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**Voice-hearing and personification: Characterising social qualities of auditory verbal hallucinations in early psychosis.**

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## ABSTRACT

**Background:** Recent therapeutic approaches to auditory verbal hallucinations (AVH) exploit the person-like qualities of voices. Little is known, however, about how, why and when AVH become personified. We aimed to investigate personification in individuals' early voice-hearing experiences.

**Methods:** We invited Early Intervention in Psychosis (EIP) service-users aged 16–65 to participate in a semi-structured interview on AVH phenomenology. Forty voice-hearers ( $M= 114.13$  days in EIP) were recruited through two NHS trusts in northern England. We used content and thematic analysis to code the interviews and then statistically examined key associations with personification.

**Results:** Some participants had heard voices intermittently for multiple years prior to clinical involvement ( $M= 74.38$  months), although distressing voice onset was typically more recent (median = 12 months). Participants reported a range of negative emotions (predominantly fear, 60%, 24/40, and anxiety, 62.5%, 26/40), visual hallucinations (75%, 30/40), bodily states (65%, 25/40), and “felt presences” (52.5%, 21/40) in relation to voices. Complex personification, reported by a sizeable minority (16/40, 40%), was associated with experiencing voices as conversational (OR = 2.56) and companionable (OR = 3.19), but not as commanding or trauma-related. Neither age of AVH onset nor time since onset related to personification.

**Conclusions:** Our findings highlight significant personification of AVH even at first clinical presentation. Personified voices appear to be distinguished less by their intrinsic properties, commanding qualities or connection with trauma, than by their affordances for conversation and companionship.

## INTRODUCTION

Auditory verbal hallucinations (AVH) – hearing voices that others cannot hear – are a prominent feature of psychotic disorders. Not all warrant psychiatric care, but AVH are often distressing, debilitating and persistent, despite treatment with antipsychotic medication and cognitive behavioural therapy (CBT) for psychosis<sup>1</sup>.

Recent therapeutic approaches to AVH have gained attention by encouraging voice-hearers to talk to their voices. This may involve “empty chair” work, role-play, or dialoguing with a computer simulation of a distressing voice<sup>2-4</sup>. Such techniques exploit person-like qualities of AVH and treat them as entities that can be conversed with meaningfully. Talking to voices has not always been encouraged for various reasons, including fear of reinforcing beliefs about the reality of the experience. However, promising results in long-term voice-hearers suggest that dialogue may be considerably beneficial for some<sup>5</sup>. To understand the broader suitability of such methods, we first need to ask whether, why, and when AVH become personified.

Influential theories posit voice personification as a secondary response to a primary hallucinatory experience, which may be elaborated over time<sup>6,7</sup>. Much focus has been on *who* the voices represent and whether voice identity, real or unreal<sup>8,9</sup>, reflects delusional thinking<sup>7</sup>. Prominent cognitive approaches to AVH have emphasised beliefs concerning voice power and omnipotence, orienting therapy towards challenging commands from malevolent voices<sup>10,11</sup>.

Personification, though, consists of more than identity and power; something being “like a person” may also involve ascribing animacy, agency, physical features, intentions, or linguistic complexity<sup>12-15</sup>. Recent phenomenological research has emphasised the multimodal and embodied nature of AVH: for example, voices may be described as having presence or “appearing” in more than one modality<sup>16</sup>. Similarly, voices may be experienced with an emotional depth that goes beyond fears of omnipotence and malevolence<sup>17-19</sup>. These considerations imply that social and agent-like properties of AVH are primary to the experience rather than secondary interpretations<sup>20</sup>. This aligns with trauma-informed and Hearing Voices Movement approaches, where voices are often understood as reflecting past relationships and interpersonal trauma<sup>17,21,22</sup>.

Understanding personification in AVH requires a clear account of what voices are like when they start<sup>13</sup>. Few studies, however, have focused on early AVH phenomenology, with researchers relying instead on retrospective accounts from long-term voice-hearers of how their voices began<sup>17,20</sup>. Some qualitative studies have collected longitudinal data on voices<sup>23-25</sup>, but they have not closely tracked early phenomenology or personification, instead focusing on beliefs about voices. Exploring voices’ initial presentation – or as early as possible – is key to understanding their potential person-like qualities. Moreover, it allows for closer examination of the psychological, biographical and social context in which personification emerges.

Here we present findings exploring AVH personification in a group of new Early Intervention in Psychosis (EIP) users. Although many people hear voices *before* using services, recruitment of such individuals can be highly challenging; we chose EIP to provide a pragmatic snapshot of early clinical presentation in a large, regional UK service. Within this context assessment may be influenced by a range of clinical concerns (such as risk or cognitive appraisal) and this is reflected in the focus of many standard AVH interviews<sup>26,27</sup>. For a complex topic such as personification, it is important to look beyond existing clinical constructs and draw upon multiple kinds of expertise, both from experts-by-experience and across academic disciplines<sup>28</sup>. Our previous study<sup>16</sup> used an online phenomenological survey with the input of multiple disciplines and lived experience researchers to explore unexamined properties of voice-hearing, identifying high rates of characterful (69%) and embodied (66%) experiences of voices. Here we used a similar approach to explore AVH characteristics in more depth, using a semi-structured

interview that focused on early presentation and person-like qualities of voices (characteristics not typically emphasised in prior surveys<sup>9,27</sup>). We used a mixed-methods approach to characterise the degree of personification evident in the sample alongside other phenomenological and clinical characteristics<sup>8,29</sup>. We identified common associations with “person-like” voices, and examined whether personification reflects trauma and commanding voices – as suggested previously<sup>11,21</sup> – or is in itself an important, independent dimension of AVH.

## METHOD

### Participants

Users of two EIP services in northern England aged 16–65 were invited to take part if they heard voices at least once a week for a month, had normal or corrected-to-normal vision, had been in EIP under 9 months, and were fluent English-speakers. Exclusion criteria were the presence of a suspected duration of untreated psychosis over five years (i.e., not just voices but other psychotic experiences and/or deterioration of function), any neurological diagnoses, or having a hearing impairment that required the use of hearing aids. Participant information sheets did not define AVH characteristics in advance, but referred to “hearing voices that others cannot hear”. Recruitment was open from September 2017 to April 2019 and was conducted primarily via case-list review. This cohort are being followed up using the same protocol at 12- and 24-months following entry into the study. A pragmatic sample of 40 participants was recruited to enable in-depth qualitative interviewing and analysis, exploratory quantitative analysis, and longitudinal follow-up. All procedures were approved by a local NHS Research Ethics Committee.

### Materials

#### - The Hearing the Voice Phenomenology Interview

Participants took part in a semi-structured interview with one of two interviewers trained in clinical, phenomenological and qualitative health interviewing. Following our previous survey<sup>16</sup>, eight open-ended questions about AVH were used to elicit discussion, followed by prompts allowing for elaboration. The interview was developed by an interdisciplinary team (including psychologists, philosophers, linguists, theologians, literary and medical humanities scholars) in consultation with experts-by-experience and with service-user input into its design and acceptability (see **Supplementary Materials**). Bracketing assumptions about voice-hearing experiences, questions progressed from general (“Please could you describe the voice or voice-like experiences you have been having?”) to specific, being careful not to introduce suggestions of character or presence until participants’ own descriptions and interpretations were firmly established in the interview. Sessions typically took one hour (range 24–105 minutes).

#### - Psychotic Symptoms Rating Scale (PSYRATS)

The PSYRATS is a common tool for assessing severity of hallucinations and delusions in people with psychosis<sup>27</sup>. Ratings are made by the interviewer ranging from 0–4 (absent-most severe). The PSYRATS

was used to examine how phenomenological properties of voices related to standardised ratings of severity and distress.<sup>1</sup>

After providing written consent to take part, participants completed the phenomenology interview and PSYRATS with the interviewer. Sessions took place in participants' homes, NHS settings, or a university room. All interviews were recorded and then professionally transcribed for analysis.

## Analysis

Interview data were analysed using a mixture of qualitative and quantitative methods. Content analysis and inductive thematic analysis<sup>30</sup> were used to derive a coding frame that permitted direct comparison with prior phenomenological surveys of AVH<sup>8,9,16</sup>, while also allowing for nuanced analysis of the specific qualities of the data collected. This was developed iteratively by an interdisciplinary team (two psychologists and a medical humanities scholar) who met after each interview to discuss new codes, co-code seven interviews, discuss and resolve disagreements, and then code the remaining interviews independently. Interrater reliability was satisfactory using the three-way rating permitted by Krippendorff's alpha ( $\alpha = 0.70$ ). Two recent service-users with lived experience of voices also read and discussed the anonymised interview transcripts with the research team during the analysis and writing-up period, which primarily informed general interpretations of the main findings.

Quantitative analysis was used to examine common associations among codes of interest, and to compare participants with and without key codes on continuous outcomes (such as levels of distress). Due to the exploratory nature of the research question, a descriptive approach was deployed using log odds ratios and effect sizes (Cohen's *d*) to indicate strengths of association. All analyses were conducted in R using the *jmv* package. For parsimony, we have only focused our discussion on odds ratios with confidence intervals not crossing zero. Unless included in figures or tables, all other odds ratios and confidence intervals are reported in **Supplementary Materials**. R code and quantitative data are available at <https://osf.io/arj86/>.

## RESULTS

Forty participants took part (Age  $M(SD) = 28.70 (9.96)$  years). The average amount of time in EIP was just under four months ( $M(SD) = 114.13 (64.77)$  days). Thirty-five (87.5%) were currently taking antipsychotic medication, while 42.5% had had access to some form of psychological therapy (CBT in 11 cases). At time of assessment, 45% did not have any clinical diagnosis, consistent with the fact that distressing symptom presence rather than fulfilment of diagnostic criteria is an entry requirement for EIP. 42.5% had a psychotic disorder diagnosis (substance induced psychosis 2.5%, schizophrenia 5%, depression with psychotic features 10%, unspecified psychosis 25%). while the remaining 12.5% had a non-psychotic diagnosis (5% EUPD, 5% PTSD, 2.5% delirium). Reflecting regional norms, all but one participant was of white British ethnicity (1/40 British Asian).

Despite their short time in services, participants had been hearing voices for 74.38 months ( $SD = 81.24$ , range 1–329). Mean age of voice onset was 22.68 years ( $SD = 13.45$ )<sup>2</sup>. In 9 cases onset did not coincide with need-for-care (age  $M(SD) = 11.11 (7.97)$  years), with distressing voices only appearing many years later ( $M(SD) = 20.67 (9.02)$ ). For those whose first experience was distressing ( $N = 30$ ), age of

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<sup>1</sup> As part of a wider study, subsets of participants also completed self-report measures of delusional thinking, inner speech, hallucination-proneness, loneliness, and functioning, plus a cognitive assessment and MRI scan as part of separate sessions. These data will be reported elsewhere.

<sup>2</sup> This estimate excludes one participant could only say that it first happened "a very long time ago".

onset was often higher ( $M(SD) = 26.15 (12.87)$  years,  $d = 1.26$ ). Here, participants had typically been hearing negative voices of some kind intermittently for less than four years ( $M(SD) = 43.93 (56.96)$  months, median = 12 months). Earlier onsets in life were often described with more benign voice content and interpretation than later onsets (see **Box 1a**).

**Table 1** displays the sensory characteristics described by participants (see **Supplementary Materials** for all code definition). Most participants reported literal *auditory* voices, but 52.5% also reported voices that had thought-like qualities. Other senses featured prominently, including *visual* (75%) and *olfactory* (37.5%) hallucinations. Two-thirds of the sample reported *bodily* changes associated with AVH, while 52.5% reported *felt presences*, in which voices (or other entities) were experienced as being present without speaking. *Multimodal* voices, where more than one sensory experience was explicitly connected to the voice (e.g., the voice could be seen or smelled, even if not simultaneously heard; see **Box 1b**), were reported by 11 participants.

As well as coding for *internally-* and *externally-located* voices, we coded for voices that were positioned either in relation to the voice-hearer (*egocentric*; 70%), their environment, such as specific rooms or when outside (*allocentric*; 37.5%), and *boundary voices*, i.e., voices that were predominantly experienced at thresholds such as doors or walls (35%). Here the location of voices was often described in terms of a struggle to establish who was speaking or what was happening beyond their immediate space.

All participants reported voices being associated with *negative emotions* – most notably, *anxiety* and *fear* – but 35% also reported *positive emotions* relating to their voices (see **Table 2**). The majority (67.5%) reported voices that provided them with *commands* to act, ranging from mundane imperatives, to clear instructions to harm (mostly self-directed). Other voices *commented* on day-to-day actions and thoughts (45%) or could be engaged in *conversation* (47.5%). Despite the overall negativity of many of the voices described, 32.5% reported their voices providing a sense of *companionship*.

Almost all participants reported specifically *recurring* voices (92.5%), and a large proportion (47.5%) described voices that were *recognisable* as real people. Wilkinson and Bell<sup>20</sup> propose four levels of AVH agency: using these criteria, most participants described voices that recurred over time, had a distinct character, but could not be related to a known person (*internally-individuated agency*; 75%).

Finally, we categorised voice-hearers interpretations and the impact of voices on daily life and relationships. No single interpretation was predominant – with many participants holding more than one kind of explanation at the same time – although *stress* explanations (such as poor sleep, physical health and problems at work/school) were the most common (37.5%). Understanding voices as a response to *trauma* – which may be thought to bring out more person-like approaches to voices<sup>17</sup> – was discussed by only 25% of the sample, despite trauma of various kinds being reported around voice onset for over half the sample (26/40).

### **Associations with personification**

Based on our reading of the interviews, we coded voice personification in two ways. Often only 1–2 references were made to voices as persons, such as a name, or a general manner (*minimal personification*), but sometimes multiple references to qualitatively different person-like properties were made (*complex personification*; see **Box 2** for a full code description). Personification was evident in all interviews, although the majority (24/40) described minimally-personified voices.

To explore the nature of person-like voices in the cohort, we then analysed *complex personification* for its co-occurrence with other codes. Based on prior theory<sup>13,31,32</sup>, various person-like characteristics could be expected to predominately associate with personification; e.g. *multimodality*, *felt presence*, *voice knowledge* (voice possesses knowledge separate from the voice-hearer), *ability to influence* (voice

changes in response to the voice-hearer, i.e. flexible agency), *conversational* (voice can be conversed with), and *companionship* (voice provides company or support). Personified voices might also be expected to have a *recognisable identity*, to *change in character* over time and to have no *simple linguistic structure*.

These predictions were only partially supported: positive associations with personification were evident for *companionship* (lgOR = 3.19) and *conversational* voices (lgOR = 2.56), but weaker associations were evident for other theoretically person-like properties (see **Figure 1**). *Felt presence* showed the lowest association with personification among all sensory codes (lgOR = -0.17), with *visual hallucinations* scoring highest (lgOR = 2.20). Across all codes (see **Supplementary Materials**), complex personification was most associated with voices being experienced as *positive-helpful* in character (lgOR = 3.89) and *eliciting positive emotions* (lgOR = 3.50), even while being predominantly negative.

Oddly, personification also coincided with voice-hearers reporting experiences that were *absent of agency* (lgOR = 2.35). Further inspection of these cases identified non-agentic experiences (random banging, recording-like voices) occurring alongside other highly agentic voices: for example, “Dan”, who hears over five voices, described a “computer-generated” voice generating “random stuff” (i.e. *absent agency*), plus other voices that were capable of being “fake”, “manipulative”, “respectable” and “trustworthy”. Supporting this, those with complex personification also tended to describe voices across more levels of agency<sup>20</sup> (mean diff. = +0.67;  $d = 0.79$ ) and in more modalities (mean diff. = +0.66,  $d = 0.59$ ). To identify potential confounds, we also checked the association of complex personification with gender (lgOR = -2.43, with female participants (12/17) more likely to receive the code than males (4/23)), street drug use (lgOR = -1.89, with absent drug use associated with complex personification) and the presence of a diagnosis (no association evident, lgOR = 0.08).

Two codes with putative theoretical and causal links to voice personification are *commanding voices*<sup>11</sup> and *presence of trauma* when voices began. Neither commanding voices (lgOR = 0.10) nor trauma (lgOR = -0.64) were associated with personification itself, and they were generally unrelated to person-like qualities of voices. Commanding voices were associated with *multimodality* (lgOR = 2.93) – with the latter fully coinciding with commanding experiences (11/11) – but were no more likely to occur with categories such as *companionship* (lgOR = 1.33), *conversational* voices (lgOR = 1.03) or *felt presence* (lgOR = -0.08). Instead, when compared to all codes, commanding voices were linked most strongly to *suicidality* (lgOR = 3.35), voices being *abusive/violent* (lgOR = 2.45), and *direct forms of address* (lgOR = 2.06; see **Supplementary Materials**). Trauma around voice onset, conversely, was associated with *commanding* voices (lgOR = 1.72) and *stress-based* narratives (lgOR = 1.79), but associations with person-like qualities were generally low (e.g. *conversational*, lgOR = -0.15).

Finally, we explored the relations between personification, age of voice onset, length of time hearing voices and PSYRATS scores. No differences were evident ( $d = -0.12-0.05$ ), suggesting that personification was unrelated to when voices started, how long they had been present, and overall symptom ratings (see **Supplementary Materials**).

## DISCUSSION

Are the person-like qualities of AVH present at their first clinical presentation, or developed over time? Consistent with a broader “new look” at the phenomenology of psychosis<sup>9,15,16,28</sup>, the data presented here highlight the complexity of AVH in EIP services. Almost all participants described multiple, recurring voices associated with negative emotions; however, a variety of auditory and thought-like

voices, accompanying somatic, felt presence, and multimodal experiences, and positive emotions were also reported.

Personification is a concept that has not been systematically explored in research on voice-hearing, with prior work tending to focus on voice identity specifically, or the idea of relating to voices more generally<sup>8,20</sup>. Most voices in the present study were “internally-individuated”<sup>20</sup>: that is, recognised as a recurrent voice, but not attributed to an external agent. However, we investigated not just who voices represent, but how they are experienced, identifying a significant subset of individuals for whom voices have multiple person-like qualities, including intentions, dispositions and capacities for action. While this could have co-occurred with any number of phenomenological variables, voices with complex personification stood out as affording companionship and conversation. In other words, highly personified voices are distinguished less by their intrinsic properties (such as identity, linguistic complexity, modality, or presence) than by what they can do (afford engagement in dialogue) and their role in the life of the voice-hearer (as companions): they represent a pragmatic opportunity for the voice-hearer<sup>32</sup>. They are also, curiously, reported alongside experiences distinctly *lacking* in agency. This could simply reflect a greater diversity of experiences in general for those with more complex voices, but also suggests that personification may rely on contrast and comparison *across* voices, with the perception of personhood being a relative and comparative quality to assign. In this respect, AVH personification may be understood as the product, or reflection, of the different relational roles that voices can sometimes take up<sup>33</sup>.

Although commanding voices and the presence of trauma were both prominent in our sample – and of clear clinical import – neither seemed to drive personification. Indeed, our findings suggest that multimodality, rather than degree of personification, may have a greater role in the experience of commanding voices. In addition, voice personification was unrelated to overall PSYRATS scores for either hallucinations or delusions, suggesting that person-like voices do not necessarily reflect a greater severity of psychosis or delusional ideation<sup>7</sup>.

A quarter of our sample had been hearing voices for many years before entering EIP for the first time. Although these participants reported higher levels of current distress (see **Supplementary Materials**), often their first experiences were not negative. By contrast, first voices were almost always distressing for participants with an adult onset. This accords with previous observations of early voice-hearing onsets in non-clinical samples, raising questions for the interaction of life-stage and appraisal on AVH development<sup>34–36</sup>. Perhaps surprisingly, neither age-of-onset nor time spent hearing voices related to the degree to which voices were personified. We cannot rule out that some voices will go on to develop person-like qualities, or that elaboration over time may work differently for those with complex versus minimally personified voices, but it does suggest that personification does not straightforwardly reflect some secondary interpretation that grows over time.

If some voices simply *are*, from the outset, experiences that afford interaction, this has implications for the preponderance of new therapies that encourage such relations<sup>2,3,5</sup>. An important limitation to consider here, though, is the possible role of gender and drug use: male participants and drug-users were much less likely to experience strongly personified voices, which may confound our observed associations with companionship and conversational voices, and could influence therapy choices. Given that many in EIP services will be both male and using drugs, this could limit the relevance of relational therapies at early stages of psychosis (notwithstanding the evidence of extensive personification we identify). If the characterological resources are not there, there may not be “enough” to relate to or interact with for some voice-hearers.

More general limitations of the study are the reliance on self-report and the ability of participants to distinguish and remember their first experiences, which in some cases were many years prior to contact with EIP services. Despite our attempts to explore early voice-hearing, it should be

acknowledged that voice onsets were highly varied – sometimes having occurred many years previously – increasing our reliance on long-term retrospective accounts. The focus on EIP users self-reporting voice-hearing also requires an individual to recognise, in some minimal sense, that their experiences are not part of a shared reality: we therefore cannot comment on personification in individuals who fully believe in the veridicality of their voices and do not recognise “voice-hearing” as a description that applies to their experience. Finally, the diagnostic heterogeneity of an EIP sample and lack of ethnic diversity regionally limits strong generalisations to other clinical groups and populations. For diagnosis, this may change over time (especially considering the sizeable minority of our participants had not received a psychiatric diagnosis), but closer examination of personification in its relation to diagnostic groupings is clearly required. As such, this work should be considered a starting point as we go about developing a more systematic understanding of voice personification.

The bracketing of presuppositions required in phenomenological investigation<sup>28</sup> – insofar as this is ever truly possible – demands an exploratory stance as we track this cohort longitudinally. Nevertheless, we can advance several tentative predictions. If the intensity and frequency of individuals’ AVH does recede over time and through contact with EIP services, we might expect to see a related reduction in phenomenological complexity (particularly where related to sensory modality). By contrast, our data suggest neither a clear reduction nor elaboration of voice personification across time. While many voices show person-like qualities, we predict that complex personification will occur only where an emotional role or pragmatic function for a voice – such as companionship – is also present. These data – combined with other findings<sup>25</sup> – should allow us to answer the twin questions of whether there *is* always a speaker behind the voice, and for which voice-hearers that might matter most, in the longer term.

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### **Author contributions**

The study was originally conceived by authors BAD, AW, CF with PM, GD & FD also contributing to study design. Data collection was conducted by BAD, PM, SC, GD & FD, with analysis conducted by BAD, PM & AW. All authors contributed to data interpretation and writing of the manuscript.

### **Conflict of interest statements**

The authors have no conflicts of interest to report.

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### **Figure Legends**

**Figure 1.** Specific person-like properties associated with complex personification of voices (Rightward point estimates indicate greater association).