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# **The Phenomenology of Auditory Verbal Hallucinations in Emotionally Unstable Personality Disorder and Post-Traumatic Stress Disorder**

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## **Abstract**

**Objective:** To explore the phenomenology of auditory verbal hallucinations in a clinical sample of young people who have a ‘non-psychotic’ diagnosis.

**Method:** Ten participants aged 17- 31 with presentation of emotionally unstable personality disorder or post-traumatic stress disorder and frequent auditory verbal hallucinations were recruited and participated in a qualitative study exploring their subjective experience of hearing voices. Photo-elicitation and ethnographic diaries were used to stimulate discussion in an otherwise unstructured walking interview.

**Results:** ‘Non-psychotic’ voices comprised auditory qualities such as volume and clarity. Participants commonly personified their voices, viewing them as distinct characters with which they could interact and form relationships. There appeared to be an intimate and unstable relationship between participant and voice, whereby voices changed according to the participants’ mood, insecurities, distress and circumstance. Equally, participants reacted to provocation by the voice, leading to changes in mood and circumstance through emotional and physical disturbances. In contrast to our previous qualitative work in psychosis, voice hearing was not experienced with a sense of imposition or control.

**Conclusion:** This phenomenological research yielded in-depth and novel accounts of ‘non-psychotic’ voices which were intimately linked to emotional experience. In contrast to standard reports of voices in disorders such as schizophrenia, participants described a complex and bi-directional relationship with their voices. Many other features were in common with voice-hearing in psychosis. Knowledge of the phenomenology of hallucinations in non-psychotic disorders has the potential to inform future more successful management strategies. This report gives preliminary evidence for future research.

**Keywords:** auditory hallucination, voice, personality disorder, post-traumatic stress disorder, interview

## Introduction

Auditory verbal hallucinations (AVH) are the phenomenon of hearing voices in the absence of external stimuli (McCarthy-Jones et al., 2014). AVH, or voices, are a core symptom in psychiatry (Waters et al., 2012) and have attracted much interest throughout history, with Jaspers, Bleuler and Kraepelin providing rich descriptions of the experience in literature dating back over a century (Oyebode, 2008). Certain types of AVH have traditionally been considered pathognomonic of psychotic disorders such as schizophrenia (Longden et al., 2012, Oyebode, 2008). However, there is increasing recognition that AVH occur in non-psychosis populations. In fact, AVH are included in the diagnostic criteria for over fifty conditions in the fourth edition of the Diagnostic Statistical Manual of Mental Disorders (Longden et al., 2012). Prevalence of AVH in ‘non-psychotic’ disorders is high, occurring in 40% of individuals with post-traumatic stress disorder (PTSD) (Choong et al., 2007) and 50% of individuals with emotionally unstable personality disorder (EUPD) (Merrett et al., 2016). Both these conditions are common, life-limiting, and with considerable personal and societal burden, but in spite of this, there has been little phenomenological investigation of ‘non-psychotic’ voices (Upthegrove et al., 2016) and no evidence based understanding or treatment pathway. Prescribing of antipsychotic medication in EUPD is outside the licenced indication, but remains a common practice, although there are a few treatment trials demonstrating efficacy (Paton et al., 2015).

Phenomenology as a research methodology in psychiatry is a primary investigation of subjectivity – asking the subject, about their experience, “what it is like?” and “what does it mean?” (Broome et al., 2012). In this context, a description of the phenomenology of AVH constitutes a description of the first-person experience of hearing voices. Research exploring the phenomenology of ‘non-psychotic’ AVH has predominantly used structured questionnaires, with items derived from primary research on AVH in psychotic disorders. For example, voices in PTSD and schizophrenia have been compared using the Psychotic Symptom Rating Scale (PSYRATS), finding similarities in the content of voices, such as of commands and derogatory comments (McCarthy-Jones and Longden,

2015). Indeed, a recent systematic review concluded that current phenomenological evidence, which uses such scales, finds little difference between AVH in schizophrenia and other psychiatric disorders, with 95% of characteristics being shared (Merrett et al., 2016). Adopting interview techniques that do not privilege the psychotic experience (such as whether voices speak in the third person or give running commentary) may reveal other features of voices in these ‘non-psychotic’ patient groups. These may be more salient to the person experiencing AVH, and may provide points of difference between psychotic and ‘non-psychotic’ voices (Merrett et al., 2016), or provide potential targets for therapies.

Thus, there is a need for an in-depth exploration of ‘non-psychotic’ voices, unguided by questionnaires and scales validated in schizophrenia, or longstanding involvement with mental health professionals whose framework may influence the communication of such events.

Understanding the naive phenomenology of ‘non-psychotic’ voices is important for both diagnosis and management of this complex and distressing symptom.

#### Aims of the study

To explore the phenomenology of auditory verbal hallucinations in young ‘non-psychotic’ participants at first presentation to mental health services.

#### **Methods**

A qualitative study to capture the subjective experience of AVH was conducted. Following previous methodology established by this research team (Upthegrove et al., 2016), interviews used ethnographic diaries and photo-elicitation to produce novel and in-depth accounts of voices.

Interviews were an appropriate method because of the individual and personal nature of AVH.

Interviews were unstructured, using the photographs and diaries produced by participants to guide discussion. This allowed participants to explore aspects of the experience that were personally meaningful to them, helping to meet the phenomenological aims of the study (Hislop et al., 2005).

The absence of an interview framework ensured the narrative was from the participants perspective, with questions asked in response to their story-telling, reducing interviewer bias (Moyle, 2002).

Walking interviews were conducted rather than face-to-face interviews, as the latter can be viewed as unhelpfully replicating clinical power dynamics, or being interrogative or intimidating (Anderson, 2004, Sandhu et al., 2013). It was intended that walking interviews would encourage a fresh discussion of AVH, rather than a reflection of a standard clinical encounter.

#### Participants and data collection

Participants were recruited from Forward Thinking Birmingham, a mental health service for young people in Birmingham. Sampling was “purposeful” (Patton, 1999). Inclusion criteria were: (A) AVH at least every other day (to reduce recall bias); (B) age over 16 and (C) capacity to consent. Exclusion criteria were: (A) unacceptable safety risk during interview; (B) language barrier compromising the in-depth interview process; and (C) diagnosis of psychotic disorder. Psychotic disorder was defined as ICD-10 codes F20-29, F30.2, F31, F32.3 or F33.3 (WHO, 1992). Diagnosis was determined by an experienced consultant psychiatrist (RU) using validated structured interview (Sheehan et al., 1998) and interviewers were PD and SW.

Following informed consent, participants were given a disposable camera to take photographs of anything they felt represented their voices, and a diary to record aspects of the experience, to use for one week prior to the interview. After one week, the cameras and diaries were collected and the photographs developed so that they could be used in the interview, which took place two to three days later.

The material created by the participant was used to generate discussion in the otherwise unstructured interview. Researchers were sensitive to their position as an individual who did not hear voices, adopting a reflexive approach which included keeping a detailed diary and study group meetings where discussions were held around the individuals potentially influential preconceived values interests (Patton, 1999). The researcher who introduced the study and consented the

participant led the interview, whilst the other researcher listened and supported. Interviews lasted a mean average of 38 minutes, ranging between 15 and 48 minutes, and were audio-recorded.

Example starting questions included ‘Why did you take this photo?’ and ‘Tell me about that diary entry’. Follow-up questions included clarification of understanding and encouragement of expansion and elaboration of descriptions.

## Analysis

Data was analysed according to a thematic analysis, informed by phenomenology, that sought to capture and articulate the essence of the AVH experience. To aid immersion in the data, interview audio was transcribed verbatim by one researcher, and the transcription checked by another researcher for accuracy. Transcripts were read and re-read, aiding immersion in the data. Next, interviews were coded independently by two researchers, using NVivo software for data management. Codes were unrefined and elaborate rather than succinct, and aimed to capture particularly meaningful statements that described the essence of each individual’s experience. After each transcript had been coded independently, codes were reviewed in a process of analyst triangulation by RU, PD, SM and JI. Any disagreements were settled, adding rigour and credibility to findings (Patton, 1999).

Following individual coding, the coded transcripts were re-examined in parallel, and essential themes from each transcript were highlighted (Van Manen, 1997) and compared with essential themes from all other transcripts.

The relationships between essential themes from all transcripts was then considered, and themes which appeared common to describing the lived experience of voices throughout participants were explored using mind-maps and tree diagrams.

At this point, a second analyst triangulation took place with a consultant psychiatrist (RU) and a qualitative expert (JI). This lent credibility to the findings, as it ensured that the conclusions being drawn about the experience were not simply reinforcing or replicating the prior assumptions or

interpretations of the two primary analysts (Silverman, 2011). This resulted in three superordinate themes on which all authors agreed.

## **Results**

Thirteen participants meeting the inclusion criteria were recruited, with ten participants completing the study. Two participants withdrew after deciding they no longer wanted to recount the experience of AVH in an interview. The remaining participant stopped responding to contact attempts without giving a reason. In the sample of ten participants completing the research, eight participants had a diagnosis of EUPD and two participants had a diagnosis of PTSD. Participant demographics are summarised in Table 1. Data were assessed for saturation (Patton, 1999) after ten interviews, and data collection ceased at that point as no new data had emerged in the final two interviews.

Three superordinate themes summarised the data: auditory quality, personification and connection. Each theme encompasses codes and sub-codes. Tree diagrams showing each theme with codes and sub-codes are shown in Figure 1. Supporting quotes are included in the text, with participants named as P1-P10 to maintain anonymity. Further quotes are contained in summary tables for each theme, including the number of participants endorsing each code or sub-code, increasing transparency of the data (Maxwell, 2010).

### **Theme 1. Auditory quality**

This theme includes all references to AVH being experienced as a heard sound with specific auditory qualities such as volume and clarity. For some participants, these qualities made the voices seem absolutely real, however confusion between thoughts and voices existed for others. Some



AVH sounded like the participants' own voice and all participants heard multiple voices. The theme is summarised in Table 2.

#### *Sound*

##### Volume

For the majority of participants, the voice could be heard as both loud and quiet. Moreover, the voices could be heard as either shouting or whispering. Upon further questioning, it was revealed that volume was in fact related to attention:

*"Focusing on them makes them louder" (P7)*

Equally, voices were quiet or barely noticeable when the participant was distracted by external events or cues, and often disappeared entirely.

##### Clarity

Over half of participants spoke of voice content being difficult to hear sometimes due to a lack of clarity:

*"I couldn't quite make out exactly what it was saying... it was whispers... it weren't a clear voice"*  
*(P1)*

As well as whispering, a lack of clarity was attributed to multiple voices speaking over each other. Hearing a clear voice and an unclear voice evoked different responses; some preferred it when they could not hear what the voice was saying, however one participant found this incredibly frustrating.

##### Veridical

Six participants reported that voices seemed very real, as if coming from a real person:

*“Yeah it’s like, you know how we’re speaking so clearly now, it’s like someone’s actually there”*

(P5)

This could lead to confusion, with over half of participants often having to look over their shoulder to check no one was there. Participants described shock at discovering nobody else could hear the voices, continually relying on others for confirmation that AVH are not real.

Non-veridical

For four participants, confusion existed between thoughts and voices:

*“I wasn’t able to tell what was the difference between what I was thinking and what I could hear. Cos although I know they’re not real, they seem very real when it’s happening” (P7)*

This confusion suggests these AVH lacked the concrete reality of a true heard voice, as was described by other participants. Importantly, these participants still reported ‘hearing’ voices, demonstrating how the subjective experience of voices can differ between individuals.

*Multiple*

All ten participants described hearing multiple voices. These could be heard separately however often could be heard simultaneously. Two participants described similar experiences of hearing many voices echoing:

*“It did come to a stage where it was like, loads of people was talking in a tunnel... like just echoing and echoing like, it weren’t just one voice, it was a good few voices”(P1)*

Whilst this participant compared the experience to being in a tunnel, the other described it as if their head was in a fish tank. Both described this as a very intense and unpleasant experience.

### *Own voice*

Participants often reported that their AVH sounded like their own voice. For some, it was their own voice but with a different tone, such as aggression or malevolence. For others, it was their own voice but with a different temperament which they did not recognise as their own.

*“It sounds like my voice but a much more like... more scarier version” (P4)*

### Theme 2. Personification

This theme represents all aspects of the voice being personified, as if belonging to an entity distinct from the voice-hearer. This includes voice identity, consisting of specific traits and temperaments. Personification in some cases allowed a relationship with the voice to form, with some participants verbally interacting with their voice. The theme is summarised in Table 3.

#### *Identity*

##### Character

Over half of participants assigned their voices as distinct characters, giving them names such as ‘Little Girl’ or ‘Scary’. In some cases, AVH were accompanied by visual hallucinations, so the voice belonged to a character with a specific appearance. Characters were viewed as distinct and separate from the participants.

*“The man in the wheelchair he just...shouts things at me, and tells me to do like, to hurt myself, and the woman, she's the main character” (P3)*

##### Timbre

Voices had specific characteristics such as gender and age. In addition, voices could have particular sounds such as croaky or deep, further adding to the identity of the voice:

*“I hear two other male voices... one’s young, like he sounds young, and the other one... it’s not deep but it’s annoying, you know those annoying voices” (P5)*

Voice-specific traits enabled participants to distinguish different voices from each other when they were hearing them.

#### Temperament

Participants frequently described the voices having a personality. Usually the voices were exclusively ‘nasty’ and ‘horrible’, making only negative and abusive remarks. However, some participants infrequently heard a positive voice which they regarded as helpful, kind and encouraging. No participants heard exclusively positive voices.

*“There’s some female voices... they’re the ones that are kind to me. The male voices are the ones that are horrible and mean to me” (P2)*

#### Relationship

##### Attached

Participants reported feeling as if the voice was part of them, with one participant stating voices made her ‘unique’. Another participant described the sense of having grown up with the voice:

*“They were my friends, the only people I could rely on...I’ve sort of grown up with them, and told them everything” (P5)*

##### Resent

Half of participants exclusively resented their voices, expressing their wish for the voices to stop.

*“I wouldn’t wish it on my worst enemy... it’s horrible” (P9)*

One participant likened the experience of hearing voices to being in an ‘abusive relationship’.

Interestingly, those attached to their voices could simultaneously resent them, expressing feelings of confusion and sadness at their ‘best friend’ being nasty to them.

#### *Interaction*

Some participants described interacting verbally with their voices. Whilst it was rare for participants to have mundane or free-flowing conversations with the voices, it was common for participants to respond to voices, questioning them, refusing to obey commands and telling voices ‘leave me alone’. In some cases the voice would retaliate:

*“I disagreed with it... and it’ll just constantly keep coming back, like trying to get me to change my mind” (P4)*

#### Theme 3. Connection

This theme encompasses the intimate and complex connection which was found to exist between participant and voice. There appeared to be a two-way, returned connection, demonstrated by the voices’ ability to react to a change in the participants’ mood and circumstance. Equally, the voice could cause such changes in mood and circumstance for the hearer, through emotional and physical disturbances. The theme is summarised in Table 4.

#### *Reflection of mood and experience*

##### Mood

Participants reported that mood could influence timing of voices, with half of participants describing how voices could be entirely absent when they were happy. Similarly, participants described how voices tended to appear in times of stress or agitation:

*“If I’m happy, it tends not to happen as much. But if I’m sad, or just angry or agitated... it tends to set them off” (P6)*

Voice content was also responsive to mood, with sadness bringing about talks of suicide for one participant, and anger being accompanied by arguing voices for another.

#### Insecurities

For most participants, voices appeared to be insightful, seeming to have access to the participants’ private insecurities, using these to insult and criticise the participant regarding sensitive issues:

*“It just sort of plays off insecurities such as ....., which I guess quite a few of mine are” (P8)*

Additionally, in some cases the voices were able to identify the people which mattered to the participant, using this information to upset and antagonise them.

#### Circumstance

For over half of participants, it was reported that voice content was reactive to what was going on in the participants’ life, appearing to both comment on and question what the hearer was doing. This was usually responsive to what the participant was currently finding difficult or challenging, with voices exacerbating the challenge:

*“Just things that are difficult at the time, the voices will like latch on to and make it more difficult... I think it’s just things that are going on day to day” (P10)*

#### Provoke

##### Emotional disturbance

This code was endorsed by all participants, and refers to the emotional disturbances voices could provoke in them. A wide range of emotions were described:

*“Sometimes it makes me feel scared, sometimes it makes me feel annoyed, and irritated” (P3)*

The emotional disturbances could be complex, including feelings of guilt and heartbreak.

#### Physical disturbance

A range of participants described how voices could be followed by physical responses such as sweating, headaches and nausea. One profound example was a participant with a history of self-harm describing pains when the voice issued commands:

*“I sometimes get pains in my wrists, or... if they’re telling me to do something my neck would hurt” (P5)*

Another participant likened the experience of hearing voices to receiving upsetting news and the burning sensation it can provoke.

#### Actions

Voices could lead to actions, commonly making explicit commands such as those encouraging deliberate self-harm. Interestingly, some voices caused participants to behave a certain way simply by making suggestions or aiding decision making, perhaps reflecting the participants’ underlying wishes. For instance, one participant reported hating school and the voice encouraged his non-attendance:

*“There were a few days that I didn’t go to school just because I was hearing the voices telling me “there’s no, there’s no point in going, you don’t need to go”, things like that. So, I didn’t” (P7)*

## Discussion

This study is, to our knowledge, the first phenomenological qualitative investigation of a ‘non-psychotic’ clinical sample with auditory verbal hallucinations. Our results suggest that AVH in this group of young people is experienced with variable auditory qualities such as volume and clarity, are frequent and the basis of intimate relationships with the voice hearer. AVH and thoughts are sometimes confused, suggesting at times a lack all the qualities of a true heard perception.

However, in contrast to definitions in ICD-10 (WHO, 1992) or DSM-5 (Heckers et al., 2013), where AVH in EUPD are described as brief, transient, ‘stress related’ psychotic-like experiences, or not mentioned at all, detailed investigation of the subjective experience found a phenomenology of complex, characterful voices which spoke in full sentences, which could be clear and often possessed ‘personal’ qualities (e.g. age, gender, temperament). The intimate and complex connection between participant and voice includes a two-way exchange whereby the quality of the voice reacts and changes according to the participants’ mood, insecurities and circumstance. Equally, participants reacted to provocation by the voice, leading to changes in mood and circumstance through actions, emotional and even physical disturbances.

The findings are, in part, consistent with the limited quantitative literature investigating the phenomenology of AVH in EUPD. Merrett et reviewed 16 studies that used standardised measures and reported AVH were largely self-critical, derogatory and resulted in significant distress (Merrett et al., 2016). Our sample also included a small number of participants with PTSD, and we did not find that participants reported recognising their voice as belonging to the perpetrator of their trauma, previously cited by McCarthy-Jones as occurring in 30% of PTSD voices (McCarthy-Jones and Longden, 2015), which may reflect our sample size and qualitative methodology.

However, the detailed descriptions of ‘non-psychotic’ voices obtained in this study allow some comparison to be made with the well-explored phenomenology of psychotic voices. Our results identify both similarities and some differences in experience to those classically linked with AVH



in schizophrenia. Similarities include hearing multiple voices with distinct characters, hearing a combination of pleasant and unpleasant voices, and hearing derogatory remarks and commands (Nayani and David, 1996, McCarthy-Jones et al., 2014, Kraepelin, 1913). The comparable negative content of both psychotic and ‘non-psychotic’ voices is contrary to previous models proposed by Daalman et al. (2010), who suggest that emotionally negative content of voices could be indicative of psychotic AVH. Other similarities include AVH as a complex, heard experience that sometimes lack clarity and one that may be accompanied by a physical disturbance. In our non-psychotic sample this physical response was felt subsequent to the voice content, differing temporally to the physical disturbances seen in psychotic voices, which have been reported to occur at the same time as AVH and often with a perception of passivity (Upthegrove et al., 2016). A novel finding of this study is also the connection between mood and AVH. For instance, participants reported that their voice content and mood were connected, so that sadness would bring about talk of suicide and anger would be accompanied by arguing voices. Voices were reported to be exacerbated by agitation and absent during times of happiness. This connection contrasts with previous qualitative understanding of psychotic AVH, where the experience was inescapable, irrespective of mood (Upthegrove et al., 2016, Woods et al., 2014). Another novel finding in the present results is the connection between the participants’ circumstance and AVH, for example focusing on voices made them louder but distraction could stop them entirely. Whilst distraction techniques are helpful for all voice hearers, the experience of AVH in psychosis can be that of imposition (Upthegrove et al., 2016) with a sense of inescapable obligation to listen, as described by Kraepelin in his initial writing (Kraepelin, 1913).

The apparent predictability of ‘non-psychotic’ AVH, with a strong association with participants mood and immediate environment, differs from Jaspers’ description of psychotic AVH, which “spring into being” in an unpredictable fashion (Oyebode, 2008, Jaspers, 1997). “Non-psychotic” participants reported the primacy of their own emotional distress, thoughts and worries, which were amplified by voices. This connection lends some support to the hypothesis that ‘non-psychotic’

AVH result from one's own cognitions, (ego-syntonic), whereas psychotic AVH arise externally and separately to self (are ego-dystonic) (McCarthy-Jones and Longden, 2015, Oyebode, 2008). However, it should be noted there is a large body of work demonstrating the significance of emotional reaction to AVH in psychosis, including in relation to suicidal thinking (Birchwood et al., 2005, Birchwood et al., 2000, Upthegrove et al., 2010). It is clear emotional reaction and dysfunction are common in both psychotic and 'non-psychotic' voices – for example, Nayani and David (1996) found that sadness was related to AVH in a sample with chronic psychosis. Our results however highlight a bi-directional emotional relationship in the 'non-psychotic' experience of AVH.

Noticeable in this research is the lack of codes for internal or external location of AVH, because participants did not describe their voices in this way. Rather, participants described the experience either as if someone was 'actually there' (veridical, suggesting an external location) or 'image-like' (non-veridical, suggesting an internal location). Importantly, all participants still report 'hearing voices' regardless of origin, as was the case in Woods et al. (2015), and the reality of described perception of nonpsychotic voice challenges in part Jaspers' observation that inner voices may lack the objectivity of a 'true hallucination', and that there is an 'unbridgeable gap' between perception and image, or hallucination and pseudo hallucination (Oyebode, 2013, Jaspers, 1997).

A clear strength of this study is the use of photo-elicitation and ethnographic diaries, which enabled a unique exploration of the participants' life-world (Erdner and Magnusson, 2011). Descriptions of AVH gained using these techniques are not grounded in scales such as the PSYRATS-H to assess voices, which ask predetermined questions derived from research in schizophrenia. As an example of the depth of our methods, a novel finding of this study was the intimate and complex connection between participant and voice; a theme which would not have been uncovered using such scales. A further strength is that the methodology was our use of robust qualitative techniques such as analyst triangulation to increase credibility of findings. However, the study also has limitations. Although qualitative research does not aim to provide generalizable results, nor are sample size calculations

appropriate, a sample of ten participants will mean that some aspects AVH experience may remain concealed. The sample also predominantly consisted of participants with EUPD, so although data saturation was reached, it is unclear whether recruiting voice-hearers with other ‘non-psychotic’ diagnoses would have revealed further aspects to the experience. Our sample was majority White British, and thus the experience of AVHs outside of this population should also be explored in future research.

However, the findings of this study do have implications for clinical practice as well as future research. First, ‘non-psychotic’ voices were distressing and meaningful to participants, questioning current diagnostic weight given to these experiences, which perpetuates a lack of focus on their clinical significance (Beavan, 2011). Second, the content of ‘non-psychotic’ voices is often self-critical; so exploring voice content with patients could inform psychological therapies (29). Third, ‘non-psychotic’ AVH were worse during times of emotional distress and agitation. Future research should investigate whether targeting control over emotional dysregulation results in an improvement in AVH.

To further understand the subjective experience of ‘non-psychotic’ voices, future research should recruit individuals from the wide range of ‘non-psychotic’ diagnoses in which AVH are experienced and clarify the novel findings of this study, which include a complex connection between voice, mood and circumstance. Both confirmation and additional insights into the experience of ‘non-psychotic’ would aid further understanding of this experience and potentially open new avenues for treatment.

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#### **Ethical standards statement**

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committee on human experimentation with the Helsinki Declaration of 1975, as revised in 2008. A favourable ethical opinion was granted by the Health Research Authority (HRA) (ref. 16/WM/0428). Informed consent was obtained from study participants.

#### **Conflict of interest statement**

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## References

- ANDERSON, J. 2004. Talking whilst walking: a geographical archaeology of knowledge. *Area*, 36, 254-261.
- BEAVAN, V. 2011. Towards a definition of "hearing voices": A phenomenological approach. *Psychosis: Psychological, Social and Integrative Approaches*, 3, 63-73.
- BIRCHWOOD, M., IQBAL, Z. & UPTHEGROVE, R. 2005. Psychological pathways to depression in schizophrenia: studies in acute psychosis, post psychotic depression and auditory hallucinations. *European archives of psychiatry and clinical neuroscience*, 255, 202-12.
- 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.
- BROOME, M. R., OWEN, G. S. & STRINGARIS, A. 2012. *The Maudsley reader in phenomenological psychiatry*, Cambridge University Press.
- CHOONG, C., HUNTER, M. & WOODRUFF, P. 2007. Auditory hallucinations in those populations that do not suffer from schizophrenia. *Current psychiatry reports*, 9, 206-212.
- DAALMAN, K., BOKS, M., DIEDEREN, K., WEIJER, A., BLOM, J. D., KAHN, R. & SOMMER, I. 2010. Same or different? Auditory verbal hallucinations in healthy and psychotic individuals. *Schizophrenia Research*, 117, 188-189.
- ERDNER, A. & MAGNUSSON, A. 2011. Photography as a method of data collection: helping people with long- term mental illness to convey their life world. *Perspectives in psychiatric care*, 47, 145-150.
- HECKERS, S., BARCH, D. M., BUSTILLO, J., GAEBEL, W., GUR, R., MALASPINA, D., OWEN, M. J., SCHULTZ, S., TANDON, R., TSUANG, M., VAN OS, J. & CARPENTER, W. 2013. Structure of the psychotic disorders classification in DSM-5. *Schizophrenia research*, 150, 11-4.
- HISLOP, J., ARBER, S., MEADOWS, R. & VENN, S. 2005. Narratives of the Night: the Use of Audio Diaries in Researching Sleep. *SOCIOL RES ONLINE*, 10, 13-25.
- JASPERS, K. 1997. *General Psychopathology*, Baltimore, Maryland, John Hopkins University Press.
- KRAEPELIN, E. 1913. Lectures on clinical psychiatry by Emil Kraepelin; revised and edited by Thomas Johnstone: authorized translation from the second German edition. In: JOHNSTONE, T. (ed.) 3rd English ed. ed. London: Bailliere, Tindall & Cox.
- LONGDEN, E., MADILL, A. & WATERMAN, M. G. 2012. Dissociation, trauma, and the role of lived experience: Toward a new conceptualization of voice hearing. *Psychological bulletin*, 138, 28-76.
- MAXWELL, J. A. 2010. Using Numbers in Qualitative Research. *Qualitative Inquiry*, 16, 475-482.
- MCCARTHY-JONES, S. & LONGDEN, E. 2015. Auditory verbal hallucinations in schizophrenia and post- traumatic stress disorder: common phenomenology, common cause, common interventions? *Frontiers in psychology*, 6, 1071.
- MCCARTHY-JONES, S., TRAUER, T., MACKINNON, A., SIMS, E., THOMAS, N. & COPOLOV, D. L. 2014. A New Phenomenological Survey of Auditory Hallucinations: Evidence for Subtypes and Implications for Theory and Practice. *Schizophrenia Bulletin*, 40, 231-235.

- MERRETT, Z., ROSSELL, S. L. & CASTLE, D. J. 2016. Comparing the experience of voices in borderline personality disorder with the experience of voices in a psychotic disorder: A systematic review. *Australian & New Zealand Journal of Psychiatry*, 50, 640-648.
- MOYLE, W. 2002. Unstructured interviews: challenges when participants have a major depressive illness. *Journal of advanced nursing*, 39, 266-273.
- NAYANI, T. H. & DAVID, A. S. 1996. The auditory hallucination: a phenomenological survey. *Psychological Medicine*, 26, 177-189.
- OYEBODE, F. 2008. Sims' Symptoms in the Mind: an Introduction to Descriptive Psychopathology. In: SIMS, A. C. P. (ed.) 4th ed. / Femi Oyeboode. ed. Edinburgh: Saunders / Elsevier.
- OYEBODE, F. 2013. *One century of Karl Jaspers' general psychopathology*, Oxford University Press.
- PATON, C., CRAWFORD, M. J., BHATTI, S. F., PATEL, M. X. & BARNES, T. R. 2015. The use of psychotropic medication in patients with emotionally unstable personality disorder under the care of UK mental health services. *The Journal of clinical psychiatry*, 76, 512-518.
- PATTON, M. Q. 1999. Enhancing the quality and credibility of qualitative analysis. *Health services research*, 34, 1189-1208.
- SANDHU, A., IVES, J., BIRCHWOOD, M. & UPTHEGROVE, R. 2013. The subjective experience and phenomenology of depression following first episode psychosis: A qualitative study using photo-elicitation. *Journal of Affective Disorders*, 149, 166-174.
- SHEEHAN, D. V., LECRUBIER, Y., SHEEHAN, K. H., AMORIM, P., JANAVS, J., WEILLER, E., HERGUETA, T., BAKER, R. & DUNBAR, G. C. 1998. The Mini-International Neuropsychiatric Interview (MINI): the development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *The Journal of clinical psychiatry*.
- SILVERMAN, D. 2011. *Interpreting Qualitative Data : Methods for Analyzing Talk, Text and Interaction*, SAGE Publications.
- UPTHEGROVE, R., BIRCHWOOD, M., ROSS, K., BRUNETT, K., MCCOLLUM, R. & JONES, L. 2010. The evolution of depression and suicidality in first episode psychosis. *Acta Psychiatrica Scandinavica*, 122, 211-218.
- UPTHEGROVE, R., IVES, J., BROOME, M. R., CALDWELL, K., WOOD, S. J. & OYEBODE, F. 2016. Auditory verbal hallucinations in first episode psychosis: a phenomenological investigation. *BJPsych open*, 2, 88-95.
- VAN MANEN, M. 1997. *Researching Lived Experience: Human Science for an Action Sensitive Pedagogy*, London, Ont., Althouse Press.
- WATERS, F., ALLEN, P., ALEMAN, A., FERNYHOUGH, C., WOODWARD, T. S., BADCOCK, J. C., BARKUS, E., JOHNS, L., VARESE, F., MENON, M., VERCAMMEN, A. & LARØI, F. 2012. Auditory Hallucinations in Schizophrenia and Nonschizophrenia Populations: A Review and Integrated Model of Cognitive Mechanisms. *Schizophrenia Bulletin*, 38, 683-693.
- WHO 1992. The ICD-10 classification of mental and behavioural disorders: clinical descriptions and diagnostic guidelines, Geneva, World Health Organization.
- WOODS, A., JONES, N., ALDERSON-DAY, B., CALLARD, F. & FERNYHOUGH, C. 2015. Experiences of hearing voices: analysis of a novel phenomenological survey. *The lancet. Psychiatry*, 2, 323-331.
- WOODS, A., JONES, N., BERNINI, M., CALLARD, F., ALDERSON-DAY, B., BADCOCK, J. C., BELL, V., COOK, C. C. H., CSORDAS, T., HUMPSTON, C., KRUEGER, J., LAROI, F., MCCARTHY-JONES, S., MOSELEY, P., POWELL, H., RABALLO, A., SMAILES, D. & FERNYHOUGH, C. 2014. Interdisciplinary approaches to the phenomenology of auditory verbal hallucinations. *Schizophrenia Bulletin*, 40, S246-S254.

