Introduction

Auditory Verbal Hallucinations (AVHs) are transdiagnostic symptoms present in psychotic disorders that exist along a continuum within psychiatric and non-psychiatric populations [1,2]. AVHs are predominantly sensory experiences that occur in the absence of external stimuli [3] and are typically attributed to an external source [4,5]. AVHs are often described as frightening experiences that can lead to high levels of distress, social isolation, and functional disability [6,7]. An estimated 25%-50% of patients experience persistent AVHs despite pharmacological treatment.

Current diagnostic protocols revolve around categorical syndromes characterized by abnormalities of expression and behavior and have consistently failed to capture the complexity of particular symptoms, including AVHs. Characteristics such as longitudinal change and phenomenological range are frequently ignored. [8-12] In contrast, historically, substantial attention was paid to the phenomenological nuances of particular symptom domains [13-15]. Schneider classified AVHs as First Rank Symptoms (FRS), pathognomonic of schizophrenia, but recent research has shown that FRS is transdiagnostic. AVHs are among the most experientially complex transdiagnostic symptoms; thus research identifying subcategories that cut across diagnostic boundaries has significant translational and nosological implications [16,17]. Further study of phenomenological variations of AVHs also promises to lay a strong foundation for development of innovative phenomenologically-tailored interventions.

Phenomenologically, variation in AVHs is substantial. AVHs may be experienced as ego-syntonic or ego-dystonic, part of or external to self, and may involve voices that command, comment, insult, or affirm. Complex AVHs are frequently experienced as identities with clear interpersonal characteristics. Patients often interact with their AVHs and have described these relationships as very similar to relationships with other people [18-21]. Voice-hearers may attribute AVHs to a Higher Power, spirits, deceased family members, or messages generated by radio, television, or social media. AVHs also vary in terms of frequency, duration, location, number, form of address, content, acoustic quality, and linguistic complexity [22].

Strikingly, systematic investigation of first-person descriptions of the relational phenomenology of AVHs have been virtually absent from the literature [9,17]. The primary aim of this study was to...
explore and unpack the relationship between subjects and their voices.

**Methods**

**Subjects**

Twenty participants with psychosis who were actively experiencing AVHs were recruited from the University of Illinois at Chicago. Exclusion criteria included: substance dependence, seizure disorders, and neurological conditions. The study was approved by the IRB and signed consent was obtained prior to initiation of study procedures.

Consensus diagnoses were determined by the clinical and research team using the Structured Clinical Interview for DSM-IV, and available collateral information. Of the total sample (n=20), 85% (17/20) were diagnosed with schizophrenia and 15% (3/20) with bipolar disorder with psychosis. Eighty-five percent were African-American (17/20), and 65% (13/20) were female. Mean age was 41, mean age of onset of psychotic symptoms was 24, and duration of illness mean score was 20 years. Mean number of previous psychiatric hospitalizations was 5, ranging from 0 to 12. All subjects were receiving psychiatric services at the time of the evaluation and were prescribed either typical or atypical antipsychotic medications. See Table 1 for a detailed description of the demographic information for the full sample (n=20) and the qualitative sample (n=14). There were six subjects who did not participate in the tape-recorded interview.

**Measures**

The primary clinical measure used was a modified version of the Maastricht Interview for Voice Hearers (MI) [23]. The MI is a semi-structured interview evaluating specific characteristics of voices, triggers, content, understanding of origin of voices, impact of voices, relationship with voices, and cognitive, behavioral, and physiological coping strategies [23].

Demographic data and quantifiable components of the MI regarding aspects of the relationship between subject and voices were analyzed through mean scores, Analysis Of Variance (ANOVA), and Chi-Square tests, with Pearson’s continuity correction, (df=1).

A mixed-methods design involving qualitative and quantitative components was utilized. Specifically, we followed a priority-sequence model of complementarity in which quantitative analyses were used to test aspects of emergent themes identified in the principal qualitative analyses [24-26].

**Data Analyses**

Qualitative data analysis was conducted on a subset of subjects (14/20). See Table 2 for a brief description of the interviewed subjects. Pseudonyms were assigned to protect the confidentiality of participants. Narrative interviews were tape-recorded, transcribed verbatim, and coded. We utilized Atlas. ti software, a qualitative package designed to facilitate qualitative data management and coding [27]. Qualitative analysis of the MI followed principles of interpretive phenomenological analysis (IPA) and consisted of: A) identification of categories; B) coding of emerging themes to identify thematic meaning. The research team coded the same sections of the transcription and compared their results and resolved inconsistencies. This process was repeated until a level of .80 agreement was achieved; C) identification of overarching themes and patterns of variation to examine the relationship between, for example, the patients’ relationship with the voices and conversing with the voices. Pattern coding continued until saturation, when no new quotations appear and; D) final interpretation of these themes.IPA facilitates systematic mapping of first-person descriptions of specific phenomena and identification of common aspects missed in highly structured or close-ended research [28,29].

**Results**

Qualitative analysis of subjects’ narratives identified three foundational domains of the relationship between self and voices: ‘interpretation/understanding of origin,’ ‘distinct interpersonal identities,’ and ‘locus of control.’ Quantitative analysis supported identified constructs and helped to refine the architectural framework. There was no significant difference in sex, race or age with regards to primary constructs identified in the qualitative analysis.

**Interpretation/understanding of origin**

The onset of AVHs is often unforgettable and has been described as frightening, confusing, spiritual, and at times even enlightening; eliciting a range of emotional and behavioral responses. Particular interpretations of voice origins have been empirically linked to affective responses of the hearer. Coordinate with this literature, we identified strong connections between different interpretations of voice origins and subjective sense of control. In particular, recognition of voices as a misattribution of thought was linked to the strongest perceptions of autonomy over AVHs. Below are narratives describing this association?

**Doris:** "I am working on changing my thoughts and voices like changing the channel using a remote control. And I am working on keeping a journal, and when I look back and see how I was, I see where I made adjustments. I’m working really hard to influence negative voices or to think positive; they’re really the same."

**Lori:** "I hear all of the conversations and I jump in between conversation with my thoughts. I navigate between ones that I feel like hearing or suggestions that are going to work at that moment. I have to be the one in charge and in control. I listen and choose depending on my mood or my thoughts. Like my thoughts working with my other thoughts."

Chi-Square analyses were used to test association between understanding of origins and the relationship between hearer and voice. There was a significant association between the belief that AVHs represented a misattribution of subjects’ own thoughts and the experience of greater control in managing the voices (X²(2, N = 17) = 4.41, p<0.04). When the origin of the voice was a recognizable known person part of their daily life, subjects reported greater ability to influence the voices(X²(2, N = 17) = 5.13, p<0.02). Further, if the voice was recognized as being a family member subjects were better able to refuse orders (X²(2, N = 17) = 5.13, p<0.02).

**Distinct interpersonal characteristics**

Previous research indicates that identities of AVHs are often known to the patient. Voices are also frequently experienced as having distinct interpersonal characteristics [19]. Two core factors that emerged from our analyses were personification of the voices
(perceiving voices as character-rich and entitative) and active engagement or conversation with the voices that was described as similar to engagement with another person.

**Personification of Voices**: All subjects reported experiencing their AVHs as human or spiritual entities with distinct identities distinguishable from self. Elements of personification included distinctions between subjects’ own thoughts and AVHs based on entitative qualities such as tone, personality and gender (e.g. “the voice has a different gender and accent to me”), naming of particular voice(s) (e.g. “Fred”) and descriptions of interactions with AVHs as similar to those the individuals might have with another person. The following passages detail the range of entitative characteristics:

**Morris**: “When hearing voices, it’s like a vibration, like something is passing by. There is more detail about everything in the room.”

**Harvey**: “The voices sound like a reverberating echo.”

**Nancy**: “Sometimes they cuss. I am more sensitive, Godlier. They are more dominant, evil, and devilish. I know the pattern in my thinking and they scatter from that.”

**Adam**: “Because they stand out. They know my name; they call me by my name sometimes. And I don’t call myself.”

**April**: “Sometimes the voices are so real, it’s like they is standing in the room.”

Ninety-five percent of subjects reported engaging with more than one voice, 44% (16/37) reported hearing adult voices, while 47% (17/36) also heard children’s voices, 88% (15/17) heard male and 56% (9/16) female voices. Fifty-eight percent (11/19) endorsed hearing positive voices, 63% (12/19) negative voices, and 70% (12/17) both positive and negative voices. For example, Tammy experienced both positive and negative voices and described the messages as both helpful (positive) and distressing (negative).

**Tammy (positive voice)**: “Girl you look good” and “Take a hot bath and put peppermint oil in the water” like I did before and felt good. And ‘Why don’t you just walk, it’s a nice day.’ I am glad to hear them because they motivate me.”

**Tammy (negative voice)**: “You fat bitch, you’re scarred up, don’t nobody want you and you 50 and you aint shit. How in the hell you think you looking attractive? Aint nobody looking at you. ‘They’re negative and not self-motivating. They are saying what I already feel about myself.”

Subjects who experienced multiple voices frequently reported unique and distinguishable relationships between themselves and their AVHs (X^2(2, N = 18) = 4.02, p<0.05) as well as ‘voice to voice’ relationships involving dialogue between different voices (X^2(2, N = 18) = 4.67, p<0.03).

**Active Engagement with voices**: This theme refers to active dialogue between subjects and their AVHs. In relationally focused therapies, actively engaging or communicating with voices is considered critical in changing the relationship between hearer and voice [30]. Many of our subjects appeared to have reached a stage of stabilization in which they had learned to live with and actively engage with their voices. The majority reported at least some positive relationships and several reported that they would miss their voices if they were not present. [31]. We broke this theme down into two components: (1) descriptions of engagement and/or comradery and (2) perceived helpfulness of engaging with voices. Notably, in some cases engagement also extended to the dialogue among voices, with subjects reporting the ability to recruit particular voices to help combat other, more negative voices.

**Descriptions of engagement**

**Lisa**: “A lot of the voices are close to me, friends and family. I have some type of comradery with voices that are close to me, and I call on them to fight the voices that I am not familiar with.”

**Gwen**: “They talk to each other, and they talk to me, and I talk to all of them.”

**Tammy**: “The voices can be comforting and trustworthy.”

**Christopher**: “We are connected at all times. We’re in sync.”

Follow-up statistical analyses suggested that subjects were more likely to converse directly or dialogue with voices when they were believed to be a misattribution of their thought or internally generated (X^2(2, N=15) = 5.40, p<0.02). Subjects reported conversing with both positive (X^2(2, N = 18) = 7.48, p<0.006) and/or negative voices (X^2(2, N=16) = 3.88, p<0.05). Characteristics of conversing voices ranged from abusive/insulting, to inspiring. When conversing with positive voices, subjects experienced the influence of voices on their daily life activities as helpful or comforting.

**Benefits of engagement**

In addition to conversing with voices, the majority of subjects described a gradual process of learning to accept, make peace with or come to an understanding of their voices’ “needs.”

**Christopher**: “I learned how to manage them more effectively, things have changed over time. I speak, they speak. I see, they see. Some don’t see, some don’t hear. I can relate more than not to the ones who do the same as I do.”

**Aimee**: “I’ve learned they didn’t really want anything. They just wanted to be heard.”
The third thematic construct that emerged centered on voices and locus of control or extent to which individuals can influence or control the voices. This construct directly links back to the previous two constructs, understanding of origin and distinct interpersonal characteristics, yet maintains independent factors that contribute to increased ability to influence or control the experience of hearing voices. The experience of hearing voices can range from frightening to comforting, with variability in patients’ ability to directly control their AVHs. Documented predictors of control include psychological beliefs about the origin of voices, as well as calm and non-reactive affective and behavioral responses [32]. Affective and behavioral responses can also reciprocally strengthen or weaken voice appraisals [33]. Responses from two of our subjects (Tarek and Peggy) illustrate such relationships: Tarek describes no longer following the commands of distressing AVHs after moving away from belief in the voice as an external entity. Conversely, Peggy continues to act at the behest of her AVHs, in part due to her belief that her voice is really that of God (i.e. external).

**Locus of control**

**Tarek:** “After I jumped off of the roof, I knew that none of that stuff the voice was saying was true. I thought I had to do everything he said, that I had no choice. All I have to do is look at my arm that still doesn’t work to remind me that the voice ain’t real.”

**Peggy:** “It feels like a religious experience. Like God is directing me to do different things. Sometimes I get talked about and laughed about. It seems like I do certain things that are unusual to people but I’m thinking God is telling me to do these things.”

Subjects who reported control over their voices tended to understand AVHs as a misattribution of thought. In contrast there was no association between greater sense of control and endorsement of biomedical explanations such as genetics (X²(2, N=17) = 1.31, p<0.25), or symptoms of illness (X²(2, N=17) = 0.443, p<0.51). Subjects felt more in control of positive voices considered to be helpful (X²(2, N = 17) = 3.86, p<0.05). There was also a significant relationship between greater control of the voices and conversing with the voices (X²(2, N = 18) = 3.46, p<0.05). There was a significant relationship between duration of illness and ability to influence voices (F(1,12=7.86), p=0.02) showing an association between duration of illness and ability to influence voice(s).

Subjects describing themselves as not in control of their voices reported greater fear and powerlessness (X²(2, N = 18) = 5.54, p<0.01). In these instances, voice content was more likely to be predominately negative, threatening, persecutory, or derogatory. Additionally, when experiencing negative voices, subjects reported increased disturbance in daily activities (X²(2, N = 17) = 4.49, p<0.03).

**Discussion**

Given the clinical importance of AVHs and emerging strategies targeting the relationship between the hearer and voices [34,35], our findings highlight the potential importance of relational domains of perceived voice origins, personification of and engagement with voices, and locus of control. These relational constructs may serve as a platform for improvement and innovation in clinical interventions. Although our sample size is limited, our analyses underscore the value of detailed voice assessments, including those provided by the Maastrict Interview, are needed in the evaluation process.

**Interpretation/understanding of origin**

AVHs are phenomenologically consistent with inner speech, and are understood by many researchers and clinicians as “misattributions of thought” [35-38,1]. Our analyses demonstrate...
that subjects who understood AVHs as a misattribution of internally generated thoughts experienced greater control and were better able to refuse orders. We also found that biomedical explanations of AVHs, including descriptions of voices as genetically determined or understood as “symptoms” of an illness, did not predict a greater sense of control. This finding mirrors the literature on internalized stigma and biogenetic explanations [39], as well as studies linking endorsement of psychological (rather than biogenetic) views of psychosis with greater engagement with and benefit from cognitive behavioral therapy [40].

Distinct interpersonal characteristics

A growing body of clinical work on AVHs focuses on the interpersonal relationship between hearer and voice and aims to modify the relationship between the hearer and the voices [41-43]. One of the more recent therapeutic models emerging conceptualizes voices within an explicitly ‘interpersonal’ relational framework [44]. The premise of this model is that positive changes to the relationship between hearers and their voices can decrease frequency, intensity, and level of distress and ultimately lead to improved outcomes [7].

Our analyses reveal a rich and complex narrative of the relationship(s) between hearer and their voice(s). Subjects’ accounts suggest that when AVHs are experienced as having identities distinct from self, there was often a greater sense of control over the voices. As personification further crystallized and subjects actively engaged with their voices, they typically felt better able to influence them. Subjects described their relationship with the voices as dynamic, and having characteristics that change over time, suggesting that the relationship between hearer and voice is pliable and potentially responsive to interventions targeting the relational dynamic. Our data also demonstrated that voices engage and dialogue with other voices and have a relationship that is distinct from the hearer.

Locus of control

Our findings concerning locus of control augment our analyses of voice origins and personification. Subjects’ lack of inhibitory control, or difficulty with conscious active suppression of thoughts, helps to explain reported lack of control over thoughts experienced as externally generated [5,45]. Specifically, psychological understanding of voice origins and degree of personification appear to influence subjects’ perceptions of control. A recent exploratory longitudinal study of AVHs has also suggested that specific AVHs as well as the relationship between hearer and voice can change over time [6].

Our narrative interviews concluded by asking subjects if they had ever been asked about the voice hearing experience in detail, with 100% (14/14) denying that their voice-hearing experience had ever been asked about the voice hearing experience in detail, or understood as “symptoms” of an illness, did not predict a greater sense of control. This finding mirrors the literature on internalized stigma and biogenetic explanations [39], as well as studies linking endorsement of psychological (rather than biogenetic) views of psychosis with greater engagement with and benefit from cognitive behavioral therapy [40].

Interviewer: “Do you think that clinicians should talk to people about their voices in more detail?”

Tarek: “Would not hurt at all. You brought up things for my mind to think about.”

Our study examining subjects’ narratives shows that the relational phenomena between hearer and AVHs are dynamic, and can be influenced and changed through the hearers’ engagement, conversation, and negotiation with their voices. These findings strongly affirm the value of future work on the relational phenomenology of voices.

Acknowledgement

The authors would like to thank all the subjects who participated in this study. This work was supported in part by PHS grant (NIH R01MH094358 (RPS).

References


