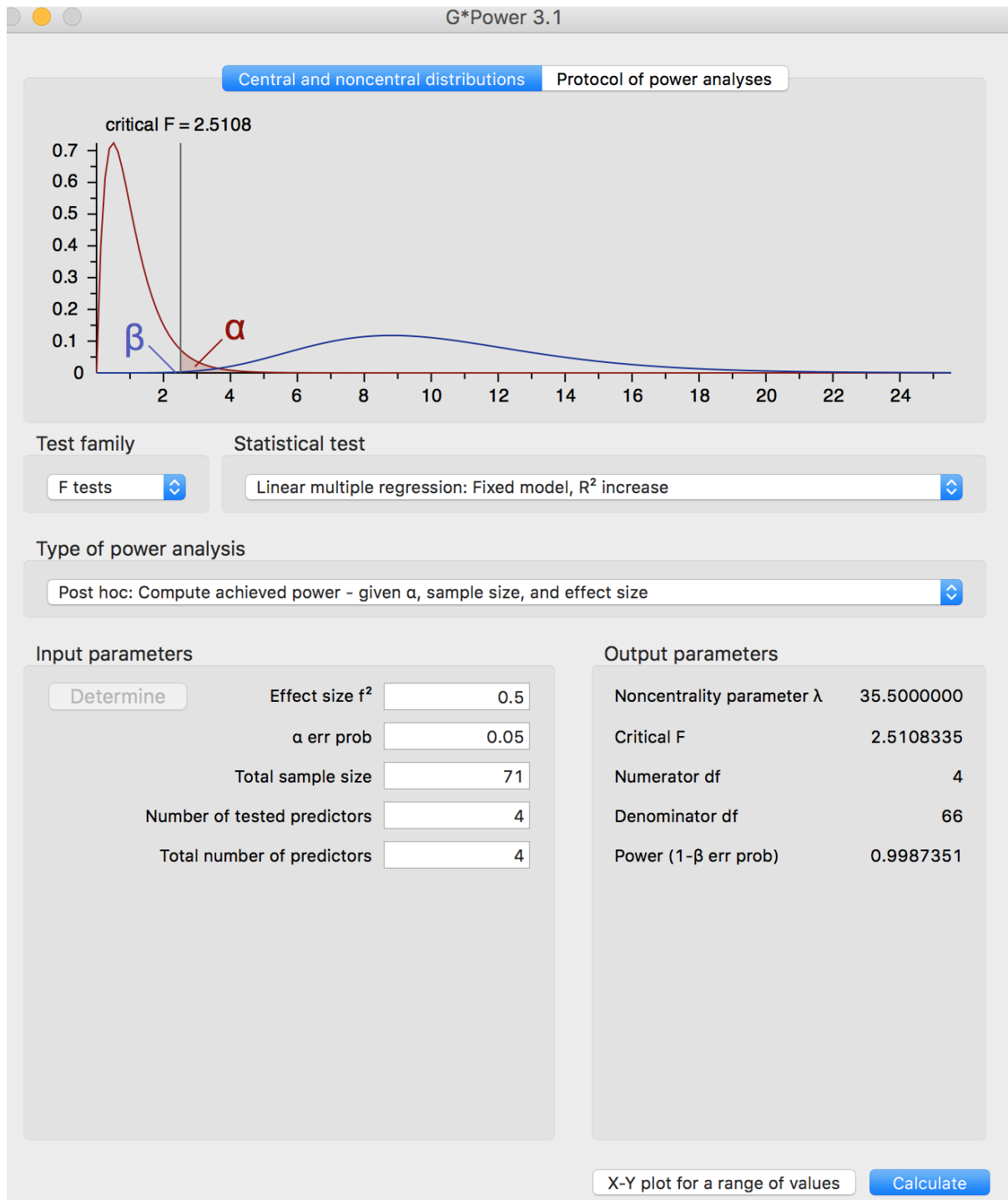
\* Alternatives for populations where competition is not relevant:

19. Have you felt ashamed when you failed at something which was important to you?

20. Have you worried about what other people think of you when you fail?



## Appendix D: Power Calculation



## Appendix E: Ethical Approvals



**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](http://www.liv.ac.uk/dclinpsychol)

15/9/15

Louise Carden  
 Clinical Psychology Trainee  
 Doctorate of Clinical Psychology Doctorate Programme  
 University of Liverpool  
 L69 3GB

**RE: The Role of Shame in the Relationship Between Social Deprivation  
 and the Quality of the Voice-Hearing Relationship**

**Trainee:** Louise Carden

**Supervisors:** Dr Peter Taylor, Dr Claire Seddon

Dear name,

Thank you for your response to the reviewers' comments of your research proposal submitted to the D.Clin.Psychol. Research Review Committee (letter not dated, submitted 27/7/15).

I can now confirm that your amended proposal (version 2, date 27/7/15) meet the requirements of the committee and have been approved by the Committee Chair. Please note the reviewer has made an additional comment (attached overleaf) for discussion with your supervisors as a work in progress as you continue with your research.

Please take this Chairs Action decision as **final** approval from the committee.

You may now progress to the next stages of your research.

I wish you well with your research project.

Dr Catrin Eames  
 Vice-Chair D.Clin.Psychol. Research Review Committee.  
 cc. Dr Joanne Dickson, Chair DClIn RRC

A member of the  
 Russell Group

Professor Peter Kinderman  
 Acting Programme Director  
[p.kinderman@liv.ac.uk](mailto:p.kinderman@liv.ac.uk)

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Dr Taylor  
 Institute of Psychology, Health and  
 Society  
 Room 2.12  
 Whelan Building  
 Brownlow Hill  
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 L69 3GB

Mr Alex Astor  
 Head of Liverpool Joint Research  
 Office

University of Liverpool  
 Research Support Office  
 2nd Floor Block D Waterhouse  
 Building  
 3 Brownlow Street  
 Liverpool  
 L69 3GL

22 October 2015

Tel: 0151 794 8739  
 Email: [sponsor@liv.ac.uk](mailto:sponsor@liv.ac.uk)

Sponsor Ref: UoL001178

**Re: Sponsorship Approval**

**“Social deprivation, shame, and the voice-hearing relationship - The role of shame in the relationship between social deprivation and the quality of the voice-hearing relationship”**

Dear Dr Taylor

After consideration by the Chair of the JRO Non Interventional Sponsorship Sub Committee on 22<sup>nd</sup> October 2015 I am pleased to confirm that the University of Liverpool is prepared to act as Sponsor under the Department of Health’s Research Governance Framework for Health and Social Care 2<sup>nd</sup> Edition (2005) for the above study.

The following documents have been received by the Joint Research Office

Document title	Version	Date
Protocol	Version 3	15 <sup>th</sup> October 2015
Participant Information Sheet	Version 2	15 <sup>th</sup> October 2015
Participant Consent Form	Version 1	16 <sup>th</sup> August 2015

Please note this letter does **NOT** allow you to commence recruitment to your study.

A notification of Sponsor Permission to Proceed will be issued when governance and regulatory requirements have been met. Please see Appendix 1 to this letter for a list of the documents required.

If you have not already applied for regulatory approvals through IRAS you may now do so at <https://www.myresearchproject.org.uk/Home.aspx>.

In order to meet the requirements of the Research Governance Framework 2<sup>nd</sup> Ed 2005, the University requires you to agree to the following Chief Investigator responsibilities:



Dr Taylor  
Institute of Psychology, Health and  
Society  
Room 2.12  
Whelan Building  
Brownlow Hill  
University of Liverpool  
L69 3GB

Mr Alex Astor  
Head of Research Support – Health  
and Life Sciences

University of Liverpool  
Research Support Office  
2nd Floor Block D Waterhouse  
Building  
3 Brownlow Street  
Liverpool  
L69 3GL

17 March 2016

Tel: 0151 794 8739  
Email: [sponsor@liv.ac.uk](mailto:sponsor@liv.ac.uk)

Sponsor Ref: UoL001178

**Re: Sponsor Permission to Proceed notification**

**“Social deprivation, shame, and the voice-hearing relationship - The role of shame in the relationship between social deprivation and the quality of the voice-hearing relationship”**

Dear Dr Taylor

All necessary documentation and regulatory approvals have now been received by the University of Liverpool Research Support Office in its capacity as Sponsor, and we are satisfied that all Clinical Research Governance requirements have been met. You may now proceed with any study specific procedures to open the study.

The following REC Approved documents have been received by the Research Support Office. Only these documents can be used in the recruitment of participants **via Non-NHS Services only**. To recruit from NHS Sites the R&D Approval letter must be provided to the RSO. If any amendments are required please contact the Research Support Office.

Document title	Version	Date
Research Proposal	Version 4	02 November 2015
Poster to advertise research	Version 1	23 October 2015
Participant information sheet	Version 3	02 November 2015
Participant consent form	Version 2	02 November 2015
Non-validated questionnaire - Demographic questions	Version 1	14 January 2016
Non-validated questionnaire - Eligibility criteria items	Version 1	15 January 2016
Non-validated questionnaire - Positive relational items	Version 1	14 January 2016
Non-validated questionnaire - Subjective deprivation scaling questions	Version 1	14 January 2016
Signposting information	Version 1	14 January 2016
Beliefs About Voices Questionnaire- Revised	No Version	No Date
Validated questionnaire [The Voice and You Scale]	No Version	No Date



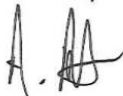
Validated questionnaire [The Experiences of Shame Scale]	No Version	No Date
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Please note, under the terms of your Sponsorship you must;

1. Gain NHS R&D Permission from each participating site before recruitment begins at that site;
2. Ensure all required contracts are fully executed before recruitment begins at any site;
3. Inform the Research Support Office as soon as possible of any adverse events especially SUSARs and SAE's, Serious Breaches to protocol or relevant legislation or any concerns regarding research conduct;
4. Approval must be gained from the Research Support Office for any amendments to, or changes of status in the study prior to submission to REC and any other regulatory authorities;
5. It is a requirement that Annual Progress Reports are sent to the NHS Research Ethics Committee (REC) annually following the date of Favourable Ethical Approval. You must provide copies of any reports submitted to REC and other regulatory authorities to the Research Support Office;
6. Maintain the study master file;
7. Make available for review any study documentation when requested by the sponsors and regulatory authorities for the purposes of audit or inspection;
8. Upon the completion of the study it is a requirement to submit and an End of Study Declaration (within 90 days of the end of the study) and End of Study Report to REC (within 12 months of the end of the study). You must provide copies of this to the Research Support Office;
9. Ensure you and your study team are up to date with the current RSO SOPs throughout the duration of the study.

If you have any queries regarding the sponsorship of the study please do not hesitate to contact the Clinical Research Governance Team on 0151 794 8373 (email [sponsor@liv.ac.uk](mailto:sponsor@liv.ac.uk)).

Yours sincerely



Mr Alex Astor  
Head of Research Support – Health and Life Sciences  
Research Support Office

**Health Research Authority****North West - Liverpool East Research Ethics Committee**

Barlow House  
3rd Floor  
4 Minshull Street  
Manchester  
M1 3DZ

Telephone: 02071048127

29 February 2016

Dr Peter Taylor  
Whelan Building,  
Brownlow Hill,  
University of Liverpool  
L69 3GB

Dear Dr Taylor

<b>Study title:</b>	<b>The role of shame in the relationship between social deprivation and the quality of the voice-hearing relationship</b>
<b>REC reference:</b>	<b>16/NW/0111</b>
<b>Protocol number:</b>	<b>UoL001178</b>
<b>IRAS project ID:</b>	<b>200480</b>

The Research Ethics Committee reviewed the above application at the meeting held on 18 February 2016. The Committee extended its thanks to Ms Louise Caden and Dr Emma Evans for attending to discuss the application.

We plan to publish your research summary wording for the above study on the HRA website, together with your contact details. Publication will be no earlier than three months from the date of this favourable opinion letter. The expectation is that this information will be published for all studies that receive an ethical opinion but should you wish to provide a substitute contact point, wish to make a request to defer, or require further information, please contact the REC Manager Matt Rogerson, [nrescommittee.northwest-liverpooleast@nhs.net](mailto:nrescommittee.northwest-liverpooleast@nhs.net). Under very limited circumstances (e.g. for student research which has received an unfavourable opinion), it may be possible to grant an exemption to the publication of the study.

**Ethical opinion**

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.

### Approved documents

The documents reviewed and approved at the meeting were:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Copies of advertisement materials for research participants [Poster to advertise research]	Version 1	23 October 2015
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Insurance Cover 2015-2016]		05 August 2015
IRAS Checklist XML [Checklist_29012016]		29 January 2016
Letter from sponsor [Sponsorship approval]	Version 1	22 October 2015
Non-validated questionnaire [Demographic questions ]	Version 1	14 January 2016
Non-validated questionnaire [Eligibility criteria items (will be presented online immediately after the PIS)]	Version 1	15 January 2016
Non-validated questionnaire [Positive relational items]	Version 1	14 January 2016
Non-validated questionnaire [Subjective deprivation scaling questions (will be presented online immediately after the demographic questions)]	Version 1	14 January 2016
Other [Signposting information (presented at end of online survey or if participants unable to provide full consent/do not meet eligibility criteria/withdraw from the study). ]	Version 1	14 January 2016
Other [Minor amendments made to project proposal and documents prior to submission to REC (approved by Doctorate in Clinical Psychology Research Review Committee).]		24 November 2015
Other [Sponsorship approval of minor amendments prior to submission to REC]		22 December 2015
Other [POL001 Sponsorship Policy]	2.00	15 June 2015
Other [Email clarification regarding sample size]		04 February 2016
Participant consent form [Consent form]	Version 2	02 November 2015
Participant information sheet (PIS) [Participant information sheet]	Version 3	02 November 2015
REC Application Form [REC_Form_29012016]		29 January 2016
Referee's report or other scientific critique report [University of Liverpool Doctorate in Clinical Psychology Research Review Committee Formal Approval]	Version 1	15 September 2015
Research protocol or project proposal [Research Proposal]	Version 4	02 November 2015
Summary CV for Chief Investigator (CI) [Dr Peter Taylor CV]	Version 1	07 December 2014
Summary CV for student [Louise Carden CV]	Version 1	23 October 2015
Summary CV for supervisor (student research) [Dr Peter Taylor CV]	Version 1	07 December 2014
Validated questionnaire [Beliefs About Voices Questionnaire-Revised]		
Validated questionnaire [The Voice and You Scale]		
Validated questionnaire [The Experiences of Shame Scale]		

### Membership of the Committee

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

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

## User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: <http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/>

## HRA Training

We are pleased to welcome researchers and R&D staff at our training days – see details at <http://www.hra.nhs.uk/hra-training/>

<b>16/NW/0111</b>	<b>Please quote this number on all correspondence</b>
-------------------	---

With the Committee’s best wishes for the success of this project.

Yours sincerely



Signed on behalf of  
**Mrs Glenys J Hunt**  
Chair

**E-mail:** nrescommittee.northwest-liverpooleast@nhs.net

**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:** Mr Alex Astor  
Mrs Pauline Parker, Mersey Care NHS Trust





### **Participant Information Sheet**

#### **Research Study: The Role of Shame in the Relationship between Social Deprivation and the Quality of the Voice-Hearing Relationship**

We would like to invite you to take part in our research study. Before you decide whether you would like to part, we would like you to understand why the research is being done and what it will involve. Please read this information carefully, and if needed, raise any questions or concerns with us.

#### **Who is doing the research and who has approved it?**

This research is being carried out by individuals from the University of Liverpool and Mersey Care NHS Trust, and has been produced in a collaborative way with people who hear voices. The study has been given ethical approval by an NHS Research Ethics Committee.

#### **What is the purpose of the study?**

This study aims to look at the experience of hearing voices and the factors that affect the feelings or attitudes a person has about their voice(s). This will include looking at the material and social resources a person has within their environment (using census data only), and also experiences of difficult emotional states like shame. It is hoped that findings from the research will help to guide the use of talking therapies and better social support for those who experience voices.

#### **Why have I been invited?**

You are invited to take part in the study if you live in England and have direct and present day experience of hearing one or more voice(s).

#### **Do I have to take part?**

No – it is entirely up to you. If you begin taking part and decide that you no longer want to, you are free to withdraw at any time up until the study end and you do not have to give us a reason. Should you wish to do this, simply close the internet browser window or press the ‘withdraw’ button displayed at the bottom of the page containing the questionnaires. Pressing this button will automatically direct you to the debriefing page and support contacts. Unfortunately, once you have completed the study it will not be possible to ask for your data to be removed, as we will have no way of identifying which sets of answers are your own.

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

You will first be asked to complete an online consent form to let us know that you are happy to take part. This will involve carefully reading this information form and the consent form,

and ticking the boxes provided. After this, you will be directed to a page where you will be asked to give some brief information about the number of voices that you experience and how long you have experienced them for. You will be asked to provide your postcode (which will be used to refer to census data only), to establish the level of different types of resources in your area. You will then be given a set of questions which will ask you about the feelings or attitudes you may or may not have about your voice(s) (e.g. “my voice makes me feel useless” or “my voice wants to help me”), and also about any experiences or feelings of shame that you may or may not have experienced (e.g. “have you felt ashamed of your ability to do things”). The questionnaire will take approximately 15-20 minutes to complete. It is usually possible to take short breaks with the browser window left open. However, with longer breaks there is a possibility the browser may time-out and your progress will be lost.

When you have completed the questionnaire, you have finished taking part. At the end of the study you will be asked to provide your email address if you would like to be entered into a prize draw to win one of five £50 High Street vouchers. When the study closes the draw will take place and you will receive an email letting you know if you have won. If you would like to receive a summary of the findings you will be asked to leave your email address and we will send a summary through to you when the research has finished (around July 2017).

### **What are the possible benefits of taking part?**

There are no specific benefits to taking part, with the exception that you may choose to be entered into the prize draw to win one of five £50 High Street vouchers. However, we expect that this research will contribute towards improvements in how we understand and support those who hear voices.

### **What are the possible disadvantages of taking part?**

You will be asked about how you feel about your voice(s) and also any experiences of difficult emotions like shame. These questions may be uncomfortable or distressing to some people. We would like to assure you that you do not have to answer any questions that you do not want to, and that you are free to leave the study at any time should you find this upsetting. We will provide you with information for various organisations such as Samaritans and Mind that may provide additional support. If any questions raise any particular concerns or distress we would advise you to contact your G.P. and/or to discuss this with someone that you trust.

### **What happens when the research study stops?**

The findings will be written up as part of the researcher’s thesis for Doctorate in Clinical Psychology training. No confidential information will be used. We also hope to publish the findings in academic journals and present the research at conferences; again no confidential information will be used. If you wish, we can send you a summary of the results when the study has finished. If this is something you would like to receive please ensure that you have provided your email address at the end of the study.

### **What if there is a problem?**

If you have any questions or concerns about any part of the study, please contact Louise Carden ([louise.carden@liverpool.ac.uk](mailto:louise.carden@liverpool.ac.uk)). Alternatively, you can contact the Research Governance Officer at the University of Liverpool ([ethics@liv.ac.uk](mailto:ethics@liv.ac.uk) or 0151 794 8290). When contacting the Research Governance Officer, please provide details of the name or

description of the study (so that it can be identified), the researchers involved, and the details of the complaint you wish to make.

### **What about confidentiality?**

All information collected during the study will be kept strictly confidential. Only the researchers will be able to view the responses that you have made. All of the responses will be anonymised which means that no one, including the researchers, will be able to tell which set of responses is yours. All postcodes will be kept separately from the questionnaire responses and used only to refer to census data which can tell us what type of resources the area you live in may or may not have. Postcode data will be destroyed once this information has been obtained.

If you do provide an email address, in order to receive information relating to the study or to be entered into the prize draw, this will be held separately from your responses. Once the prize draw has taken place and the reports of findings have been sent out, all email addresses will be permanently deleted.

All anonymised questionnaire responses will be kept safely and securely on a pass-word protected computer. Dr Peter Taylor (supervising this study) will be the custodian of all the study data. With your permission, the data will be archived and stored at the University of Liverpool for up to 10 years after the end of this study. No identifiable information will be contained.

### **Who can I contact for further information this study?**

If you have any questions at all, at any time please contact the researcher Louise Carden ([louise.carden@liverpool.ac.uk](mailto:louise.carden@liverpool.ac.uk)). Alternatively, you may prefer to contact Dr Peter Taylor (0151 794 5025/[pjtay@liverpool.ac.uk](mailto:pjtay@liverpool.ac.uk)) who is supervising the research and is based at the Division of Clinical Psychology, Whelan Building, University of Liverpool, Liverpool, L69 3GB.

### **Who can I contact for more general information about taking part in research?**

If you would like more general information about taking part in research, please contact Karen Wilding at the University of Liverpool on 0151 794 8373 or [kwilding@liverpool.ac.uk](mailto:kwilding@liverpool.ac.uk) who is independent from this study.

**Thank you very much for taking time to read this information sheet, please save or print it for future reference**

Louise Carden, Trainee Clinical Psychologist, Mersey Care NHS Trust

Dr Peter Taylor, Lecturer in Clinical Psychology, University of Liverpool

Dr Claire Seddon, Clinical Psychologist, Mersey Care NHS Trust



### **Online Consent Form**

**Title of Project: The Role of Shame in the Relationship between Social Deprivation and the Quality of the Voice-Hearing Relationship**

**Name of Researcher:** Louise Carden

**Please  
check box**

1. I confirm that I have read and understand the information sheet dated 02/11/15 (version 3) for the above study. I have had the chance to think about the information, ask questions and have my questions answered. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, up until the completion of the survey, without my legal rights being affected. ☐
3. I agree to my anonymised questionnaire data being stored at the University of Liverpool in line with their policy for the storage of research data. ☐
4. I understand and agree that once I submit my data it will become anonymised and I will therefore no longer be able to withdraw my data. ☐
5. I understand that by checking all the boxes, I agree to take part in this study. ☐

**Thank you very much for your time and cooperation**

## Signposting Information

### Thank you!!!

If you are feeling unsettled or experiencing any distress, or do so in the future, we would encourage you to speak to your **G.P. and/or someone that you trust.**

If you feel that you **need additional support** and you would like to speak to someone **straight away** you can call the **Samaritans helpline on 116 123 (UK).** This helpline is **free** and is open **24 hours a day, 365 days a year.**



If you **do not require** immediate support but would like **more information** about mental health or about where to get different types of support in your own area you may want to call the **Mind Infoline on 0300 123 3393.** The Mind infoline is charged at a **local call rate** and is open **9am to 6pm, Monday to Friday** (except for bank holidays).



We have also provided a list of organisations and websites which may be of interest to you should you want to find out more or get in touch with others who may share similar experiences.



[www.hearing-voices.org](http://www.hearing-voices.org)



[www.intervoiceonline.org](http://www.intervoiceonline.org)



[www.mind.org.uk](http://www.mind.org.uk)



[www.rethink.org](http://www.rethink.org)



[www.time-to-change.org.uk](http://www.time-to-change.org.uk)



**WOULD YOU LIKE TO TAKE PART IN AN ONLINE  
SURVEY LOOKING AT THE EXPERIENCE OF  
HEARING VOICES?**

**Many people experience hearing voices that others cannot hear.  
We are looking for adults who live in England, and who have  
current experience of hearing voices, to help us with a research  
study.**

**Our study aims to look at the experience of hearing voices, and  
the factors that affect the feelings or attitudes a person has about  
their voice or voices.**

**THOSE WHO TAKE PART WILL HAVE THE OPTION OF  
ENTERING INTO A PRIZE DRAW TO WIN ONE OF FIVE  
£50 HIGH STREET VOUCHERS**

**TO FIND OUT MORE AND TAKE PART VISIT THIS LINK:**

**[https://livpsych.az1.qualtrics.com/SE/?SID=SV\\_cMiCOOR8PH3Jy2V](https://livpsych.az1.qualtrics.com/SE/?SID=SV_cMiCOOR8PH3Jy2V)**

**The research is being carried out by individuals from the University of  
Liverpool and Mersey Care NHS Trust, and has been produced in a  
collaborative way with people who hear voices.**

**We hope that this research will help to further develop understanding about the  
experience of hearing voices.**

### Appendix G: Testing Assumptions

Tests of normality of variable distribution including the Kolmogorov–Smirnov test, tests of skewness and kurtosis, histograms and P-P plots were conducted on the data prior to statistical analysis. The values obtained suggested that variables were significantly non-normal and consequently Spearman’s non-parametric correlations were conducted.

Table G1

#### *Tests of Normality for Voice-Hearing Variables and Shame*

Variable	Mean	Skewness	Kurtosis	Kolmogorov- Smirnov test
Voice dominance	12.35	−.35	−1.44	.16**
Voice intrusiveness	7.37	.11	−1.11	.09
Hearer dependence	8.74	.68	−.23	.12*
Hearer distance	12.01	−.24	−1.00	.14**
Malevolence	8.46	−.07	−1.40	.13**
Benevolence	4.51	1.07	.23	.20**
Omnipotence	10.31	.09	−1.16	.12*
Characterological shame	35.79	−.57	−.88	.12**
Positive items	7.70	.70	−.74	.15

*Note.* \*  $p < .05$ , two-tailed. \*\*  $p < .01$ , two-tailed.

#### Multiple regression

Histograms and P-P plots conducted indicated that the residuals were not normally distributed and consequently bias-corrected bootstrapping of the model was conducted. Inspection of scatterplots of standardised residuals and predicted scores presented no evidence of homoscedasticity. Variance inflation factor (VIF) scores were below ten and



tolerances were above .2 suggesting no evidence of multicollinearity. The assumption of independent errors was met according to the Durbin-Watson test statistic value of 2.17. No outliers were identified according to a mean Cook's distance value of .02, a mean Mahalanobis distance of 3.94 and a mean leverage value of .06.