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Rowan Olive, R. and Dewaele, Jean-Marc (2022) An exploration of multilinguals' voice-hearing experiences. *Language and Psychoanalysis* 11 (1), pp. 16-40. ISSN 2049-324X.

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An Exploration of Multilinguals' Voice-Hearing Experiences

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Abstract

Research on multilinguals' voice-hearing, sometimes termed auditory-verbal hallucinations, is dominated by psychiatrists' reports, skewing toward etic over emic approaches. Most also pre-dates developments in both voice-hearing and multilingualism research which highlight the complexity and dynamic nature of both phenomena and shows little cross-fertilisation between the two fields. This paper sits within this gap, presenting results from an in-depth interview study with ten UK-resident multilingual voice-hearers analysed via constructionist reflexive thematic analysis. A high proportion of participants described hearing voices they did not (fully) understand, challenging the dominance of the hypothesis that voice-hearing originates from misattributed inner speech. This set of experiences is presented along a spectrum with a complex array of associated emotions and subtle experiential distinctions. The relationship between language experiences, voices' languages, and associated emotions was similarly complex and individual: participants described voices both reflecting and distorting or shifting the contexts, domains, interlocutors and feelings associated with their various languages. This has implications for therapeutic and peer support for those who are distressed by their voices, as well as opening up new avenues in voice-hearing phenomenology and aetiology.

Introduction

Between 5 and 15% of adults may hear voices others do not hear, called auditory-verbal hallucinations (AVHs) in clinical contexts (Understanding Voices, 2020). Globally, multilingualism is increasing yet awareness about multilingualism is still rather limited in psychotherapy (Costa, 2020). Also, recent research on multilinguals' voice-hearing is sparse, with earlier work being methodologically flawed, racist and using an etic¹ approach exclusively (Lukianowicz, 1962), in contrast with work adopting an emic² approach and highlighting voice-hearers' own narratives (e.g., Romme et al., 2009). The early papers often take the form of clinicians' reports on their patients and neglecting the experiences of voice-hearers who never encounter psychiatric services (non-clinical voice-hearers), who may make up to 1% of the population (Understanding Voices, 2020).

Perceptions of voice-hearers and ways to investigate voice-hearing have been changing thanks to the Hearing Voices Movement (HVM), an international movement comprising local, national, and international networks of voice-hearers and allies (Hearing Voices Networks) which has highlighted voice-hearers' accounts of their own experiences. HVM asserts that voice-hearing is a meaningful experience emotionally and psychologically (Hearing Voices

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¹ Etic analyses use of carefully defined and relatively stable concepts from the analytic language of the social sciences (Pike, 1954). It allows comparative research across languages and cultures.

² In emic analyses, researchers incorporate the participants' perspectives and interpretations of behaviour, events, and situations using the participants' language (Pike, 1954).

Network England, 2021). Voice-hearers offer peer support, sharing experiences in an ethos of solidarity (Corstens et al., 2014; Schaefer et al., 2021). The HVM has pushed individual meaning-making and the dynamic relationship between hearer and voice to the fore of (some) clinical practice and research (e.g., Steel et al., 2019; 2020). An emphasis on living well in the presence or absence of voices contrasts with clinical approaches equating voice cessation with recovery (Escher & Romme, 2012; Higgs, 2020; Longden et al., 2018).

Very few authors of voice-hearing studies that involved multilingual participants have made a link with modern concepts in multilingualism research like multicompetence (Cook, 2016) or the Complementarity Principle (Grosjean, 2012). We argue that using these lenses would allow fresh perspectives on multilingual voice-hearing.

We define multilinguals as first language(s) users (any language(s) acquired before age 3) (L1 users) or foreign language users (LX users) who know two or more languages at various levels of proficiency including only receptive knowledge of a language and/or heavily attired (forgotten) L1s or LXs (Dewaele, 2018).

Approaches to Voice Hearing

Voice-hearing has been approached from multiple clinical and non-clinical perspectives. Historically it has been associated with schizophrenia or schizophrenia-spectrum diagnoses, which were often inclusion criteria for voice-hearing studies (McCarthy-Jones et al., 2014). Voice-hearing research therefore bears schizophrenia's imprint; even non-medical understandings of voice-hearing may be partially defined by opposition to it (Woods, 2013). With time it has taken on racialised dimensions, becoming a vehicle for and symbol of institutionalised racism (Fernando, 2017a, b; Metzl, 2009). Schizophrenia is disproportionately diagnosed with among Black Caribbean and Black African groups in the UK (Fearon et al., 2006), who are more likely to experience forced treatment (Degnan et al., 2018).

Voice-hearing has been approached from multiple perspectives beyond the diagnostic. However, no single psychological or psychiatric model has yet explained the range of voice-hearing experiences described in phenomenological literature (Upthegrove et al., 2016). This range is enormous: voices may sound like they come from outside or inside the head; sing, speak, or simply feel present; sound like acquaintances, friends, enemies, or strangers, chorus or individual; and vary wildly in content, utterance structure, and tone (McCarthy-Jones et al., 2014).

Consequently McCarthy-Jones et al (2014) propose different subtypes of voice-hearing, sharing partial causes but with distinct associated mechanisms as well. However, they also note this risks emphasising differences between types at the expense of seeing similarities. Such similarities are emphasised in dimensional approaches to voice-hearing which also see voice-hearing as part of the wider continuum of human experience, the boundaries between clinical and non-clinical voice-hearing being unclear (Upthegrove et al, 2016). Waters and Fernyhough's (2017) review found that many voice-hearing features were found across neurological and psychiatric diagnoses. More than half of features were shared between non-clinical and clinical groups.

One dominant cognitive model of voice-hearing has been that voices are misattributed inner speech (McCarthy-Jones et al., 2013), i.e., that voices are thoughts mistakenly believed to originate externally (Frith, 1988, cited in Upthegrove et al., 2016). McCarthy-Jones et al (2014) suggest misattributed inner speech may be one voice-hearing subtype, itself comprising a range

of experiences. Inner speech in turn may be conceptualised as part of the working memory mechanism and/or as related to sociocultural theorist Vygotsky's work (Alderson-Day & Fernyhough, 2015). Fernyhough (2004) proposed condensed and expanded forms, the latter possessing more external-speech-like phonological and pragmatic features. A broad definition is adopted here: any thoughts with some verbal quality, i.e., condensed or expanded; consistent with Vygotskian and/or working memory models.

Upthegrove et al (2016) describe two further cognitive models of voice-hearing: memory-based approaches and sensory processing error approaches. These also view voice-hearing as misinterpretation: of intrusive (frequently traumatic) memories recalled out of context, or of external stimuli respectively.

To some extent, the HVM referenced above sits outside aetiological models, although trauma-based understandings of voice-hearing are sometimes considered an HVM core principle (Styron et al., 2017). Overall, the HVM is pluralistic, stating, "Hearing Voices is a relatively common diverse human experience that has many different causes" (Hearing Voices Network England, 2021). Waddingham (2020), chair of HVNE, adopts this pluralistic approach in work focused on understanding and supporting voice-hearers, highlighting the relationship between hearer and voice; this was influential in formulating the research question below, which aimed to explore the range of voice-hearing experiences listed above in a multilingual context.

Voice-Hearing and Multilingualism

A systematic search for existing work on multilingual voice-hearers was carried out and yielded a single recent reference. Hadden et al. (2020)'s study of 37 Welsh-English bilingual voice-hearers is the only relevant peer-reviewed study published in the last 15 years. The authors collected quantitative data to test the voices-as-inner-speech hypothesis: if voices are misattributed inner speech, multilinguals' voices should share language-history-related correlates with multilingual inner speech. This was defined as correlations of inner speech and voices' languages with: early acquisition, higher proficiency, greater frequency of day-to-day use. The results were broadly consistent with the voices-as-inner-speech hypothesis.

However, multilinguals' inner speech language use is more complex than hypothesised. Inner speech language use can be affected by: acquisition and use context, and multilinguals' network size (Dewaele, 2015; Guerrero, 2018); degree of L1-LX difference (Resnik, 2021); topic or function (Hammer, 2017; 2019); and emotionality, with emotional LX inner speech taking longer to develop (Dewaele, 2015; Guerrero, 2018). Leung and Dewaele (2021) found that Grosjean's (2012) Complementarity Principle, according to which multilinguals' language preferences differ according to situations, interlocutors, and purposes, applies also to inner speech. Some studies, like Hadden et al. (2020) controlled the language profiles of participants. Others used information on acquisition context, language-specific multilingual social networks, and frequency of LX use. Such broad measures inevitably imply low levels of granularity, though some studies complemented the quantitative data with more in-depth qualitative data gathered through interviews (Dewaele, 2013).

One of the striking findings in Hadden et al (2020) was just how dynamic hearer-voice relationships and voices' language use were. Interviews revealed that voices can change their languages in ways perceived as strategic.

Okulate and Jones' (2003) interviewed 99 Nigerian in-patient voice-hearers. Participants spoke English alongside Hausa, Ibo, Yoruba, Efik, and other unnamed local languages. Fifteen

participants' voices spoke only English; 56 only a local language. Forty-one participants' voices spoke English and a local language. The authors likened the experience to dreaming in terms of greater likelihood of L1 prominence, arguing voice-hearing, like dreams, reflects people's internal worlds. However, they present no data on language occurrences in multilinguals' dreams.

Dreams have long been considered analogous to voice-hearing, sharing phenomenological and neural features (Waters et al., 2016). They can show auditory features present in voice-hearing but not inner speech, such as speech the dreamer does not understand (Fosse & Larøi, 2020). Age of onset of acquisition can affect dream language selection in interaction with proficiency (Schrauf, 2009) and dominance (Ardila et al., 2019). However, proficiency is not a prerequisite for LX appearance (Sicard & de Bot, 2013). Dream language is typically appropriate to within-dream context (Foulkes et al., 1993). Grosjean (2012) argued that the Complementarity Principle applies to dream-language: multilinguals' language use reflects different languages' acquisition in different domains with different people, serving different functions. Multilinguals dream in different languages depending on dream content and interlocutors (Grosjean, 2012). However, dream research is notoriously challenging due to recall difficulties (Sicard & de Bot, 2013), making detailed comparison with voice-hearing almost impossible.

Multilingual Voice Hearers

Six mid-to-late twentieth century papers presented primary research on multilinguals' voice-hearing, although one reported on a single patient's specific adverse drug reaction (Laski & Taleporos, 1977). Two are referenced in other papers but unavailable online: Schaechter (1964, cited in Herbert, 1984) describing Australian immigrant voice-hearers; Dores et al (1972, cited in Herbert, 1984) mentioning bilingual French-Wolof voice-hearing. An abstract from conference proceedings of the International Neuropsychological Society (Schindler et al., 1987) details a study of 19 English-Spanish bilingual voice-hearers showing a correlation with between voices' language and self-reported inner speech language, but no further details were available online. One study fell just outside the period: Zulueta et al (2001) who focused on psychosis assessment, but mentioned several multilingual voice-hearers in her sample. One participant heard voices in Portuguese, English and an unnamed "African language"; and two only in their L1s.

Ethical and Methodological Issues in Earlier Research on Multilingual Voice-Hearing

Early publications in this area are often ethically and methodologically problematic. Lukianowicz (1962) reported on 14 patients he treated in Austria and the UK over 22 years. He subdivided them into European and non-European groups, postulating distinct causes of psychosis entailing racist assumptions about non-Europeans. These pervade his analysis: "the main causative factor in [a sub-group of non-European patients] was the sudden impact of an unfamiliar culture and a strange, restless, highly mechanized civilization upon subjects belonging to a more primitive civilization" (Lukianowicz, 1962, p. 275). He interpreted multilingual voice-hearers as primitive non-Europeans, distressed by a sophisticated society, unconsciously enacting this conflict. Lukianowicz did not describe selection criteria. These cases may have been cherry-picked from a large pool to fit existing assumptions: later research suggests his parallels between (his perception of) his patients' life experiences and the languages of their voices are oversimplified as well as underpinned by racism.

Lucianowicz argued that multilingual voice-hearing reflected hearers' language experiences: protective L1 voices; threatening Lx voices; the reverse where the home country has associated trauma, e.g., for political refugees.

Hemphill's (1971, p.1391) racism is even more apparent than Lucianowicz's, referring to his Black patients as "uneducated" and their language as "incomprehensible". He concluded that patients with schizophrenia only hear L1 voices, not citing Lukianowicz. He distinguishes between "polyglots" (balanced or highly proficient multilinguals) and "linguists" (later and/or less proficient multilinguals). His conclusions apply only to the former, but have nevertheless been disproved (Wang et al., 1998).

Herbert (1984) interviewed 12 American voice-hearers, mostly early bilinguals. He confirmed Lukianowicz's pattern of hearing "good" voices in languages associated with support and "bad" voices in languages associated with rejection or persecution. Several interviewees' experiences complicate Lukianowicz's patterns, but were broadly integrated into a similar overall narrative. Herbert, like the clinical case reports, presented no interviewees' quotations or own interpretations of their experiences.

Malo Ocejo et al. (1991) presented four L1 Basque patients hearing Spanish voices despite being Basque-language-dominant. One reported thinking in Basque but hearing Spanish voices, i.e. voices' language did not match inner speech language. Two heard Spanish voices despite limited Spanish proficiency. All learned Spanish at school.

Finally, Wang et al (1998) reported on 6 immigrant patients diagnosed with schizophrenia in the USA. Two patients reported voices in two languages, two largely in L1 but with occasional L2 (English) voices, one only in English (L3), and one only in Cantonese (L1). The authors argued that the voices reflected their patients' thought-language, and were appropriate to the content: when a hearer's voice reflected an American figure, the voice spoke English; when they represented ghosts from Hong Kong, they spoke Cantonese. This is greater detail on the content-language relationship than earlier papers but they do not probe the experience's emotionality.

Apart from Herbert (1984), Zulueta et al (2001) and Hadden et al (2020), all primary research above was conducted on clinical voice-hearers by treating clinicians. Patients may respond differently in such contexts due to the power dynamics involved (Rose et al., 2003). Clinical notes, like research interview transcriptions and interpretations, are representations entailing information-recording decisions. These encode clinicians' ideologies as much as patients' experiences and may be error-prone (Galasiński & Ziółkowska, 2013).

A literature base reliant on clinical reports where most authors report on rather than quoting their participants, without acknowledging their own subjectivity or relational power dynamics, is problematic. It may explain the skew towards etic approaches (outsider perspective of a phenomenon aimed at objective documentation, using the language of social sciences) over emic ones (focused on understanding a phenomenon from the participants' point of view, using their own words) (Mostowlansky & Rota, 2020). While etic research is relatively homogeneous in its ontological and epistemological assumptions, emic research is much more heterogeneous (Markee, 2013). Indeed, etic and quantitative research is more unified in terms of its goals and statistical procedures than emic and qualitative research where the participant's perspective can be interpreted in many more different ways.

Lack of interest in voice-hearers' own understandings of the experience is a key HVM critique of psychiatric voice-hearing approaches (Styron et al., 2017). It could also reflect a historic testimonial injustice, the injustice of disbelief based on speaker identity (Fricker, 2007). Here, psychiatric patients are considered less reliable witnesses than their psychiatrists, whose objectivity is rarely questioned. For example, Paradis (2008), summarising literature on multilingualism and voice-hearing, wrote: "The validity of self-reports of the language of hallucinations by patients may be questionable, but probably no more so than the report of hallucinations in the first place" (Paradis, 2008, p. 203).

Not-Understood Voices

There is no single term for voice-hearing the hearer does not (fully) understand. Jones and Luhrmann (2016, p. 199) called it "nonverbal garbled voices"; "nonverbal voices" may also mean a voice not heard but felt (Open Minded Online, 2019), similar to experiences termed "felt presence" elsewhere (Alderson-Day et al, 2022, p.1). Okulate and Jones (2003) referenced foreign-language voices without clarifying whether they are foreign to voice-hearer or researcher. This terminology variation made a systematic literature review impossible, but the phenomenon may be fairly common: Jones and Luhrmann reported 17.5% of participants heard garbled voices. Three participants in Sadh et al.'s (2020) HN group reported voices in languages they did not know. Herbert (1984) described one participant hearing German voices which she did not understand. Schaechter (1964, cited in Herbert, 1984) described 16 of 32 non-English-speaking migrants to Australia hearing English voices. This is another under-researched area, entering the literature around the edges of multilingual voice-hearing research. "Not-understood voices" is coined for this range of experiences.

Multilingualism and Emotion

Voices may express emotion-laden content (c.f., discussion of "good" versus "bad" voices above). It is thus important to focus also on the research of multilinguals' language preferences for expressing emotions. It is common for multilinguals to prefer their L1 for expressing their emotions (Dewaele, 2013). Emotions may feel different in different languages because languages acquired earlier, and in naturalistic rather than classroom contexts, become more embodied: they are integrated with emotional and sensory experiences linked with autobiographical memories (Dewaele, 2022). LXs, on the other hand, typically feel more disembodied, more detached, "colder". As a result, multilinguals may switch between their languages for emotion regulation, particularly in therapeutic contexts, where an LX may create enough distance from traumatic memories to verbalise them (Cook & Dewaele, 2021; Rolland, 2019; Rolland et al., 2020a). The idea that all languages of the multilingual need to be considered is linked to Cook's (2012) concept of multicompetence, defined as "the knowledge of more than one language in the same mind or the same community" (p. 1). Cook (2012) points out that "Multi-competence (...) involves the whole mind of the speaker, not simply their first language (L1) or their second" (p. 1). Dewaele (2016) argues that the acquisition of new languages affects individuals' emotional geography as much as their linguistic systems. The acquisition of new emotion concepts as a result of acculturation can affect existing pragmatic norms and emotion concepts, which can lead to a blending of categories in the first and foreign language, and which can accompany a change in emotional fit from one language and culture to another (Zhou et al., 2021).

What this literature review has shown is that, on the one hand, most voice-hearing researchers have treated multilingualism as largely irrelevant and/or a much simpler phenomenon than recent research suggests, with some of the older studies suffering from methodological flaws and racist views from the clinician-researchers. These studies focus on clinical voice-hearers

and typically adopt etic perspectives. In other words, the researchers were largely uninterested in hearing participants' voices about their emotional experiences, let alone about the fact that these voices were multilingual. Moreover, the authors show very little awareness of research outside psychiatry. Even work within or inspired by the HVM has tended to gloss over the complexity of voice-hearers' multilingualism (e.g., Romme et al, 2009). On the other hand, multilingualism researchers had dealt with language preferences for the communication of emotions, including dreaming and inner speech, and language preferences in the therapeutic context but nobody has investigated the experiences of multilingual voice-hearers. The present study proposes to do just that.

Research Questions

The following research question was formulated: How do UK-resident multilingual voice-hearers describe voices' language(s) affecting the hearers' relationships with and feelings about their voices?

Methodology

We adopted what Braun and Clarke (2021, p. 39) term a "big Q" Qualitative approach. Such research is guided not by reproducibility and generalisability, but by: trustworthiness (methodological transparency, laying out theoretical assumptions and demonstrating their application); and transferability (specifying study context, participants, and circumstances so that readers can decide which aspects might transfer to others). Research and participant subjectivity are viewed as both unavoidable and an analytic resource (Braun & Clarke, 2013).

Semi-structured interviews were carried out via telephone or Microsoft Teams, due to the Covid-19 pandemic. Semi-structured interviews facilitated a deeper dive into multilinguals' voice-hearing experiences than most existing research, with enough consistency to facilitate Thematic Analysis' pattern-based cross-case analysis. Interviews consisted of demographic questions; the Language Experiences and Proficiency Questionnaire (LEAP-Q) (Kaushanskaya et al., 2019; Marian et al., 2007); and an adapted version of the Maastricht Interview (Corstens et al., 2008).

The Maastricht Interview has been publicised by national HVNs (HVN Aotearoa New Zealand, 2011) and was developed in collaboration with voice-hearers. As such it seemed likely to be acceptable to participants and provide meaningful initial questions. Adaptations were theoretically, ethically, and pragmatically motivated. The interview sees voices as a "code" (Corstens et al., 2008, p. 325) which, when broken, reveals hearers' trauma. Recent voice-hearing aetiology work (Luhmann et al., 2019) shows that while trauma is a significant risk factor for voice-hearing, a universal cause-effect assumption oversimplifies matters. Moreover, the idea of breaking through voices' apparent reality to some truer meaning beneath entails assumptions about the nature of meaning incompatible with this project's constructionist analytic approach (see below).

Questions on specific childhood traumas were replaced with questions about voices' languages and code-switching; contextual influences on these; and multilingualism-specific coping strategies. Further changes followed two pilot interviews and ethical feedback regarding interview length and risk of overwhelming participants. Seven initial draft questions were removed or merged and one question on inner speech languages was added. See Appendix 1 for the final interview schedule.

Ethics and Recruitment

This project obtained ethical approval at the authors' research institution. Ethical decisions were driven by awareness of participants' possible histories with institutional power (Rolland et al., 2020b): for current or former psychiatric patients, being written about may be a loaded experience (O'Hagan, 2009). Research interview and psychiatric assessment both involve surrendering control of life experiences to researcher or clinician for interpretation. In a clinical context this may risk Mental Health Act detention and/or child removal (Diaz-Caneja & Johnson, 2004; Jeffery et al., 2013; Seeman, 2011). The first author's record of lived-experience mental health advocacy (e.g., Rowan Olive, 2019; 2020a, b) likely encouraged participants wary of clinician-researchers, but also resulted in a sample high in clinical voice-hearers.

The project aimed to maximise participants' data control, recognising loss of control within the psychiatric system causes iatrogenic trauma: an awareness driven by the first author's own experience and embeddedness in communities of survivors of such interactions. All participants could review interview transcripts; comment and/or withdraw data; and/or read the final report, following Mann (2016). Five opted to read transcripts. None requested edits or withdrawals. All opted to read the report; high interest in results may reflect a lack of existing opportunities to discuss related experiences.

Inclusion criteria aimed to capture a range of language and voice-hearing experiences. These were:

- 1) UK-resident, comfortable participating in an English-language interview.
- 2) Hearing voices that others do not hear more than once, ideally within the last year (some flexibility was applied depending on how well participants felt they recalled the experience).
- 3) One or more of:
 - a. Migrant to the UK from a non-English-speaking country.
 - b. Hearing voices in more than one language.
 - c. Hearing voices in an LX.

Interviews were conducted by the first author. Consent was taken in writing or orally (where orally, audio was recorded). Where consent was given in advance, it was checked verbally at interview outset, when the researcher assessed capacity for informed consent according to relevant legislation (Mental Capacity Act 2005 or Adults with Incapacity (Scotland) Act 2000).

Due to COVID-19, advertising was principally digital, limiting the participant pool. A poster and participant information sheet was distributed via social media; via email to research and personal networks; and via four voice-hearing, therapy, and/or lived-experience-led mental health voluntary sector organisations.

Convenience sampling was supplemented by snowball sampling, with participants encouraged to circulate details (Robinson, 2014). Participants were all who volunteered and met inclusion criteria. Purposive sampling aimed specifically at going beyond those Braun and Clarke (2013: 58) term "the usual suspects" for research – educated, white, middle class, straight people – was limited by financial and practical constraints as a small unfunded project. We aimed for the accountability to participants necessary (if not sufficient) to render research non-extractive (Kouritzin and Nakagawa, 2018), within the bounds of a a master's dissertation schedule (c.f. data control and results dissemination above).

One participant opted out of all demographic questions. Among the nine who responded, the sample was fairly diverse in age (23-59 years), gender (5 women; 2 non-binary people; 2 men), sexual orientation (4 heterosexual, 1 bisexual, 1 lesbian, 4 either opted out or described themselves as “unsure” or “curious”), and education (ranging from no post-16 education to PhD). Participants reported psychiatric diagnoses including schizophrenia, borderline personality disorder, schizoaffective disorder, PTSD; neurodivergent diagnoses such as ADHD and autism; and epilepsy. Most disclosed multiple diagnoses. However, only two participants felt their current psychiatric diagnosis fit their experiences well, and two opted not to disclose theirs. Six participants were white, one described themselves as mixed white and Indian; one as British Pakistani and one as Arab.

Participants’ Languages and their Voices’ Languages

Table 1 shows participants’ languages and the languages in which they reported hearing voices. This provides necessary context for the interpretive themes described below.

Table 1. Participants’ languages and their voices’ languages.

P	L1(s)	LX(s) in order of acquisition (Age at onset of acquisition/ AoA in years if available)	Dominant language(s)	Language(s) spoken by voice(s) in approx. order of frequency
1	Greek Cypriot	English (5)	English	English, Greek Cypriot, Glossolalia
2	Scots, English	Scottish Gaelic (22)	English, Scots	Scots, Scottish Gaelic, English
3	Croatian	English (7), German, Spanish	English, Croatian	English
4	English	French (secondary school; receptive knowledge only)	English	English, Unknown (two distinct unknown languages)
5	Gujarati, English	Hindi (20), French (reading & writing), Arabic (reading & writing)	Gujarati	English, Gujarati, Hindi
6	English, Levantine Arabic	French (10), Spanish (secondary school)	English	English, French, Levantine Arabic
7	Greek	English (11), Romanian (15), German (18), Russian (18)	English, Greek	English, Greek
8	Punjabi	English (5), Urdu	English, Punjabi	Punjabi, English
9	Tunisian Arabic, French	English (11), German, Italian, Russian (secondary school)	English	Tunisian Arabic, French, English, Glossolalia
10	Danish	German (7), English (7), Swedish, Norwegian (receptive knowledge only)	English	English, Danish, formerly German, Nonverbal voices

Not all participants gave precise AoAs or voice language frequencies; the most precise information given is reported. Glossolalia is listed separately to voices in unknown languages: P1 and P9 described it as akin to Pentecostal religious experience, an aspect not reported by others. “Nonverbal voices” refer to felt-presence-type voices (Open Minded Online, 2019)

rather than not-understood voices. This table demonstrates that early AoA and dominance are not prerequisites for a language featuring in a hearer's voices.

Data Analysis

Interviews were analysed using a constructionist form of reflexive thematic analysis (Braun & Clarke, 2021). Constructionism regards meaning and reality as constructed through language and social practice, including interview talk (Braun & Clarke, 2021). As such, where space permits: participant quotations from interviews are provided alongside the prompting question, to allow consideration of how the question may have shaped the answer; and data ambiguities are analysed rather than shied away from (Mann, 2011; 2016; Talmy, 2011). Data were too sensitive to include full transcripts (Mann, 2016). Analysis followed Braun and Clarke's (2013) six-stage theme development process. Initial transcription and note-making constituted stages one and two, familiarisation and initial code generation. Codes and comments which could be grouped around a central idea were then exported into individual tables. For the themes described below, everything relating to not-understood voices was initially grouped in one table, and everything referencing relationships between language experiences and voices' languages in another. Stage four, reviewing themes, involved going through these tables and developing further links and patterns. Stage five, defining and naming themes, involved arranging these patterns into the metaphors of the spectrum, reflection (the throwing back by a body or surface of light), and refraction (a change in direction of the wave). The analysis was an iterative process with some movement back and forth between stages as themes were refined, until stage six (writing the final report) was completed.

Results

Participants' descriptions of their relationships with their voices were interpreted via three overarching themes within the interpretive frame of metaphors of light (a spectrum of understanding; reflection and refraction of language experiences).

Reflection is light bouncing off a surface: with smooth, flat surfaces, a clear image appears. Refraction is light bending passing between media, e.g., air into water. This can distort – water appearing shallower than it really is – or cast rainbows from a white beam. Here, reflection describes experiences where participants' voices directly mirrored language experience(s), for example where voices in a specific language spoke about topics and domains in which the participants typically used that language. Refraction describes experiences where there was a relationship between language experience and voice-hearing experience, but it was less direct: something key had changed from the participant's memory of the original experience, often introducing a sense of the uncanny. This could relate to one or several aspects of the experience: a mismatch between the recognised identity of the voice and their language, accent, volume, or tone; or unexpected elements of the original experience coming to the fore. These were not always entirely separate, with the same voice(s) sometimes reflecting parts of one language experience and refracting another. Nor are they perfect metaphors, particularly if their physics-specific meanings are examined too closely. However, as a metaphorical frame and a starting point for understanding they highlight the complexity of the relationship between multilingual experiences and voice-hearing experiences, which as discussed above is under-researched.

Understanding Voices is a Spectrum

The interview schedule contained no questions about participants' (in)ability to understand their voices. However, seven participants described not understanding one or more to some

degree. These experiences can be organised along a spectrum (see Figure 1 below). “No understanding” does not signal no meaning or emotionality.

Three participants (P5, P8, P9) reported difficulty writing their L1, but high speaking proficiency. Two (P5, P8) reported no difficulties understanding any voices. Writing proficiency appears unnecessary to hear and understand voices in a language.

P6’s experiences demonstrate the variations in both emotionality and nature of not-understanding. She described two partially-understood voices: a woman’s voice, English with occasional French muttering; and a set of voices she described as like multiple YouTube channels open simultaneously. Some of these spoke Levantine Arabic, P6’s heavily-attrited L1. P6 did not consider herself proficient in Arabic or French. Partially understanding French caused anxiety:

Interviewer: *And how does that feel, um, sort of getting part of what she’s saying?*

P6: *Um, I, I feel like it’s designed to confuse me.*

Interviewer: *Ok.*

P6: *I, [...] it doesn’t feel like she’s got good intentions towards me when she does that.*

This voice had agency and power, “designing” her speech for impact, seemingly using two languages maliciously. By contrast, P6 called the partially-understood Arabic voices “comforting” four times, relating to feelings of loss:

Interviewer: *So what does it mean to you to hear kind of snatches of Arabic and to understand it? Or to get a [sense of meaning?]*

P6: *[I find it very] comforting. It’s, it’s really quite comforting. It gives me a link with... My mum died and I miss her terribly. [...] and it gives me a link with her [...] I find it comforting because it’s a link to listening to family that I never met [...] It’s, I feel like it fills in a part of me that’s missing as well, you know, maybe a part I won’t discover fully in this lifetime but you know [...] It’s, it’s comforting actually is the word I’d use. (Emphasis added.)*

P6 described understanding occasional French words. She recognised similarly few Arabic words, but sensed meaning beyond them, a difficult experience to articulate:

Interviewer: *So do you understand the actual Arabic words or do you just have a sense of like, knowing what it is that they’re saying?*

P6: *I think it can only be a sense of meaning, I don’t think, some of the words I I I recognise, some of the words I recognise because I recognise them from the grocers round the corner from me, and they’re Jordanian. [...] So.. I think it’s more the meaning, they’ll say some words which will trigger something so that I can understand the meaning, so it’s almost like they’re saying words I will recognise, I don’t know why I recognise them, I understand the words, um, um.. Oh it’s hard to explain, um.*

Partial understanding could therefore differ in nature alongside degree, a dimension difficult to demonstrate in figure 1. The metaphor of the spectrum should be considered a starting point for representing this range of experiences, while acknowledging that a linear representation inevitably collapses some qualitative experiential distinctions. Not (fully) understanding voices marked exclusion or inclusion, empowerment or disempowerment, depending on the hearer-voice relationship.

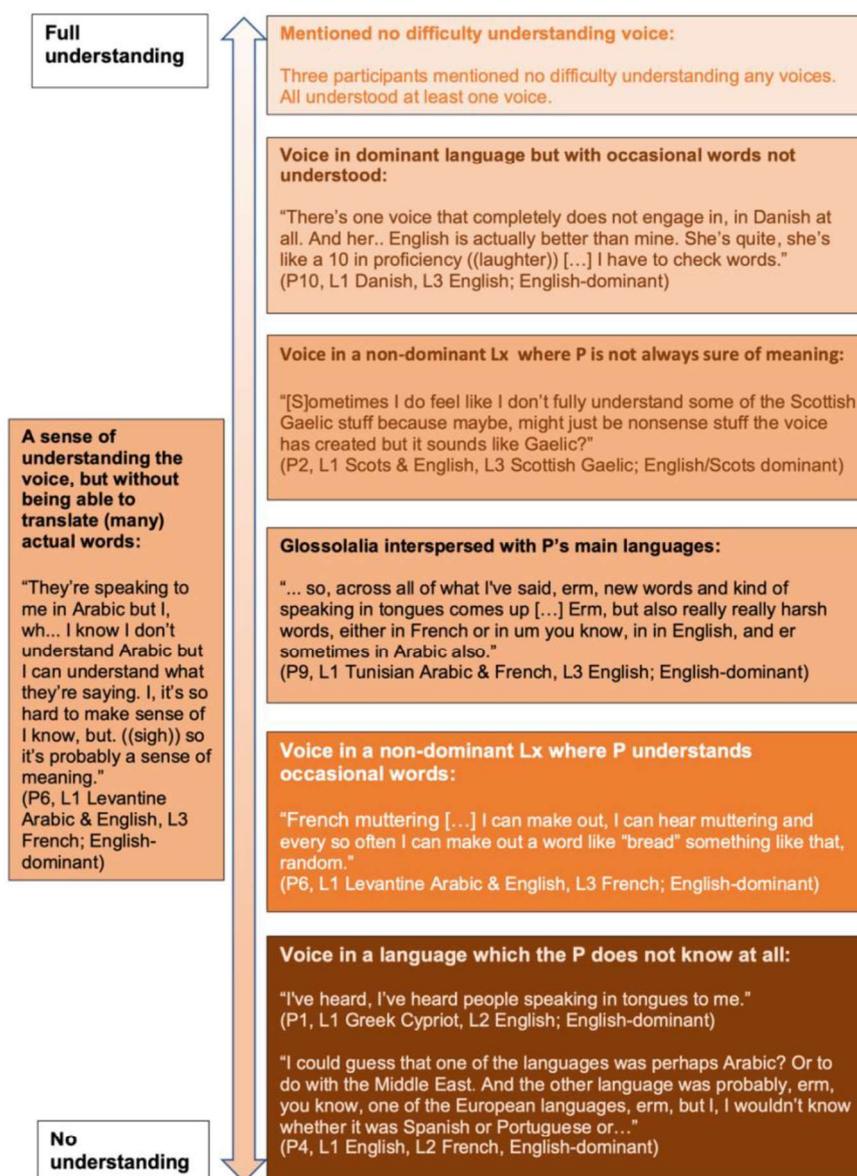


Figure 1. Spectrum understanding voices.

Thought, Voice, Memory, Language

The blurred boundaries between distinct experiences implied by the metaphor of the spectrum also feature to some extent in boundaries between thought, voice, memory, and language. However, here multilingualism could blur or clarify such distinctions.

Some participants described voices developing from thoughts or memories. This process could involve a transition across languages, or different language combinations. P3 described voice-hearing developing from a belief that she could read others' thoughts, in the language of the person concerned, typically Croatian (L1) or English:

Croatian would really come into my, into my mind only when, when somebody from the Croatian context would message me? Or speak to me. Erm, and then you know obviously I thought I could read their thoughts in Croatian. (P3)

However, the voice developing from this belief spoke only English. P3 described both “reading” and “hearing” people’s thoughts, highlighting blurred boundaries between a thought with some auditory qualities and voice-hearing, despite the difference in languages involved.

P8 described a flow from memory to both voice and thought. He reported thinking “90% in English”, but hearing one voice: “sometimes it speaks two languages”. He described it as “predominantly within the Punjabi, and then sometimes it is in English”. The voice and P8’s own thoughts seemed to have opposite weightings in L1 versus L2 frequency. However, elsewhere P8 referred to hearing his father’s and uncle’s plural “voices”. Against this ambiguity, P8 was clear about the memories’, voices’, and thoughts’ negative content, calling them “negative” or “negativity” 25 times total. He described his trauma causing negativity both in voice(s) and thoughts:

P8: *Do you know what I mean so, I think so if you’re consistently getting criticism that gets internalised, becomes around negativity.*

Interviewer: *Yep.*

P8: *And so therefore if I don’t hear the voices it’s like I’m thinking the negativity because all being, the foundation was set a long time ago and the condition is there.*

The similar emotions evoked by both voice and thought, and their shared trauma-based origins, could make them indistinguishable despite apparently different L1 versus L2 use: “the thought may be the voice, the voice may be the thought [...] It may be they’re saying one thing” (P8). However, sometimes multilingualism clarified the thought/voice boundary, due to differences in conscious control:

P7: *Here because I’m exposed daily to English, when I come home I tend to think my day more in Greek or Romanian.*

Interviewer: *And do you change that consciously?*

P7: *Yes.*

I: *And can you... consciously change the language of the voice at all?*

P7: *No.*

Voices’ Languages Reflect, but also Refract, Participants’ Language Histories

Reflection is light bouncing off a surface: with smooth, flat surfaces, a clear image appears. Refraction is light bending passing between media, e.g., air into water. This can distort – water appearing shallower – or cast rainbows from a white beam. These are helpful metaphors for the relationship(s) between participants’ language histories and voices.

P1 described the clearest reflection of language experiences in her voices’ languages, quantifying both current language exposure and voices as 80-90% English, 10-20% Greek Cypriot. Greek Cypriot voices principally concerned family and her parents’ belief systems, reflecting language-use context. Voices, present only during crises, reflected triggers in both language and content:

[W]hen, umm, there was a lot of kind of Greek family involvement and hostility and involvement- over involvement and just a lot of Greek shit going on [...] and it was too much, too much stress, too much gossip, too much, erm, hostility between everybody, yeah, that kind of kicked off a lot of Greek voices. (P1)

Sometimes languages began featuring in a participant’s voices sometime after the relevant language experience: P10 described one voice acquiring English several years after moving to the UK. For P7, a shift in the voice’s language followed actively trying to change her thoughts

from Greek to English to learn English faster, causing the addition of English to her voice's repertoire.

This time-lagged reflection also occurred with not-understood voices. P4 said that her not-understood voices did not reflect anything "in [her] reality" at the time. However, elsewhere she described spending her professional life surrounded by languages she did not speak:

Interviewer: *I wondered how you reached that conclusion about what language it might be?*

P4: *Um, I suppose because I have um, I've been lucky to work with people from different nationalities, particularly when I was doing work at [job location] [...] before I retired as [job role] I would also hear people erm speaking in different languages then as well. [...] I couldn't tell you the logical process of why I thought that it might be Arabic and why I thought it might be European, it's just, I suppose based on, on the... the people that I have met through the years and the languages that they speak.*

LX exposure can therefore be relevant even when the language is not actually acquired.

Refraction took place when, in transition from external linguistic input to voice-hearing, hearers' linguistic knowledge and memories distorted, or unexpected elements emerged. This produced mismatches between a voice's perceived identity and their language, tone, or accent, creating a sense of confusion or the uncanny.

P2 described a "demonic gran voice" mimicking her late paternal grandmother. This voice spoke Scots and Gaelic; P2's grandmother never spoke Gaelic. The voice retained P2's grandmother's working-class Scots accent when speaking Gaelic. P2 expressed her confusion as "Fuck knows what's going on there".

P7 described the voice she heard as an androgynous distortion of her own voice:

It would be a bit more, a bit more of a, a lower toned voice, so it it would sound to some people more masculine, but I can understand that it's still...it's still, um, very similar to my voice. But it's a more low-toned voice, so a more angry toned voice. (P7)

Some participants' voices accompanied visions. P5 saw people from a workplace he was bullied out of. His colleagues had spoken English, but in P5's visions they spoke Gujarati (L1) and Hindi (L3). He called this "disturbing"; the uncanniness was reinforced when the figures appeared outside his home, visible through the window, but audible as though inside.

However, accompanying this refraction were elements of reflection: P5 recognised influence from Hindi reality TV in one voice's vocabulary and manner:

So, on [Hindi reality TV] they have lots of arguments and they have lots of kind of, the way that they speak, and I think some of that has kind of almost influenced the kind of vision that I get of, of the person speaking in Hindi, because when I'm telling them to shut up or I'm trying to respond, they're telling me to shut up and it's, it's a constant kind of barrage. (P5)

These examples of refraction involved a language featuring with a different interlocutor, in a different context and / or domain of language use to that in which the language was acquired and regularly used. For P2, Gaelic was transposed from a classroom context to a family one; for P5, Hindi and Gujarati shifted from family interlocutors and television viewing to appear in the mouths of workplace interlocutors.

All participants described some relationship between language experiences and voice-hearing ones, but these did not necessarily mirror each other. Participants' language experiences could, as they became represented in their voice-hearing, be reflected, refracted, or both.

Discussion

The research question asked how 10 UK-resident multilingual voice-hearers' multilingualism affected voice-hearing experiences. A number of themes were drawn from the analysis of the interview data.

The Study Sample and Recruitment

As described above, the sample was relatively diverse in age, gender, education, and sexuality. This likely reflected the first author's networks within the "lived experience" space in mental health, as most participants had some knowledge of the HVM and/or other lived experience movements in similar spaces. Most participants found the study via social media, where the first author is "out" as a queer woman, or knew her from shared lived experience advocacy roles in local mental health services.

Nor was the research exclusively with white participants. However, no Black African or Caribbean participants were interviewed, which is a limitation. Many voice-hearing studies include relatively few Black participants (cf. Woods et al., 2015). This gap therefore reinforces a problematic status quo, particularly given the disproportionate rates of schizophrenia diagnoses in Black communities mentioned above.

We chose not to systematically approach community groups or organisations specifically for marginalised voice-hearers: being unfunded and as such unable to offer compensation to either participants or organisations, approaching groups and asking for effectively free labour felt problematic during the first year of Covid-19, when many were busy adapting to survive (National Survivor User Network, 2020). However, this lack of outreach was itself not an ethically neutral choice, particularly since working with Black community organisations could have helped involve Black participants whose voices are not heard here. It would be important for future research to proactively address this gap.

A Spectrum of Understanding

Voice-hearers described a spectrum of understanding their voices and a complex array of associated emotions. Boundaries between memories, voices, and inner speech could be blurred or clarified by multilingualism's role in the experiences. This has implications for subtyping and psychologically modelling voice-hearing.

While the lack of consistent terminology for not-understood voices made systematically reviewing previous research impossible, no papers were found discussing the emotionality or range of not-understood voices. Studying multilingual voice-hearing with participants whose proficiencies varied opened up a wide range of experiences: each language could potentially be understood to any degree along the spectrum.

Whatever mechanisms underlie these experiences, an original finding is the variety of emotions potentially associated with not-understood voices. Individual histories and the specific nature and degree of not-understanding could affect these.

This spectrum of understanding challenges the voices-as-inner-speech hypothesis' dominance: inner speech is not experienced as an unknown language. More real-time methods such as experience sampling employed in some inner speech (Guerrero, 2017) and dream (Foulkes et al., 1993) research may help explore this further. The fact that some participants reported understanding voices in languages they could not write, but spoke proficiently, suggests researchers testing relationships between voices' language use and hearers' proficiency should consider analysing written and spoken proficiency separately.

Some participants' experiences of voices sometimes being indistinguishable from inner speech (e.g., P8) potentially support the voices-as-inner-speech hypothesis. However, some participants' voices used different languages to their inner speech. This challenges Hadden et al.'s (2020) argument that if voices represent misattributed inner speech, then voices should be predicted by the same language history factors. If individuals can experience inner speech mostly in one language, and voices mostly in another (P8), or their voice can speak one language despite developing from thoughts experienced in two (P3), then the voices-to-inner-speech relationship may be more complex than this hypothesis allows.

Possibly only some voice-hearing subtypes fit the voices-as-inner-speech hypothesis, as McCarthy-Jones et al (2014) suggest, which could resolve these apparent contradictions. The range of not-understood voice-hearing experiences suggests they might integrate into multiple subtypes. McCarthy-Jones et al.'s (2014) subtypes were based on reviewing literature which under-represents not-understood voices; further study of these, and of the relationship between multilingual voice-hearers' voices and own inner speech, may develop subtyping models.

The range of experiences above strengthens parallels between voice-hearing and dreaming, where not-understood speech can occur (Fosse & Larøi, 2020), but this may not progress aetiological study: dreaming and voice-hearing differ in their relationship to regular perception of the outside world, with which voice-hearing co-occurs and dreaming does not. This, plus methodological difficulties with dream research (c.f., Sicard & de Bot, 2013), limits dreaming's usefulness as a model (Waters et al., 2016).

Reflection and Refraction

Participants' relationships with their voices and associated emotions showed a range of interactions between language history and voice-hearing experiences. Some participants' voices reflected their language experiences, sometimes with a time delay. However, more complex effects occurred, akin to refraction, where voices' languages altered language experiences in unexpected ways.

Hadden et al (2020) found a relationship between Age of onset of acquisition, language proficiency, and likelihood of a language featuring in a hearer's voices. While this study does not disprove this at a group level, it demonstrates neither Age of onset of acquisition nor proficiency is a prerequisite for a language to feature, mirroring Sicard and de Bot's (2013) dream-related findings.

Literature reviewed above frequently sought patterns whereby language histories and associated emotions were reflected in voice-hearing experiences, exceptions being Wang et al. (1998) and Hadden et al. (2020). This study builds on Hadden et al.'s qualitative findings, investigating voice-hearers' own perspectives on their experience in greater detail. Refractions of language experiences, uncanny voice-hearing experiences or mismatches between context and voices' languages are rare in the literature: Wang et al. (1998) argued that voice-hearers'

experience match the experience's internal logic. This fits some but not all participants here. Some (P2, P5) heard voices of known individuals, speaking languages the "real-life" analogue could not. This complicates Grosjean's (2012) Complementarity Principle and further highlights distinctions between voice-hearing and inner speech. While multilingual voice-hearers, like other multilinguals, typically acquire their languages in different domains and contexts, this is not necessarily reflected in their voices. P2's Scottish Gaelic was acquired in a classroom context but heard coming from a voice reminiscent of a family member; P5's home and family languages were spoken by voices associated with a workplace context. This differs from inner speech patterns: for example, students speaking English as an LX adopt academic inner speech more than general inner speech, reflecting the domain and context of acquisition (Leung & Dewaele, 2021).

The relationship between multilinguals' language experiences and their voice-hearing can be associated with more multi-faceted emotions than previous research suggests. Aside from Hadden et al. (2020) and Malo Ocejó (1991), where earlier research reported emotions, it categorised voices as simply positive or negative (e.g., Lukianowicz, 1962; Herbert, 1984). Some participants described overwhelming negativity in their voices. However, a range of other emotions featured: confusion, disturbance, anger, fear, comfort. Multilingualism played into all of these. As such where voice-hearers seek support for voice-hearing-related distress, whether psychological, medical, or from HVN peer support groups, it may be worth exploring how voices' languages affect the experience.

Conclusion

This small-scale interview study contributes two new findings to the voice-hearing literature. First, not-understood voices are a considerably more complex phenomenon than previous literature suggests. Second, the relationship between language experience and voices' language(s) is not one of simple reflection, but appears highly individual: neither early Age of onset of acquisition nor dominance was a prerequisite for voice-hearing in a given language, and the transition from language experience to voice-hearing experience could distort, refract, or shift the domains and interlocutors which made up the language acquisition context. These findings challenge the dominance of misattributed inner speech in voice-hearing aetiology and open up new ground for future research into prevalence and experiences of both not-understood voices and multilingual voice-hearing more broadly. The wide variety of experiences and emotions disclosed by participants suggests this is the tip of a considerable iceberg with potential implications not just for voice-hearing phenomenology and aetiology but for therapeutic and peer support for voice-hearers.

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Appendix

Bilingual and multilingual voice-hearers' relationships with their voices

(Let the participant know that we can pause or stop the interview at any time, there are no right or wrong answers and we can skip any questions they'd rather not answer without them having to give a reason.)

Demographic questions

What is your gender?

How old are you?

Are you trans?

What is your sexual orientation?

What is your ethnicity?

What region of the UK do you live in?

Do you have a mental health diagnosis? (If so, do you think it fits your experiences?)

Are you taking medication for your mental health at the moment?

Are you working, studying or volunteering at the moment?

Do you consider yourself to have a disability?

Do you have a religion or faith?

Language questions: LEAP-Q

<http://bilingualism.soc.northwestern.edu/wp-content/uploads/2012/02/LEAPQ2007.doc>

Voice-hearing questions

This part of the interview is intended to find out more about the voices you hear and how you relate to them.

How many voices do you hear? What languages do they speak?

(Which do you hear most / which language do you hear voices in most often? Has the number of voices and the language(s) they speak changed over time?)

Why do you think you hear voices?

E.g. do you understand them as symptoms of an illness, as a message from someone or something else (who?), as the result of trauma, as part of yourself, as coming from a good or bad spirit, as ghosts or angels?

I'm going to ask a set of questions about the voices in each language and your relationship to them. For each question, try to start with the language with the voices you hear or have heard most frequently and most recently, and work through to the voice or voices you hear least and longest ago.

Characteristics of the voices

Tell me about the voices in each language - do they have a name? Age? Gender? Accent?

How often / how much of the time do you hear these voices?

Where do the voices come from / where are they located? Has this changed over time?

(Do they sound as though they are in your head / coming through your ears / located somewhere else within your body / coming from somewhere outside your body? Do you think they come from you or from someone else? Does this differ according to language)

What kinds of things do they say and how do they say them / what is their tone?

Do any of the voices ever switch languages?

When does each voice do that - for example, is it when it is expressing a particular emotion, or when you are in a particular place or doing something in particular? Does it change in the middle of a sentence, utterance or situation, or does it speak one language in particular contexts? Do you have a sense of why it changes?

Do you ever have a dialogue with these voices or communicate with them at all?

If yes, can you give an example? What language do you speak back in – is it always the same? If no, why do you think that is?

Do you speak out loud or in your mind if you talk to them? How do they react? Have they always reacted in this way?

Content & relationship to the voices

Do you hear mostly positive / friendly or negative / unfriendly voices in each language?

What do they say or do? Is this the same as when you first heard them?

How would you describe your relationship with your voices?

(Prompts: Powerless / Compliant / Conflict-heavy or antagonistic / Balanced / Distant / Warm / Playful / Understanding / Fearful / Protective)

Have you always felt this way about these voices? Do you know why?

Do these voices talk about specific subjects or people?

Can you describe them? What do they say? Do these things interest you as well? Do different languages cover different topics?

Would you miss the voices if you didn't hear them anymore?

Do any of the voices also have relationships to each other?

E.g. are they friends? Related to each other? Co-existing or in separate universes? Do they speak to each other - if so in what language?

Think about how you felt about [Lx] when you first heard these voices and how you feel about [Lx] now. Is it different? Do these voices change how you feel about [Lx]?

(Prompts: if someone speaks Lx to you, how do you feel about them? Has that changed since you started hearing voices in Lx? Do you want to speak Lx more or less than you used to? If you have a language you speak but don't hear voices in, how do you feel when someone speaks that language to you?)

Do you experience yourself as thinking in a language?

If so, what proportion of the time do you experience this in each language? Does it feel qualitatively different to voice-hearing? How?

Triggers

Have you noticed whether these voices tend to be present when you take part in particular activities or in certain kinds of circumstances, or when you feel certain emotions? Can you describe what those are?

(If so, what is the language context? Do you relate those to experiences you have had in a specific language? Follow up if yes: **Can you describe how the voices react to your emotions?** Is it helpful or unhelpful? Does it change your emotions?)

Are you hearing any of these voices now?

If so, are they commenting on this interview? What are they saying?

How old were you when you first heard voices? What was happening in your life at the time and what was your dominant language then?

(Prompt: if it's helpful, I have a list of the kinds of circumstances that other voice hearers say they experienced around the time or just before they first heard voices)

Coping strategies

Are there specific things that help you cope with hearing voices if / when it is difficult? I have a list of examples of things other voice hearers have said they sometimes use if that would be helpful to prompt you.

(Prompt list: Send the voices away / Ignore the voices / Concentrate on listening / Listen selectively / Think about something else / Make a deal with the voices / Try to limit contact with the voices / Try to escape the voices / Telephone someone / Visit someone / Distract yourself / Keep a diary about the voices / Carry out certain rituals/behaviours / Relaxation exercises like yoga / Medication / Alcohol and drugs / Food)

If so, do you use different coping strategies for different languages, e.g. if you listen to music, does it make a difference whether the lyrics are in the same or a different language to the voices?

Support & social network

Could you tell me about any formal support you have or have tried to get with voice-hearing? E.g. GP, NHS mental health services, hearing voices groups, charities or peer support organisations? What do they do to support you?

What language do you get this support in?

Has anyone in any of these services ever asked you about the languages your voices speak?

If yes, was that helpful? Did they use that information in the way they went on to support you? If no, would you have liked them to? How do you think it would have made a difference?

Can you tell me about any informal support you get from family, friends etc with your voice-hearing - do you have people who know about it, who you talk to about it? If so in what language?

Is there anything else I haven't asked about that you think is important to know about your experience of voice-hearing?

Closing

Check in about how the participant is feeling, and whether they would like a follow-up by email or phone in a day or two, and/or the list of support and resources on voice hearing.