European Journal of Trauma & Dissociation 1 (2017) 37–46

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Opinion Paper

# Auditory verbal hallucinations and the differential diagnosis of schizophrenia and dissociative disorders: Historical, empirical and clinical perspectives

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ARTICLE INFO

*Article history:*
Received 30 December 2016
Accepted 8 January 2017

*Keywords:*
Schizophrenia
Hallucinations
Dissociation
Differential diagnosis
Absorption

ABSTRACT

*Introduction.* – Despite the long association between auditory verbal hallucinations (AVH) or voice hearing and schizophrenia, recent research has demonstrated AVH's presence in other disorders and in persons without a diagnosis, particularly amongst those with a history of traumatization. But are there differences in the *type* of voices between these populations?
*Objective.* – To consider the status of the relationship between AVH and schizophrenia, in comparison to certain posttraumatic disorders, and the implications of this relationship both conceptually and clinically.
*Method.* – The relationship between AVH and schizophrenia was reviewed from an historical and empirical perspective, in comparison to the posttraumatic or dissociative disorders, borderline personality disorder (BPD), posttraumatic stress disorder (PTSD) and dissociative identity disorder (DID). The relationship between AVH in general and dissociation was also considered. A psychotherapeutic approach to working with voices from a dissociation perspective was presented, along with a clinical case.
*Results.* – AVH in schizophrenia appear to be very similar to AVH in other disorders, with some apparent differences disappearing when the person's attitude toward their voices changes. However, compared to BPD, PTSD, or DID, AVH in schizophrenia tend to be first experienced much later in life (adulthood as opposed to adolescence or even childhood), rarely include 'child' voices, and exert significantly less control over the person's behavior.
*Conclusion.* – AVH are common in schizophrenia and posttraumatic disorders, and are not significantly differently manifested in these disorders. We contend that all voices are dissociative in nature, and can be most successfully treated through respectful engagement, which seeks to recognize the underlying purpose/concern of the voices, and transform the person's relationship with their voices. The dissociative etiology of AVH in schizophrenia, however, may be somewhat different from that in other disorders – a 'bursting through' of dissociative parts associated with severe depersonalization, as opposed to a more gradual development through absorption and intense focus on internal states. In concert with Bleuler's original proposal of schizophrenia as 'split mind', it is proposed that schizophrenia might represent a 'low level' dissociative disorder. Research to further explore this proposal is suggested.
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## 1. Introduction

Auditory verbal hallucinations (AVH), or voice hearing, is often viewed as a dramatic and seemingly bizarre experience, particularly for those who have never personally encountered it. For many of those who hear voices, however, they are simply a part of their daily lives. Indeed, despite its strong association with schizophrenia in the public and in many professional minds, it is becoming increasingly clear that the experience of voice hearing is common in many clinical conditions, as well as in persons with no history of psychiatric service use.

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http://dx.doi.org/10.1016/j.ejtd.2017.01.003
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While it has long been recognized that many persons who hear voices who do not meet criteria for a diagnosis of schizophrenia, there is a long-standing belief that certain types or forms of voices are typical of schizophrenia; this is the question of *pseudo-hallucinations* – voices considered less typically psychotic than the *true* hallucinations found in schizophrenia. But the search to find characteristics of genuine or psychotic hallucinations has turned into a sort of psychiatric Holy Grail, wherein each supposed characteristic of 'psychotic' hallucinations (such as perceived 'location' in the external world) turns out to be illusory. Does this mean that there are no differences at all between the types of hallucinations found in persons diagnosed with schizophrenia and other disorders (such as mood disorders, posttraumatic stress disorder [PTSD], and borderline personality disorder [BPD])? We will attempt to address part of this question in this paper – namely, what are the similarities and differences in the experience of AVH between persons diagnosed with schizophrenia and those diagnosed with disorders we will broadly call 'dissociative' (following the arguments arising from the Structural Dissociation of the Personality model [SDP]; Van der Hart, Nijenhuis, & Steele, 2006): PTSD, BPD and the DSM-IV or DSM-5 dissociative disorders (APA, 1994, 2000, 2013), particularly dissociative identity disorder (DID). We will not consider the experience of AVH in other psychiatric diagnoses, organic conditions, or in 'healthy persons' (including hallucinations associated with grief).

The paper will be structured in the following way. First, we will discuss the rationale for comparing schizophrenia to dissociative disorders, along with the basis for considering PTSD and BPD to be dissociative disorders; given that they are not classified as such in the ICD-10 (WHO, 1992), DSM-IV or DSM-5.[1] Then we will briefly review the history of AVH and diagnosis, including the 'pseudo-hallucinations' debate, Bleuler's creation of the concept of schizophrenia, and Kurt Schneider's first-rank symptoms of schizophrenia. We will then consider the literature comparing AVH in the diagnoses we are considering, the relationship between dissociation and AVH in general, and clinical experiences bearing on similarities and possible differences in voice phenomenology between these groups. Finally, we will end with a section considering clinical implications of these findings, along with recommendations for future research to help illuminate the many questions still remaining.

## 2. Dissociation, structural dissociation of the personality, and dissociative disorders

The term dissociation is used in many ways, which has led to considerable confusion. Furthermore, the best use of the term has been often contested – for example, a spirited debate between supporters and detractors of the concept of *structural dissociation of the personality* (SDP) can be found in a 2011 edition of the *Journal of Trauma and Dissociation* (Cardeña & Bowman, 2011). The theory of SDP harks back to the original ideas of Pierre Janet, and considers dissociation to be a *division of the personality* as a result of *traumatizing* experiences. This is sometimes referred to as a *narrow* conception of dissociation, in contrast to a *broad* conception, which includes *alterations of consciousness* such as absorption (an intense focus on one part of one's current experience, either in the environment or in one's head) or depersonalization (feeling disconnected from one's self or numbed; Van der Hart & Dorahy, 2009). Such alterations in consciousness do not necessarily require or lead to a division of the personality. But there are disagreements about this, as some argue that absorption, particularly involving intense inner experiences, may contribute to the development of dissociative disorders (Bigelsen, Lehrfeld, Jopp, & Somer, 2016; Dalenberg & Paulson, 2009). And while chronic depersonalization, as in depersonalization disorder, does not seem to involve a division of the personality (and AVH is not common; Simeon & Abugel, 2006), some forms of depersonalization (such as not recognizing oneself or experiencing seeing one's body from a distance) do seem to be a part of SDP.

While we agree with the SDP position that dissociation is best considered as a division of the personality following traumatization, it may be possible that some forms of absorption or depersonalization can predispose for, or lead to, dissociative disorders. We will return to this possibility at the end of the paper. The theory of SDP argues that some mental disorders not currently considered as dissociative disorders should probably be classified as such. A brief summary of the theory will illuminate the basis for considering PTSD and at least some forms of BPD to be dissociative disorders.

The theory of SDP states that traumatizing incidents divide the personality into at least two parts (each with its own first person perspective). One part believes that the trauma is reoccurring in the present, and responds on the basis of specific defensive patterns (fight, flight and various freeze or immobility responses, or their psychological equivalents). The second part is trying to function in daily life, and as such avoids reminders of the trauma. In the theory of SDP (Van der Hart et al., 2006), the former is referred to as the *Emotional* part of the personality (or EP), and the latter as the *Apparently Normal* part of the personality (or ANP; the specific reasons for these names will not be discussed here). These parts are *dissociated* from each other, and often fear each other – issues that must be addressed in treatment.

In simple PTSD, Van der Hart et al. (2006) argue that there is one EP and one ANP – corresponding to the well-recognized PTSD symptom clusters of *re-experiencing* and *avoidance* symptoms. However, they insist that these are not only symptom clusters, but also dissociative parts of the personality. This is referred to as *Primary* structural dissociation.

While BPD is not widely considered to be a dissociative disorder, it is well recognized that extensive childhood trauma is very common in this disorder (Karamanolaki et al., 2016). Van der Hart et al. (2006) argue that most cases of BPD represent a more complex form of SDP, in which one ANP but several EPs develop – associated with different fear responses or different danger situations. This is considered to be *Secondary* structural dissociation. Finally DID, in which childhood trauma is ubiquitous and very severe, includes several ANPs and several EPs; it is considered to be an example of *Tertiary* structural dissociation.

In contrast, *schizophrenia* is almost universally considered *not* to be a dissociative disorder (but see Scharfetter, 2008), despite the recognition that childhood trauma is common (Longden & Read, 2016; Read, van Os, Morrison, & Ross, 2005; Varese et al., 2012). However, AVH are common in schizophrenia, and appear to be dissociative in nature (evidence reviewed below). Because of this apparent paradox, it is useful to compare voice hearing in schizophrenia to disorders which are considered to reflect the full range of structural dissociation, from primary to tertiary – PTSD, BPD and DID.

## 3. AVH and pseudo-hallucinations

It has long been recognized that experiencing hallucinations – and, in particular, hearing voices – need not be considered a sign of

[1] The theory of SDP considers most, but not all, cases of BPD to be dissociative disorders. But all BPD cases are characterized by structural dissociation of the personality. For the sake of simplicity, we will consider BPD and PTSD to be dissociative disorders because they are characterized by structural dissociation of the personality (as described below). What is clear is that the level of dissociation increases from PTSD through BPD to DID, and that schizophrenia manifests lower levels of dissociation than these disorders. It is less important, for the sake of our argument, whether BPD and PTSD are called 'dissociative', 'posttraumatic', or 'trauma-related' disorders.

madness. For more than 150 years, this issue has been the subject of scientific debate (Berrios & Dening, 1996). The claim that only some forms of hallucinations are associated with mental disorders has led to the concept of *pseudo-hallucinations*. While the basis on which this form of hallucination can be distinguished from *genuine* (or *true* or *psychotic*) hallucinations has varied over the years, the emphasis over the past 100 years has been on *perceived location* (*inside* the head or *outside*, in the environment) and/or *insight* (how the voices are interpreted; Berrios & Dening, 1996; Jaspers, 1913/1963). However, as Moskowitz and Corstens (2007) note, insight is technically not an experienced aspect of the hallucination but a subsequent evaluation by the voice hearer (essentially equivalent to a secondary delusion). As such, the presence or absence of 'insight' says nothing about the AVH experience per se, only its interpretation or explanation.

Perceived location of AVH has been explored empirically for many years, partly because the notion is intuitively appealing. Hearing voices localized in external space is how we, of course, hear the voices of 'real' persons in our environment, while hearing voices localized in our head would appear to be closer to the experience of thoughts. Partly for this reason, 'externally-localized' voices had been argued to be typical of schizophrenia for some years. However, research has consistently shown a range of perceived location of voices in all diagnoses, and also in non-clinical voice hearers. The research has been so consistent on this score that, in 2004, Copolov, Trauer, and MacKinnon published a paper entitled 'On the non-significance of internal versus external auditory hallucinations', in which they concluded, "(T)he clinical relevance of location is not confirmed, and the conceptual clarity and clinical utility of the pseudo-hallucination is undermined" (p. 5). Considerable research has addressed this question in the ensuing years, with no findings contradicting this conclusion.

Thus, since neither insight nor perceived location can be used as a basis for the concept of *pseudo-hallucinations*, one must certainly question if there is any utility to this concept. AVH in non-clinical populations, which will not be considered further in this paper, appears quite similar to that in inpatient populations (see Johns et al., 2014). For example, a study by Daalman et al. (2011) compared AVH phenomenology in 118 patients with psychotic disorders to 111 well-functioning non-psychotic individuals who heard voices at least once a month. Although the patients reported more frequent, negative and uncontrollable voices, neither perceived location, number of voices, experienced volume or personification (i.e., attributing the voices to a real-life person) differed between the two groups.

So, if it has been long recognized that AVH occurs in many clinical and non-clinical populations, and there is limited evidence as to the uniqueness of the experience for any group, how did it come to be so strongly associated with psychosis in general, and schizophrenia in particular?

## 4. AVH and schizophrenia

The concept of schizophrenia was proposed in 1908 by Eugen Bleuler at a psychiatry conference in Berlin (Bleuler, 1908/1987). His justification for replacing the existing term *Dementia Praecox* was spelled out in this document and, in more detail, in his 1911 book *Dementia Praecox or the Group of Schizophrenias*. In that text, Bleuler (1911/1950) stated:

> I call dementia praecox "schizophrenia" because... the "splitting" of the different psychic functions is one of its most important characteristics... In every case, we are confronted with a more or less clear-cut splitting of the psychic functions. If the disease is marked, the personality loses its unity; at different times, different psychic complexes seem to represent the personality (pp. 8–9).

As can be seen from this quotation, Bleuler's conception of schizophrenia was heavily influenced by existing conceptions of dissociation (Moskowitz, 2008; Moskowitz & Heim, 2011). He considered dissociation, or what he called 'splitting,' to be central to the concept of schizophrenia, along with 'loosening of associations' and, to a lesser extent, *ambivalence*, *autism* and disturbances of *affect*. Bleuler did not consider psychotic symptoms, including AVH, to be central to schizophrenia, as he recognized that those experiences were common in other disorders (Moskowitz & Heim, 2011). At the same time, Bleuler was perhaps one of the first to recognize that AVH might be related to a dissociation of the personality, as can be seen in the quote below:

> (W)ishes and fears regulate ideas to their liking and combine them in a compact complex, whose expressions emerge as "hallucinations"; these appear to be so consequential and deliberate that they simulate a third person... But it is merely a piece of the split-off personality... (Bleuler, 1905/1918, p. 279).

Thus, Bleuler's original concept of schizophrenia (or, for that matter, Emil Kraepelin's prior concept of *Dementia Praecox*) did not emphasize AVH, or consider them to be important for differential diagnosis. This, however, changed dramatically a few decades later.

In the mid-20th century, Kurt Schneider, a German psychiatrist influenced by Karl Jaspers, suggested that there were certain symptoms which were strongly associated with schizophrenia. He delimited 10 symptoms, which he called 'first-rank symptoms' (now also known as 'Schneiderian' symptoms) two of which were forms of AVH: (1) voices commenting on a person's behavior, or (2) two or more voices conversing with each other. Schneider's ideas were further disseminated with the translation of his 1950 book, *Clinical Psychopathology*, into English in 1959 (Schneider, 1959). Schneider's first-rank symptoms, particularly the voice-related ones, were incorporated into widely-used psychiatric interviews, such as the Present State Examination (Wing, Cooper, & Sartorius, 1974), used in international studies on schizophrenia (Moskowitz & Heim, 2011). Schneider's symptoms of schizophrenia were favored, it appears, because they were easily assessed. For the same reason (i.e., to increase reliability), these symptoms, particularly the two AVH symptoms, were heavily emphasized in the modern diagnosis of schizophrenia. Indeed, for a third of a century, from the publication of the DSM-III to the DSM-5, these two AVH symptoms were the *only* symptom required for a diagnosis of schizophrenia.[2] In addition, while not explicitly emphasized by Schneider, 'externally-perceived' voices were described in the DSM-III and III-R texts as being 'characteristic' of schizophrenia. This was only removed in the DSM-IV in 1994, after it became clear that this was not the case (Moskowitz & Corstens, 2007). Finally, in 2013, the DSM-5 eliminated the special emphasis on certain forms of AVH in the schizophrenia diagnostic criteria, noting that there was no evidence that they were specific to schizophrenia (though psychotic symptoms, including hallucinations, remained central to the diagnosis). The ICD-10 and the proposed ICD-11 continue to emphasize first-rank symptoms.

While the centrality of AVH to schizophrenia has been deemphasized somewhat in recent years,[3] AVH nevertheless

[2] The only other symptom so emphasized was 'bizarre delusions', which was not defined in the criteria per se (examples given in the texts were experiences of being controlled, or of thoughts being inserted or withdrawn, which were other 'first-rank' symptoms from Schneider).

[3] However, the DSM-5 has a new diagnosis, *Other Specified Schizophrenia Spectrum and Other Psychotic Disorder*, which requires only 'persistent auditory hallucinations' to fulfill its symptom criteria (APA, 2013, p. 122).

remains strongly associated with schizophrenia. Indeed, while psychotic symptoms are diagnostically possible in mood disorders, AVH are not listed as possible symptoms of BPD, PTSD, or DID, despite evidence (reviewed below) that they are common. In addition, there is considerable debate as to whether AVH, in general, are best considered a psychotic or a dissociative symptom (Moskowitz & Corstens, 2007; Longden, Madill, & Waterman, 2012). A recent meta-analysis found a consistently robust relationship (mean $r = .51$) between measures of dissociation and assessments of AVH in all clinical and non-clinical populations (Pilton, Varese, Berry, & Bucci, 2015). But if AVH are essentially dissociative in nature, their prevalence in schizophrenia becomes problematic; why is a dissociative symptom so common in a disorder that is not typically considered dissociative or even trauma-based? This question will be addressed later, but first we will consider the literature on the prevalence and nature of AVH in schizophrenia and the (recognized) posttraumatic disorders above, before addressing significant similarities and differences.

## 5. Prevalence and nature of AVH in schizophrenia and dissociative disorders

In an important systematic review, Waters and Fernyhough (2016), considered hallucination prevalence and phenomenology in schizophrenia in comparison to a range of clinical and non-clinical groups. In addition to non-patient groups, drug- or alcohol-related conditions and medical and neurological conditions, Waters and Fernyhough's review included 18 studies that directly compared AVH phenomenology in non-psychotic psychiatric populations with that observed in schizophrenia. AVH were found to be equally common in all diagnostic groups. Twenty-one features of AVH and visual hallucinations in schizophrenia were considered, including location, perceptual vividness, personification, duration, negative content, and the disruption caused by voices. Of these, fully 95% (20 out of 21) were equally as common in schizophrenia and the other psychiatric conditions, with only onset in late adolescence appearing unique to schizophrenia (earlier age of onset of AVH was more common in the other disorders, and also in non-clinical voice hearers). On the basis of their findings, Waters and Fernyhough argued against using any feature of AVH for the purpose of differential diagnosis. Even so, a closer look at some of the studies that compared AVH associated with schizophrenia to AVH in BPD, PTSD and DID reveals, amongst the overwhelming similarities, some potentially intriguing differences.

### 5.1. AVH in schizophrenia and BPD

Several studies have used standardised measures to compare voices in BPD to those in patients with schizophrenia, finding broad similarities (Table 1). For example, Hepworth, Ashcroft, and Kingdon (2013) assessed patients meeting criteria for BPD, schizophrenia, or both, and found all three groups to closely resemble each other in terms of appraisals of the voices and behavioral responses towards them (though the group with comorbid schizophrenia and BPD reported more negative emotional impact from their voices). Other studies found numerous commonalities in other aspects of voice phenomenology, including location and beliefs about voice origin (Kingdon et al., 2010; Slotema et al., 2012; Tschoeke, Steinert, Flammer, & Uhlmann, 2014). As in the Hepworth et al. (2013) study, Kingdon et al. (2010) found more emotionally distressing voices in BPD; however, Slotema et al. (2012) found voice content to be rated as equally negative and distressing in BPD and schizophrenia.

### 5.2. AVH in schizophrenia and PTSD

In turn, AVH in the context of PSTD appear to have many shared qualities with those experienced by people diagnosed with schizophrenia (Table 2), including Schneiderian characteristics, location, and the presence of negative derogatory voices that appear 'real'. While it should be noted that two of the three comparison studies were under-powered – and in the case of Jessop, Scott, and Nurcombe (2008) was reliant on a descriptive case series methodology – a third study with a larger sample reported comparable results. Hamner et al. (2000) found schizophrenia patients to have higher composite PANSS scores compared to a PTSD sample, but there were no significant group differences in the hallucination subscale. In this respect, a recent review of AVH phenomenology, which was not limited to direct comparison studies, likewise concluded that AVH in PTSD and

**Table 1**
Studies comparing AVH phenomenology in schizophrenia and BPD.

| Study and sample | Measure of AVH | Similarities to AVH in schizophrenia | Differences from AVH in schizophrenia |
|---|---|---|---|
| Hepworth et al. (2013)<br>Schizophrenia ($n = 23$)<br>BPD ($n = 10$)<br>Both ($n = 12$) | BAVQ-R | Perceived malevolence or omnipotence of voices<br>Behavioural resistance or engagement with voices[a] | Greater emotional resistance to voices (in comorbid group)<br>Less emotional engagement with voices |
| Kingdon et al. (2010)<br>BPD ($n = 59$)<br>Schizophrenia ($n = 33$)<br>Both ($n = 19$) | PSYRATS | Voice frequency, duration, location, volume, beliefs about origin, intensity of distress, disruption, and controllability | Greater amounts of distress and greater amount/degree of negative voice content |
| Slotema et al. (2012)<br>BPD ($n = 38$)<br>Schizophrenia/ schizoaffective disorder ($n = 51$) | PSYRATS | Voice frequency, duration, location, volume, beliefs about origin, amount/degree of negative content, amount/ intensity of distress, and controllability | Voices were less disruptive |
| Tschoeke et al. (2014)<br>BPD ($n = 23$)<br>Schizophrenia ($n = 21$) | PANSS<br>SCID-D<br>OQ | Scores on PANSS hallucination subscale<br>Number of voices, voice location, frequency of commenting voices, perceiving comments as 'unreal,' not attributing the voice to a 'known' person | Feeling more controlled by their voices<br>Greater frequency of voice onset before 18<br>Less voices 'arguing'<br>Dialogues with voices were less frequent and experienced as less 'real' |

BAVQ-R: The Beliefs about Voices Questionnaire (Chadwick, Lees, & Birchwood, 2000); PSYRATS: Psychotic Symptom Rating Scale (Haddock, McCarron, Tarrier, & Faragher, 1999); PANSS: The Positive and Negative Syndrome Scale for schizophrenia (Kay et al., 1987); SCID-D: The Structured Clinical Interview for DSM-IV Dissociative Disorders (Steinberg, 1993); OQ: Opcrit Questionnaire (McGuffin, Farmer, & Harvey, 1991).

[a] Behavioural resistance/engagement and emotional resistance/engagement are four BAVQ-R subscales assessing the extent to which the hearer interacts with the voice or tries to ignore it, and the emotional relationship with the voice in terms of whether it is associated with positive or negative feelings.

**Table 2**
Studies comparing AVH phenomenology in schizophrenia and PTSD.

| Study and sample | Measure of AVH | Similarities to AVH in schizophrenia | Differences from AVH in schizophrenia |
|---|---|---|---|
| Hamner et al. (2000)<br>PTSD ($n = 40$)<br>Schizophrenia ($n = 40$) | PANSS | Scores on PANSS hallucinations subscale | |
| Jessop et al. (2008)<br>Adolescent PTSD ($n = 13$)<br>Adolescent schizophrenia ($n = 5$) | Questionnaire designed by authors using items from the PANSS, BPRS and K-SADS | Frequent, external, vivid and realistic voices | More commanding and derogatory voices<br>Voices more linked with distress and self-harm<br>Fewer bizarre, religious or grandiose themes in voice content |
| Scott, Nurcombe, Sheridan, and McFarland (2007)<br>Adolescent PTSD ($n = 20$)<br>Adolescent psychotic disorder ($n = 18$) | K-SADS | Voice prevalence, third person voices, running commentary, thought echo, conversing voices, derogatory voices, neutral voices, combinations of internally and externally located voices, or voices that were only externally located | Less command hallucinations<br>Fewer only internally located voices<br>More voices clearly reflecting a previous traumatic experience |

PANSS: The Positive and Negative Syndrome Scale for schizophrenia (Kay et al., 1987); BPRS: Brief Psychiatric Rating Scale (Overall & Gorham, 1962); K-SADS: Schedule for Affective Disorders and Schizophrenia for School Aged Children–Present Version (Kaufman, Birmaher, Brent, & Roa, 1997).

schizophrenia were experienced in quite similar ways (McCarthy-Jones & Longden, 2015).

### 5.3. AVH in schizophrenia and DID

Studies comparing AVH in schizophrenia and DID have generally reported more points of difference than those in BPD and PTSD (Table 3). For example, Laddis and Dell (2012) found many forms of AVH, including the Schneiderian symptom 'voices commenting', more common in DID than in schizophrenia. However, voices 'arguing' (equivalent to the first-rank symptom voices 'conversing') was equally common in both groups. The study further found substantially higher levels of dissociation in the DID group on every dissociation scale assessed, except for 'voices arguing', while the schizophrenia group scored higher on the 'psychosis screen' scale (which assessed for delusions). Of particular interest, schizophrenia patients' overall dissociation scores were highly correlated with their scores on the 'voices' scales, suggesting that: (a) the presence and intensity of voices was strongly correlated with dissociation and (b) the role of dissociation in schizophrenia might be largely *limited to* AVH. The Dorahy et al. (2009) study also found some differences between schizophrenia and DID experiences with AVH. Ninety percent of DID patients began hearing voices prior to age 18, compared to less than 1/3 of the schizophrenia patients; earlier age of onset was related to the interaction between childhood trauma and dissociation. In contrast to the Laddis and Dell (2012) study, Dorahy et al. (2009) found both voices *commenting* and voices *conversing* to be far more common in DID than in schizophrenia, and the number of voices also distinguished between the groups. Strikingly, child voices were present in 97% of those with DID, but in only 6% of those with a diagnosis of schizophrenia.

The earlier Honig et al. (1998) study, which used their own semi-structured AVH interview, found fewer differences between patients diagnosed with schizophrenia, DID and a third group of non-patient voice hearers. Although several differences were apparent between the patient and non-patient samples, voice phenomenology was very similar between the DID and schizophrenia group including location, Schneiderian type voices, valence, disruptiveness, and age of onset (2/3 of DID patients and almost 90% of schizophrenia patients first heard voices after age 12). An exception to this was attribution, with the DID patients being more likely to relate their voices to traumatic life events.

**Table 3**
Studies comparing AVH phenomenology in schizophrenia and DID.

| Study and sample | Measure of AVH | Similarities to AVH in schizophrenia | Differences from AVH in schizophrenia |
|---|---|---|---|
| Dorahy et al. (2009)<br>DID ($n = 29$)<br>Schizophrenia without child maltreatment ($n = 18$)<br>Schizophrenia with child maltreatment ($n = 16$) | MUPS | Voices were incongruent with mood<br>Most voices internally located | Compared to both schizophrenia groups, DID group experienced more or greater: Voice onset before age 18; Number of voices; Child voices; Voices conversing or commenting (Schneiderian symptoms)<br>Command AVH were more common in DID and schizophrenia with maltreatment than schizophrenia without maltreatment group |
| Honig et al. (1998)<br>DID ($n = 15$)<br>Schizophrenia ($n = 18$) | Semi-structured clinical interview | Voice location; presence of dialoguing voices; voices that spoke to or about the hearer; voices commenting on thoughts, behaviour and other people; hearing positive and negative voices; hearing voices that were frightening, critical, disruptive or controlling; and voice onset most common after the age of 12 | Voice onset related to traumatic life events |
| Laddis and Dell (2012)<br>DID ($n = 40$)<br>Schizophrenia ($n = 40$) | MID | Voices arguing | More child voices, voices commenting, persecutory voices, angry voices, and command voices |

MUPS: Mental Health Research Institute Unusual Perceptions Schedule (Carter, Mackinnon, Howard, Zeegers, & Copolov, 1995); MID: The Multidimensional Inventory of Dissociation (Dell, 2006).

### 5.4. Discussion

To illustrate in more detail some of the important similarities and differences between schizophrenia and these other diagnostic groups, we will discuss the Tschoeke et al. (2014) study here, which had a number of methodological strengths. Tschoeke et al. compared 23 BPD patients with 21 schizophrenia patients; all of whom were female inpatients. The authors decided to include only women because of significant differences between male and female BPD patients. Diagnosis was confirmed with the Structured Clinical Interview (SCID) for DSM-IV and axis-II personality disorder section (APA, 2009). Psychotic and negative symptoms of schizophrenia were assessed with the PANSS (Kay, Fiszbein, & Opler, 1987). In addition, trauma history and dissociation levels were assessed with well-respected, reliable instruments, and all persons scoring above a cutoff score on the dissociation measure were assessed for dissociative disorders with the SCID-D (Steinberg, 1993).

Significant differences between the groups were found on childhood trauma (more common in BPD) and delusions, conceptual disorganization, and all negative symptoms (more common in schizophrenia). The hallucination subscale of the PANSS did *not* distinguish the groups, and voice location and the number of voices were also not different. Consistent with many previous studies, Tschoeke et al. (2014) found that far fewer of the schizophrenia group (14%) reported AVH onset before age 18 than the BPD group (74%). They also found a substantially greater percentage of BPD patients reporting experiences of the voices controlling their behavior (52%) than the schizophrenia patients (5%).

A strength of the Tschoeke et al. (2014) study was the use of the SCID-D, which assessed for the presence of comorbid dissociative disorders (or misdiagnosed dissociative disorders) in the schizophrenia group. While the authors found no dissociative disorders in the schizophrenia group, all but one BPD patient (96%) met diagnostic criteria for a major dissociative disorder (DID or dissociative disorder not otherwise specified). This strongly supports the consideration of BPD as a dissociative disorder.

To summarize, the Tschoeke paper suggests that patients diagnosed with schizophrenia and BPD differ on delusions, thought disorder and negative symptoms, but not on many aspects of AVH. Dissociative disorder comorbidity is extremely common in BPD, but not in schizophrenia, and AVH starts much earlier in BPD. This, plus the finding that voices controlling behavior is common in BPD (and, by definition, DID), but not schizophrenia, suggests that BPD and DID reflect substantially greater levels of dissociation than schizophrenia. At the same time, as noted, there is significant evidence that AVH in schizophrenia (and all other groups) is linked to dissociation. Possible explanations for this apparent contradiction will be explored below.

Future research may confirm these important apparent similarities and differences between schizophrenia and BPD, DID and PTSD on AVH and other experiences, and perhaps clarify the remaining confusion. Until that time, what can we learn from clinical experience about AVH in schizophrenia, PTSD and DID?

## 6. Clinical experience in working with AVH in schizophrenia, BPD, PTSD and DID

Research findings do not offer much support for the argument that there are different *forms* of voices present in psychotic and dissociative disorders. But what of clinical experience? Conventional approaches to AVH in mental health services have emphasized ignoring the meaning of the experience for the voice hearer and instead trying to remove or decrease the voices through the use of antipsychotic medication (Romme & Escher, 1989). Although this can be helpful for some patients, a significant proportion (30%) still hear voices despite very high doses of oral or injected antipsychotic medication (Curson, Barnes, Bamber, & Weral, 1985). Patients with high levels of trauma exposure are even less likely to respond to antipsychotics (Hassan & De Luca, 2015). Furthermore, antipsychotic medication interferes with emotional processing and can further hinder the process of deconstructing the meaning of the voices (Romme, Escher, Dillon, Corstens, & Morris, 2009).

Many patients have difficulties understanding and dealing with their voices, especially the critical and hostile ones. Hostile or critical voices are typically experienced as attacks towards the self; the internal conflict is sometimes so intense that the person will have difficulties carrying on an ordinary conversation with other people, including therapists (Mosquera & Ross, 2016). The idea that these voices could reflect parts of the self and benefit from engagement might initially be quite challenging for the voice hearer. Uncooperative voices can also be a challenge for both voice hearer and therapist. But are these voices really hostile or uncooperative or is this related to a lack of understanding in the voice hearer and clinician?

### 6.1. General guidelines to therapeutic work with voice hearers

Based on the clinical work of the authors and their colleagues, and consistent with empirical findings, it seems that differences between how individuals experience and relate to their voices are largely unrelated to diagnosis. Substantial benefits can accrue from therapeutic work with voices heard by individuals; the approach taken should be based on particular voice and person characteristics, not diagnosis.

Key questions to address in this work include trying to understand: (1) what was happening in the person's life when each voice first appeared, (2) what triggers the voices (e.g., particular emotions, people, or circumstances), and (3) what they appear to be trying to 'achieve' by their actions. Some voices are elaborate and complex and are perceived as 'not me'; in these cases, the work can be more challenging for both patient and therapist because of high levels of dissociative phobias (i.e., fears from the person toward their voices and vice versa, fears of the traumatic memories, etc.). Voices that mumble or just repeat the same message tend to be more difficult to engage with. Clinicians might give up too soon, thinking the voice is not able to engage. But this is not necessarily true; in some cases, the lack of cooperation is related to dissociative phobias (Van der Hart et al., 2006) and a lack of practice in trying to engage. Patients who are not used to communicating with their voices, or attempting to understand what the voice is trying to say, will have greater difficulties in adopting an empathic stance toward the experience; without empathy and minimal understanding, genuine progress will not be possible.

Even when voices do not respond to attempts to engage with them, it may still be possible to do the kind of work described below. What is most important is that the voice hearer develops a different stance toward the voices and tries to understand and relate to them differently. This can sometimes be accomplished, for example, by 'imagining' what the voice would say in response to a comment or question. So even when direct communication does not appear to be possible, transformative work can occur. It is not yet clear whether anyone hears voices, which cannot, at least in principle, be communicated with.

### 6.2. Trying to understand the meaning behind the voices' comments

Many patients have learned not to discuss their voices with clinicians due to failed interventions that exacerbate an already existing conflict. According to the authors' clinical experience, any approach that emphasizes getting rid of the voices or ignoring them will often create more internal conflict and worsen the voice

hearer relationship (Mosquera & Ross, 2016). As a first step towards building trust, it is sometimes useful to clearly state that the therapist does not want to try to 'get rid' of the voices, but rather to understand more about the role they play in the person's life. In this respect, many patients' (and voices') reluctance to engage is related to prior experiences where voices were seen as symptoms of a medical illness to be eliminated, not experiences to be understood.

### 6.3. How to improve the relationship with the voices

Patients typically need help in understanding and relating differently to their voices. It is known that patients who develop a meaningful understanding of their voices usually do better than those who are avoidant or critical of, or reject their voices (Romme et al., 2009).

Some ways to begin include:

- Have patients listen to what the voices have to say, but not act on any suggestions or commands. Explain that we recognize this is often difficult, but the less we listen and the more the voices are ignored, the more likely they are to get louder or escalate their behaviors in a desperate attempt to be acknowledged.
- Promote empathy between patient and voices. The more empathy, the more compassion and cooperation.
- Once the patient is able to listen, try to promote curiosity toward the message that the voice is attempting to get across. What is the voice trying to achieve by its comments?
  - What is the voice concerned about?
  - Is the voice trying to help in some way?
  - What does the voice think would happen if you did x, *and* how would the voice feel after that?
- Try to recognize the function the voice has and its capacity to help (for example, by calling attention to situations similar to previous conflicts the person has faced). After understanding what the voice is concerned about or how it is trying to help, validate the effort but suggest more useful or adaptive ways for the voice to help the person.
- Explore resources and ways of moving forward that are shared by the different voices and the patient. For example, one voice might have the capacity to help defend the system, another to identify possible dangers, and a third to be playful and enjoy life. This can lead to a more integrated self where each voice represents something that is useful for better functioning.
- Reach agreements or compromises that all voices can accept, for the benefit of the entire system/person (as illustrated in the case below).

Finding strategies to promote safety and self-soothing is important, particularly amongst patients with high levels of previous trauma exposure (see Boon, Steele, & Van der Hart, 2011). In turn, various coping strategies can be used to help make the voice hearing experience less threatening (e.g., May & Longden, 2010; Smith, Coleman, & Good, 2003), which in turn can facilitate the listening process. Providing access to literature of other individuals who have learned to make sense of their voices and develop more peaceful relationships with them can help with this process (e.g., Romme et al., 2009).

Table 4 illustrates some frequent types of voice presentations and the possible functions or goal, which may lie behind them. A single voice may involve more than one presentation or role.

### 6.4. Case example

Raul (a pseudonym) has been in treatment for over 20 years, received diagnoses of schizophrenia, another psychotic disorder, and BPD, and has tried almost all antipsychotic medications without significant improvement. He was sent to therapy due to severe self-harming behaviors and transient urges to kill other people. Raul does not remember most of these episodes and refers to frequent intense experiences of passive influence where he does not feel in control, and where "a force" pushes him to do things he would not normally do.

At the first meeting, Raul revealed that he talks to inanimate objects on a daily basis. He likes to go to the harbor and talk to boats. He states that there is only one boat he does not talk to; he associates it with recurrent nightmares of being dragged to the open sea and abandoned.

Raul presents with numerous self-harming behaviors–cuts, burns, and severe suicide attempts. He hears different external voices; one of them is a constant noise that he describes as like the background noise in a bar, and another voice that he calls the 'Bastard Dwarf'. He is not concerned about the first one, which he copes with by walking into crowded, loud places. But he is concerned about the 'Bastard Dwarf' voice because it has led to severe self-harm and suicide attempts. He says this voice is "obsessed with self-harm" and "wants to destroy him". Raul was looking for strategies to help control the voices and his impulse to hurt others.

In the beginning of therapy, he could not say much about the voices and was surprised by the interest the therapist showed regarding them. He had been told in the past that voices should be ignored and suppressed with medication. With time, he learned that medication was not helping and made him even more vulnerable to the passive influence attacks, so he started lying about the voices, claiming to no longer hear them in order not to be prescribed more medication.

The work began with getting a general idea of Raul's experiences and demonstrating empathic curiosity towards the more hostile voice, the 'Bastard Dwarf'. The first thing we did was discuss renaming the voice with something less negative. Raul could not think of a different name but agreed to try to avoid the use of 'Bastard' when referring to the voice. If patients relate negatively to their voices (and a derogatory name certainly implies

**Table 4**
Frequent presentations for AVH and possible functions or goals.

| Presentation | Possible function/goal |
|---|---|
| Distrustful voices | Being alert to possible danger/threats and avoiding further victimization |
| Blaming voices | Internalization of previous negative messages that the voice hearer has received from other people (e.g., caregivers or perpetrators)<br>An attempt to gain control (e.g., "If I believe it's my fault then I can live with the hope that the situation may change")<br>An attachment to the perpetrator |
| Aggressive voices | These voices can draw attention to possible sources of threat as well as unresolved conflict. In many cases they start as distrustful voices; however, when not heard or listened to they can escalate in their messages<br>The voice hearer's own disowned sense of rage and resentment |
| Submissive voices | These voices are often related to learned helplessness, in that the person's fight system is ineffective and the only perceived possibility is to submit<br>A belief that submission, compliance and/or not speaking out (e.g., about previous mistreatment) is a way of protecting oneself fro m further harm |

this), the rest of the work will be complicated, as we cannot achieve curiosity, collaboration and empathy with insults or negative comments. Changing the name can be a first step to changing the relationship. In discussing a name change, the therapist is modeling a new way of seeing and relating to the voice. By participating in this process, patients can engage in a more constructive way, and voices can also learn to communicate differently.

Raul was surprised when he realized that the voice responded positively to this simple intervention, in that it became less aggressive and stopped telling him to hurt himself. After achieving this goal, we tried to understand the purpose of the aggressive messages. All we could get from the voice were repetitive messages such as: "you have to hurt yourself" and "you are a loser". When we asked the voice what he would achieve if Raul were to hurt himself, the voice was silent. It seemed confused and did not know what to say. The therapist introduced different possibilities such as "*It seems like this is all that this voice learned to do. I wonder if this voice would be open to trying to understand what triggers it and finding new ways of helping that do not scare anyone*". An agreement was reached where the voice would not ask Raul to self-harm and Raul would avoid insulting the voice, ignoring him, or resorting to medication to try and "shut him up". After self-harming many times per week for years, Raul did not self-harm for 3–4 months. And a general agreement with the system was also achieved, in that all voices agreed to ask for help if there was something they did not understand or like. The place to ask for help was the therapy sessions, but Raul could also contact the therapist outside of therapy if he was having difficulties with any of the voices. All voices agreed to this. This led to an important change: whenever there was conflict with one of the voices, the same voice or another voice would say, "Hey, remember our agreement, let's wait until the therapy session to sort this out".

This truce led to the possibility of exploring the rest of the internal system, including other voices. After some discussion, we were able to understand that the Dwarf told Raul to hurt himself whenever he had the urge to hurt others. And the urge to hurt others (mainly men) occurred when he was triggered by a reminder of his traumatic experience of being raped by several men. We were also able to contact more vulnerable parts of the self, a child part and an adolescent. These parts did not say much initially, because they were frightened of the more hostile parts. A dialogue with all the voices led to a better understanding of the problems and to the treatment of traumatic memories that were hidden and protected by the more hostile and distrustful voices. The most hostile voice renamed himself the "protector" of "Pandora's box", and the Dwarf became an unconditional ally in the most critical moments. After working with the contents of what the voices called "Pandora's box" (the traumatic memories), the voices started uniting and gradually integrated. Four years later, Raul was functioning well and no longer heard voices.

This illustrates how an apparently untreatable case can be treated effectively if we try to understand the meaning behind the person's voices and behaviors. Raul had been diagnosed with schizophrenia (along with many other diagnoses over the years); his voices initially were primarily external and had no clear triggers. They consisted of repetitive messages that did not seem to make sense and, at first, they did not respond to attempts to engage them in dialogue. However, even in a case that could easily have been brushed off as 'incurable chronic schizophrenia', we were able to make considerable progress by treating both the voices and Raul with genuine curiosity and respect, and by understanding the central role of dissociation.

While patients may initial experience voices in many different ways (see Table 4), most of the time it becomes clear that they have some sort of protective function. Typically, they are acting as EPs, which, as described by the theory of SDP, are driven by various forms of defense under threat. The most effective way of helping a person who hears voices (regardless of their diagnosis) is not medication, but therapy which focuses on understanding what the voices are trying to achieve with their messages, and transforming the relationship between the person and their voices.

## 7. Discussion

While schizophrenia can typically be distinguished from recognized posttraumatic or dissociative disorders such as PTSD, BPD and DID on the basis of delusions, thought disorder and negative symptoms, it cannot reliably be distinguished from them on the basis of AVH. Considering both existing empirical data and clinical experience, there is no justification for using certain aspects of AVH for the purposes of differential diagnosis. In particular, a perceived external location – that is, voices heard through the ears – is not associated with schizophrenia or even psychiatric disorders per se; non-clinical voice hearers frequently hear voices localized in external space. Likewise, the Schneiderian symptoms of voices conversing and voices commenting are not only *not* unique to schizophrenia, they are more common in DID (Dorahy et al., 2009). Other aspects of voice hearing, such as the perceived reality, personification, or number of the voices, likewise do not appear to distinguish between the groups.

Some features of voice hearing are sometimes reported more commonly in schizophrenia than in other disorders, such as the intensity and frequency of the voices, or their negative content. But these characteristics of voices depend to a great extent on the person's attitude or relationship toward the voices; they often change – as in the case study above – when the relationship changes. However, there appears to be some evidence of apparently genuine differences between schizophrenia and the recognized dissociative disorders, which we will now explore further: age of onset, child voices, and the extent to which voices can directly control a person's behavior.

The age of onset in voice hearing is consistently reported as later for schizophrenia than for AVH in other diagnoses, or in non-clinical voice hearers. The only exception is the Honig et al. (1998) study. In this study, voice hearing before the age of 12 was assessed, not 18 as in the other studies. They found 33% of the DID sample to report voice hearing earlier than age 12, compared to 11% of the schizophrenia sample, a difference which was not significant. However, it is possible that this would have changed had onset between ages 12 and 18 also been considered; on the basis of other studies, many more DID than schizophrenia patients would be expected to begin hearing voices between ages 12 and 18.

While any retrospective report is open to bias, there is no clear reason to suspect that such memories in schizophrenia are less accurate than those in other disorders; for example, there is no evidence that recollections of childhood abuse in schizophrenia are any more or less accurate than such recollections in other disorders (Schäfer & Fisher, 2011). What then do we make of this apparent difference in age of onset?

Before we consider this, let's look at the second apparent difference – child voices. This has only been found so far in two studies of DID and schizophrenia – Dorahy et al. (2009), and Laddis and Dell (2012) – and does not appear to have been enquired about in other studies. But the difference is dramatic and almost pathognomic of DID; Dorahy found all but one of his DID patients (96%) to have experienced child voices (along with adult voices), but only two of his schizophrenia patients (6%) reported child voices (both of whom were in the group reporting childhood trauma).

These two findings can be considered together. If voice hearing begins early in adolescence, or even earlier, one clearly is closer in time to childhood, and would have more access to 'child' parts, than if voice hearing begins later in life. But these differences may point to a more fundamental distinction between voice hearing in schizophrenia and in other diagnoses, raised in an important article published by Salvador Perona-Garcelán and his group last year (Perona-Garcelán et al., 2016). Perona-Garcelán compared voice hearing in psychotic individuals with non-clinical voice hearers. He found levels of depersonalization, measured by the Cambridge Depersonalization Scale (Sierra & Berrios, 2000), to be slightly higher in the psychotic group, but absorption, measured by the Tellegan Absorption Scale (Tellegen & Atkinson, 1974), to be much higher in the non-clinical voice hearers. And he found confirmation in the literature for absorption alone to predict voice hearing in non-clinical voice hearers, but both absorption and depersonalization to predict voice hearing in psychotic individuals.

Perona-Garcelán et al. (2016) concluded that healthy individuals became voice hearers through a process of "very intense self-focused attention" and "extreme contact with... internal events" (p. 361) – in other words, through intense sensitivity or an intense capacity for absorption in internal states. This is quite similar to the process described by Eli Somer and colleagues who, in a series of studies (Bigelsen et al., 2016; Somer, Lehrfeld, Jopp, & Bigelsen, 2016), have found that intense *absorption* in daydreams is the most important factor differentiating *healthy* from what they call *maladaptive* daydreaming (MD). MD is characterized by an intensely experienced daydream world in which the person spends many hours and which impairs their daily life functioning; they consider MD to be an unrecognized dissociative disorder. It is likely that similar processes involving sensitivity and absorption in inner states occurs in recognized dissociative disorders such as DID and BPD.

In contrast, Perona-Garcelán argues that the etiology of voice hearing in psychotic individuals might be different, and does not involve an intense focus on internal events. Rather, he argues that AVH in psychosis develops through a process of 'detachment experiences' or 'distancing' from one's own 'private events' (p. 361).

If AVH are essentially dissociative in nature, and involve structural dissociation (which is clearly implied by the capacity to dialogue with them), perhaps AVH in schizophrenia and in dissociative disorders are not fundamentally different, but the process by which they develop is. In schizophrenia, AVH might develop when traumatized parts, previously kept at bay through social isolation and disengagement of the attachment system, 'break through' and manifest themselves. Depersonalization would be associated with the 'distancing' that Peroná-Garcelon refers to as a predisposing factor, but acute depersonalization can also be associated with the re-experiencing of traumatizing events, or with the development of psychotic symptoms, for that matter. Clearly, this highly speculative hypothesis is based on limited evidence, and would require some careful research, including longitudinal studies for support.

These apparent differences in etiology do not imply differences in treatment, as successful treatment involves the same principles of respect and engagement. And this is consistent with the research evidence that all voice hearing involves structural dissociation. Nijenhuis and Van der Hart (2011) defined dissociation as involving parts of the personality involving a, at least "rudimentary", first person perspective that should be able to, in principle, "interact with other dissociative parts and other individuals" (p. 418). Thus, if voices can be dialogued with, they *are* dissociative.

As we do not have any clear evidence of voices that cannot, at least theoretically, be dialogued with, what do we make of the prevalence and nature of voice hearing – a dissociative symptom – in schizophrenia? Well, it may be, as Bleuler proposed more than 100 years ago, that schizophrenia – which means 'split mind', *is* a dissociative disorder, albeit one at the low end of the dissociative continuum. What is the evidence for this?

In psychotic, as in other disorders, childhood trauma is common (yet less severe than in BPD and DID; Scott, Ross, Dorahy, Read, & Schäfer, in press), and dissociation mediates between childhood trauma and hallucinations (but not between trauma and delusions; Perona-Garcelán et al., 2012). Levels of dissociation in schizophrenia are consistently lower than in PTSD, BPD and DID, but higher than that found in other disorders (Schäfer, Aderhold, Freyberger, Spitzer, & Schroeder, in press). Laddis and Dell (2012) found much higher levels of dissociation in DID than in schizophrenia, but found that dissociation levels in schizophrenia were strongly correlated with the extent of voice hearing. Finally, Tschoeke et al. (2014), whose schizophrenia sample was screened for dissociative disorders, found voices' controlling behavior to be much more common in BPD than in schizophrenia. As voices (or parts) taking executive control of the body and behavior is a cardinal feature of DID, intermediate levels of this feature in BPD, and low levels in schizophrenia, are entirely consistent with decreasing levels of dissociative 'capacity'. So, voice hearing in schizophrenia may be dissociative, but not other aspects or symptoms of the disorder.

All of this suggests that the development of schizophrenia might be a consequence of some level of dissociation, but not enough to develop DID – a radical idea, but perhaps one whose time is coming. But before such a dramatic conclusion can be reached, further research is called for in several areas: (1) historical – why did Kurt Schneider believe that certain symptoms were strongly associated with schizophrenia which now so clearly appear to be dissociative in nature? (2) empirical – screening for dissociative disorders in studies on schizophrenia, and exploring evidence for a dissociative subtype of schizophrenia, or a dissociative psychosis and (3) clinical – carefully considering the possibility of dialoguing with voices presenting in all disorders, and exploring the obstacles to doing so.

While we now believe that AVH are dissociative in nature and do not manifest in a fundamentally different way between schizophrenia and other posttraumatic disorders, only after further supportive research could we agree with Christian Scharfetter, who said in 2008 that schizophrenia should be "repatriated back" into the group of disorders with which it was associated 100 years ago, namely, those which could be "interpreted by a dissociation model" (Scharfetter, 2008, p. 62).

## Disclosure of interest

The authors have not supplied their declaration of competing interest.

## References

American Psychiatric Association (APA) (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.) ((DSM-IV). Author; Washington, DC).

American Psychiatric Association (APA) (2000). *Diagnostic and statistical manual of mental disorders* (4th ed.) (revised (DSM-IV-TR). Author; Washington).

American Psychiatric Association (APA) (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.) ((DSM-5). Author; Washington, DC).

Berrios, G. E., & Dening, T. R. (1996). Pseudohallucinations: A conceptual history. *Psychological Medicine, 26*, 753–763.

Bigelsen, J., Lehrfeld, J. M., Jopp, D. S., & Somer, E. (2016). Maladaptive daydreaming: Evidence for an under-researched mental health disorder. *Consciousness and Cognition, 42*, 254–266.

Bleuler, E. (1905/1918). Consciousness and Association (Trans. M.D. Eder). In C. G. Jung (Ed.), *Studies in Word Association* (pp. 266–296). London: William Heinemann.

Bleuler, E. (1908/1987). The prognosis of dementia praecox: the group of schizophrenias. In J. Cutting & M. Shepherd (Eds.), *The Clinical Roots of the Schizophrenia*

*Concept: Translations of Seminal European Contributions on Schizophrenia* (pp. 59–74). Cambridge: Cambridge University Press.
Bleuler, E. (1911/1950). *Dementia praecox oder gruppe der schizophrenien [Dementia praecox or the group of schizophrenias]*. Leipzig: Deuticke.
Boon, S., Steele, K., & Van der Hart, O. (2011). *Coping with trauma-related dissociation: Skills training for patients and therapists*. New York: WW Norton.
Cardeña, E., & Bowman, E. S. (2011). Special section: Defining (Structural) dissociation: A debate. *The Journal of Trauma and Dissociation, 12*, 413–473.
Carter, D. M., Mackinnon, A., Howard, S., Zeegers, T., & Copolov, D. L. (1995). The development and reliability of the Mental Health Research Institute Unusual Perceptions Schedule (MUPS): An instrument to record auditory hallucinatory experience. *Schizophrenia Research, 16*, 157–165.
Chadwick, P. D. J., Lees, S., & Birchwood, M. (2000). The revised beliefs about voices questionnaire (BAVQ-R). *The British Journal of Psychiatry, 177*, 229–232.
Copolov, D. L., Trauer, T., & Mackinnon, A. (2004). On the non-significance of internal versus external auditory hallucinations. *Schizophrenia Research, 69*, 1–6.
Curson, D., Barnes, T., Bamber, R., & Weral, D. (1985). Long term depot maintenance of chronic schizophrenic outpatients. *The British Journal of Psychiatry, 146*, 464–480.
Daalman, K., Boks, M. P., Diederen, K. M., de Weijer, A. D., Blom, J. D., Kahn, R. S., et al. (2011). The same or different? A phenomenological comparison of auditory verbal hallucinations in healthy and psychotic individuals. *The Journal of Clinical Psychiatry, 72*, 320–325.
Dalenberg, C. J., & Paulson, K. (2009). The case for the study of 'normal' dissociation processes. In P. F. Dell & J. A. O'Neil (Eds.), *Dissociation and the Dissociative Disorders: DSM-V and Beyond* (pp. 145–154). New York: Routledge Press.
Dell, P. F. (2006). The Multidimensional Inventory of Dissociation (MID): A comprehensive measure of pathological dissociation. *Journal of Trauma & Dissociation, 7*, 77–106.
Dorahy, M. J., Shannon, C., Seagar, L., Corr, M., Stewart, K., Hanna, D., et al. (2009). Auditory hallucinations in dissociative identity disorder and schizophrenia with and without a childhood trauma history: Similarities and differences. *Journal of Nervous and Mental Disease, 197*, 892–898.
Haddock, G., McCarron, J., Tarrier, N., & Faragher, E. B. (1999). Scales to measure dimensions of hallucinations and delusions: The psychotic symptom rating scales (PSYRATS). *Psychological Medicine, 29*, 879–889.
Hamner, M. B., Frueh, B. C., Ulmer, H. G., Huber, M. G., Twomey, T. J., Tyson, C., et al. (2000). Psychotic features in chronic posttraumatic stress disorder and schizophrenia: Comparative severity. *The Journal of Nervous and Mental Disease, 188*, 217–221.
Hassan, A. N., & De Luca, V. (2015). The effect of lifetime adversities on resistance to antipsychotic treatment in schizophrenia patients. *Schizophrenia Research, 161*, 496–500.
Hepworth, C. R., Ashcroft, K., & Kingdon, D. (2013). Auditory hallucinations: A comparison of beliefs about voices in individuals with schizophrenia and borderline personality disorder. *Clinical Psychology & Psychotherapy, 20*, 239–245.
Honig, A., Romme, M. A. J., Ensink, B. J., Escher, S. D., Pennings, M. H. A., & Devries, M. W. (1998). Auditory hallucinations: A comparison between patients and nonpatients. *Journal of Nervous and Mental Disease, 186*, 646–651.
Jaspers, K. (1913/1963). *General psychopathology (J. Hoenig & M. W. Hamilton, Trans.)*. Manchester: Manchester University Press.
Jessop, M., Scott, J., & Nurcombe, B. (2008). Hallucinations in adolescent inpatients with post-traumatic stress disorder and schizophrenia: Similarities and differences. *Australasian Psychiatry, 16*, 268–272.
Johns, L. C., Kompus, K., Connell, M., Humpston, C., Lincoln, T. M., Longden, E., et al. (2014). Auditory verbal hallucinations in persons with and without a need for care. *Schizophrenia Bulletin, 40*, S255–S264.
Karamanolaki, H., Spyropoulou, A. C., Iliadou, A., Vousoura, E., Vondikaki, S., Pantazis, N., et al. (2016). Birth order and memories of traumatic and family experiences in Greek patients with borderline personality disorder versus patients with other personality disorders. *Bulletin of the Menninger Clinic, 80*, 234–254.
Kaufman, J., Birmaher, B., Brent, D., & Roa, U. (1997). Schedule for affective disorders and schizophrenia for school-age children – present and life time version (K-SADS-PL): Initial reliability and validity data. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*, 980–987.
Kay, S. R., Fiszbein, A., & Opler, L. A. (1987). The Positive and Negative Syndrome Scale (PANSS) for schizophrenia. *Schizophrenia Bulletin, 13*, 261–276.
Kingdon, D. G., Ashcroft, K., Bhandari, B., Gleeson, S., Warikoo, N., Symons, M., et al. (2010). Schizophrenia and borderline personality disorder: Similarities and differences in the experience of auditory hallucinations, paranoia, and childhood trauma. *Journal of Nervous and Mental Disease, 198*, 399–403.
Laddis, A., & Dell, P. F. (2012). Dissociation and psychosis in dissociative identity disorder and schizophrenia. *Journal of Trauma & Dissociation, 13*, 397–413.
Longden, E., Madill, A., & Waterman, M. G. (2012). Dissociation, trauma, and the role of lived experience: toward a new conceptualization of voice hearing. *Psychological Bulletin, 138*, 28–76.
Longden, E., & Read, J. (2016). Social adversity in the etiology of psychosis: A review of the evidence. *American Journal of Psychotherapy, 70*(1), 5–33.
May, R., & Longden, E. (2010). Self-help approaches to hearing voices. In F. Larøi & A. Aleman (Eds.), *Hallucinations: A guide to treatment and management* (pp. 257–279). Oxford: Oxford University Press.
McCarthy-Jones, S., & Longden, E. (2015). Auditory verbal hallucinations in schizophrenia and post-traumatic stress disorder: Common phenomenology, common cause, common interventions? *Frontiers in Psychology, 6* http://dx.doi.org/10.3389/fpsyg. 2015.01071
McGuffin, P., Farmer, A., & Harvey, I. (1991). A polydiagnostic application of operational criteria in studies of psychotic illness. Development and reliability of the OPCRIT system. *Archives of General Psychiatry, 48*, 764–770.
Moskowitz, A. (2008). Association and dissociation in the historical concept of schizophrenia. In A. Moskowitz, I. Schäfer, & M. J. Dorahy (Eds.), *Psychosis, trauma and dissociation: Emerging perspectives on severe psychopathology* (pp. 36–49). Chichester: Wiley-Blackwell.
Moskowitz, A., & Corstens, D. (2007). Auditory hallucinations: Psychotic symptom or dissociative experience? *The Journal of Psychological Trauma, 6*, 35–63.
Moskowitz, A., & Heim, G. (2011). Eugen Bleuler's Dementia Praecox or the Group of Schizophrenias (1911): A centenary appreciation and reconsideration. *Schizophrenia Bulletin, 37*, 471–479.
Mosquera, D., & Ross, C. (2016). A Psychotherapy approach to treating hostile voices. *Psychosis*. http://dx.doi.org/10.1080/17522439.2016.1247190
Nijenhuis, E. R. S., & Van der Hart, O. (2011). Dissociation in trauma: A new definition and comparison with previous formulations. *The Journal of Trauma and Dissociation, 12*, 416–445.
Overall, J., & Gorham, D. (1962). The Brief Psychiatric Scale. *Psychological Reports, 10*, 799–812.
Perona-Garcelán, S., Bellido-Zanin, G., Rodríguez-Testal, J. F., López-Jiménez, A. M., García-Montes, J. M., & Ruiz-Veguilla, M. (2016). The relationship of depersonalization and absorption to hallucinations in psychotic and non-clinical participants. *Psychiatry Research, 244*, 357–362.
Perona-Garcelán, S., Carrascoso-López, F., García-Montes, J. M., Ductor-Recuerda, M. J., López-Jiménez, A. M., Vallina-Fernández, O., et al. (2012). Dissociative experiences as mediators between childhood trauma and auditory hallucinations. *Journal of Traumatic Stress, 25*, 1–7.
Pilton, M., Varese, F., Berry, K., & Bucci, S. (2015). The relationship between dissociation and voices: A systematic literature review and meta-analysis. *Clinical Psychology Review, 40*, 138–155.
Read, J., van Os, J., Morrison, A. P., & Ross, C. A. (2005). Childhood trauma, psychosis and schizophrenia: A literature review with theoretical and clinical implications. *Acta Psychiatrica Scandinavica, 112*, 330–350.
Romme, M. A. J., & Escher, A. D. M. A. C. (1989). Hearing voices. *Schizophrenia Bulletin, 15*, 209–216.
Romme, M., Escher, S., Dillon, J., Corstens, D., & Morris, M. (2009). *Living with voices: Fifty stories of recovery*. Ross-on-Wye: PCCS.
Scott, J. G., Nurcombe, B., Sheridan, J., & McFarland, M. (2007). Hallucinations in adolescents with post-traumatic stress disorder and psychotic disorder. *Australasian Psychiatry, 15*, 44–48.
Scott, J.G., Ross, C., Dorahy, M.J., Read, J., & Schäfer, I. (in press). Childhood trauma in psychotic and dissociative disorders. In Moskowitz, Dorahy, & Schäfer (Eds.), Psychosis, trauma and dissociation (2nd ed.). Chichester, U.K.: Wiley Press.
Schäfer, I., & Fisher, H. L. (2011). Childhood trauma and psychosis – what is the evidence? *Dialogues in Clinical Neuroscience, 13*, 360–365.
Schäfer, I., Aderhold, V., Freyberger, H.J., Spitzer, C., & Schroeder, K. (in press). Dissociative symptoms in schizophrenia and psychotic disorders. In Moskowitz, Dorahy, & Schäfer (Eds.), Psychosis, trauma and dissociation (2nd ed.). Chichester, U.K.: Wiley Press.
Scharfetter, C. (2008). Ego-fragmentation in schizophrenia: A severe dissociation of self-experience. In Moskowitz, Schäfer, & Dorahy (Eds.), *Psychosis, trauma and dissociation: Emerging perspectives on severe psychopathology*. Chichester, U.K Wiley Press.
Schneider, K. (1959). *Clinical Psychopathology* (5th ed.). New York, NY: Grune and Stratton.
Sierra, M., & Berrios, G. E. (2000). The Cambridge Depersonalisation Scale: A new instrument for the assessment of depersonalisation. *Psychiatry Research, 93*, 153–164.
Simeon, D., & Abugel, J. (2006). *Feeling unreal: Depersonalization disorder and the loss of the self*. Oxford: Oxford University Press.
Slotema, C. W., Daalman, K., Blom, J. D., Diederen, K. M., Hoek, H. W., & Sommer, I. E. (2012). Auditory verbal hallucinations in patients with borderline personality disorder are similar to those in schizophrenia. *Psychological Medicine, 42*, 1873–1878.
Smith, M., Coleman, R., & Good, J. (2003). *Psychiatric first aid in psychosis*. Fife: P&P Press.
Somer, E., Lehrfeld, J. M., Jopp, D. S., & Bigelsen, J. (2016). Development and validation of the Maladaptive Daydreaming Scale (MDS). *Consciousness and Cognition, 39*, 77–91.
Steinberg, M. (1993). *Structured Clinical Interview for DSM-IV Dissociative Disorders (SCID-D)*. Washington, DC: American Psychiatric Press.
Tellegen, A., & Atkinson, G. (1974). Openness to absorbing and self-altering experiences ('absorption'), a trait related to hypnotic susceptibility. *Journal of Abnormal Psychology, 83*, 268–277.
Tschoeke, S., Steinert, T., Flammer, E., & Uhlmann, C. (2014). Similarities and differences in borderline personality disorder and schizophrenia with voice hearing. *Journal of Nervous and Mental Disease, 202*, 544–549.
Van der Hart, O., & Dorahy, M. (2009). Dissociation: History of a concept. In P. F. Dell & J. A. O'Neil (Eds.), *Dissociation and the dissociative disorders: DSM-V and beyond*. (pp. 2–26). New York: Routledge.
Van der Hart, O., Nijenhuis, E. R. S., & Steele, K. (2006). *The Haunted Self: Structural Dissociation and the Treatment of Chronic Traumatization*. New York: Norton.
Varese, F., Smeets, F., Drukker, M., Lieverse, R., Lataster, T., Viechtbauer, W., et al. (2012). Childhood adversities increase the risk of psychosis: A meta-analysis of patient-control, prospective and cross-sectional cohort studies. *Schizophrenia Bulletin, 38*, 661–671.
Waters, F., & Fernyhough, C. (2016). Hallucinations: A systematic review of points of similarity and difference across diagnostic classes. *Schizophrenia Bulletin*. http://dx.doi.org/10.1093/schbul/sbw132
Wing, J. K., Cooper, J. E., & Sartorius, N. (1974). *The description and classification of psychiatric symptoms: an instruction manual for the PSE and Catego system*. London: Cambridge University Press.
World Health Organization (WHO) (1992). *ICD-10: Manual of International Statistical Classification of Diseases, Injuries and Causes of Death, 10th revision*. Geneva: Author.