Uncovering the realities of delusional experience in schizophrenia: a qualitative phenomenological study

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Summary

Background Delusions in schizophrenia are commonly approached as empirical false beliefs about everyday reality. Phenomenological accounts, by contrast, have suggested that delusions are more adequately understood as pertaining to a different kind of reality-experience. To date, however, the specific nature of delusional reality-experience has not been subject to systematic empirical study. It is also unclear how this alteration of reality-experience should be characterized, which dimensions of experiential life are involved and whether delusional reality may differ from standard reality in various ways. Furthermore, little is known about how delusional patients value and relate to these experiential alterations. This study aimed to investigate the nature of delusional reality-experience, and its subjective apprehension, in individuals with lived experience of delusions and a schizophrenia-spectrum diagnosis.

Methods In this study, individuals with lived experience of delusions and a schizophrenia-spectrum diagnosis formed a purposeful sample. Phenomenologically driven semi-structured interviews were conducted to explore the nature of delusional reality-experience and participants' subjective valuation of these experiences. Interpretative Phenomenological Analysis (IPA), a qualitative method tailored to the in-depth exploration of participants' first-person perspective, was used to analyze participants' accounts.

Findings Between Mar 2, 2020 and Sep 30, 2020, 18 adults with a clinical schizophrenia-spectrum diagnosis and lived experience of delusions participated in the interview-study. The findings suggest that delusions are often embedded in wide-ranging alterations of basic reality-experience, involving quasi-ineffable atmospheric and ontological qualities that undermine participants' sense of the world as unambiguously real, fully present, and shared with others. We also found that delusional reality-experience can differ from standard reality in various way (i.e., in a hypo –and hyper-real form), across multiple dimensions (e.g., meaningfulness, necessity/contingency, detachment/engagement), and that participants are often implicitly or explicitly aware of the distinction between delusional and standard reality. Finally, delusional experience can have an enduring value and meaning that is not fully captured by a strictly medical perspective.

Interpretation Increased awareness and recognition of the distinctive nature of delusional reality-experience, in both clinical and research settings, can improve diagnostic accuracy, explanatory models, and therapeutic support for delusional individuals whose lived realities are not always evident from an everyday perspective.

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Introduction

Delusions are commonly conceived as false beliefs that result from epistemic failures to represent reality correctly. This view has been dominant throughout the history of psychiatry, and continues to inform contemporary research and practice. In explanatory research, it underlies (neuro)cognitive attempts to explain delusions in terms of impairments or biases in cognitive reasoning. In clinical practice, it motivates cognitive-behavioral strategies focusing on the rational evaluation and reframing of delusional appraisals.

Despite intensive and ongoing research efforts, however, both domains lack convincing support. Recent meta-analyses on the most researched bias in inferential reasoning—the jumping-to-conclusions bias—failed to provide clear evidence for a specific link to delusions.⁶ Similarly, meta-analyses of the efficacy of cognitive-behavioral therapy for delusions show effect sizes that are uniformly in the small range.⁷

One possible explanation of these findings is the limited validity of the concept of delusion, understood as an empirical false belief, that motivates such research. Phenomenological approaches to delusions, by contrast, have put less emphasis on their erroneous or belief-like nature, focusing instead on the distinctive experiential context in which delusions occur, especially on what 'sort' of reality patients may ascribe to them. Karl Jaspers, for example, argued that delusions in schizophrenia may involve global ontological transformations that entail a changed overall experience of reality. Pelusion proper, Jaspers wrote, "implies a transformation in our total awareness of reality"; "reality [for the patient] does not always carry the same meaning as that of normal reality".

Clarifying how delusional realities may differ from standard reality would offer an important corrective to the standard approach to delusion as empirical false belief, with significant implications for diagnostic assessment, explanatory research, and clinical practice.³ Moreover, knowledge of how shifts in reality-experience are recognized, valued, and dealt with by patients could offer a deeper understanding of the actual lived context of delusions, something that is often overlooked in contemporary research.¹⁰ Yet, while alterations in delusional reality-experience have previously been noted in the literature ¹¹⁻¹³, a systematic empirical investigation remains lacking to date.

There are other phenomenological observations regarding delusional reality-experience that remain unresearched and which we aimed to address in this study. First, delusional reality-experience may be altered along a number of relevant dimensions (e.g., familiarity, continuity, necessity/contingency, detachment/engagement)¹²⁻¹³, suggesting that the transformation is not a single or unanalyzable quality, but a complex and heterogeneous experience. Second, there may be a diversity of ways in which the lived worlds of delusional individuals differ from that of standard reality. ¹²⁻¹⁴ Whereas early stages of psychosis can be accompanied by a general 'hypo-real' atmosphere in which everything appears less real ¹², later stages may sometimes be characterized by a seemingly opposed 'hyper-real' tendency involving intensification of the sense of meaning and relevance ¹⁴. Third, a related issue concerns the attitude or form of belief patients adopt in response to these ontological shifts. It has often been noted ¹⁵⁻¹⁶ that, rather than confusing the realms of delusional and everyday reality, patients frequently remain aware of the distinction between these two realities – this has been termed (by Bleuler ¹⁷) 'double bookkeeping'. It is likely, however, that double bookkeeping is itself a complex phenomenon and can take various forms, both within and between patients. ¹²⁻¹⁴ For example, the distinct tracks of shared and private reality may sometimes intersect or even merge – in what can be termed (adopting a metaphor from photography) "double exposure". ¹⁵

Close investigation of these ontological transformations and their meaning for delusional patients requires intensive qualitative-research methods specifically tailored to the in-depth exploration of patients' first-person perspective. In this study, we used the method of Interpretative Phenomenological Analysis (IPA)¹⁸ as a way to explore ontological changes in reality experience, and their subjective apprehension, in individuals with lived experience of delusions and a schizophrenia-spectrum diagnosis.

Methods

Study design and participants

Purposive homogenous sampling was used to identify participants for whom the research question was significant. The sample size (n=18) was dictated by the need to achieve a delicate balance between depth and breadth: small enough to allow each individual account to be analyzed in full qualitative detail (as is customary in IPA¹⁸), but large enough to ensure that possible heterogeneity in reality experience (i.e., variations in hypo –and hyper-reality) and subjective evaluation (e.g., forms of double-bookkeeping) could be explored.

Mental health professionals from two psychiatric hospital services in Belgium identified potential participants. Criteria for participation included: having undergone at least one psychotic episode with occurring delusional symptoms, present at least 1 year before participation—based on clinical notes assessed by attending psychiatrist; a schizophrenia-spectrum diagnosis—ascertained through clinical interview by attending psychiatrist upon admission; between 18 and 65 years; and ability to give informed consent. Exclusion criteria concerned capacity to consent (e.g., excluding those diagnosed with moderate or severe learning disability) and risk of distress caused by participation (e.g., due to acute psychotic symptoms that significantly affect functioning or current high risk of harm to self or others). Participant characteristics are included in Table 1. Ethical approval for the study was obtained from Ghent University Hospital Ethics Committee (EC/2019/0042). All participants gave written informed consent, including for use of anonymized quotes.

Procedures

The first and third authors [JF & SV, both clinical psychologists and trained in IPA] interviewed, in-depth, 18 individuals with lived experience of delusions and psychosis. A semi-structured format, allowing a more open style of interviewing, was selected—in order to facilitate empathic and phenomenological understanding, and afford greater flexibility of coverage, including exploration of novel and unforeseen areas. For the interview guide, a non-exhaustive list of orientating topics relevant to our research questions was composed in advance, based on existing IPA research exploring experiences of psychosis ¹⁹,

phenomenological and philosophical literature on delusions^{8,11-12}, global reality experience and its variation(s) in psychosis¹¹⁻¹⁴, the phenomenon of double exposure/bookkeeping¹⁵⁻¹⁵ and guidance on the methodological principles of IPA¹⁸.

Interviews started with an initial, open-ended query asking each individual to describe how they experienced their most recent psychotic episode and the events and circumstances leading up to this period. Next, participants were asked in more depth about specific aspects of their experience, including changes in reality experience, subjective attitudes, insights and beliefs, and transition into acute psychotic episodes and to aftermath and recovery. Interviews were conducted in Dutch and ranged between 45 and 70 minutes. Based on participant's personal interest, follow-up interviews were scheduled to give the opportunity to expand, clarify, or complicate previous accounts of their experience (11 out of 18 interviewees requested second interviews, 3 asked for a third interview). All interviews were audio-recorded and transcribed verbatim. The excerpts used in the Results section were translated into English by the first author.

Data analysis

Data analysis followed the standard principles of IPA ¹⁸—an idiographic phenomenological approach that aims to understand how individuals make sense of their experiences. Two members of the research team (JF & WK, a clinical psychologist and a philosopher with personal experience of psychosis) together conducted the analysis, following the six steps of the IPA procedure recommended by Smith et al. ¹⁸ Interviews were read and re-read to increase familiarity. Exploratory comments including descriptive, linguistic, and conceptual/interpretative aspects were noted. Then, for each individual participant, a process of identifying and labeling transcript themes was completed, with subsequent clustering and organization into higher-order themes. The latter process combined an inductive approach, attempting both to recognize the particularities of each individual account and also to register meaningful connections relevant to our general research questions. A summary table of illustrative quotes and corresponding line numbers was created for each participant for the purpose of cross-referencing.

Finally, we focused on key emergent themes across participants by comparing, contrasting and clustering individual higher-order themes in order to create a final list of superordinate themes for the collective sample. Here, our analytic strategy focused on repeating meaning patterns across participants, but also allowed for meaningful variation between participants and unique instances that were phenomenologically rich and theoretically relevant. This analysis was audited by all other members of the research team to agree on the overarching understanding of the interviews, to further fine-tune the coherence and plausibility of the qualitative analysis, and to arrive at the final results.

Results

The study aimed to explore alterations in reality experience and their subjective evaluation in patients with lived experience of delusions. The analysis generated 5 superordinate themes that captured shared as well as contrasting and unique experiences among participants. Table 2 provides the representation of participants in the themes. Below we discuss superordinate and related subordinate subthemes in detail. Pseudonymised quotes (throughout results section and in panel 2) are used to reflect participants' experiences.

1. Psychosis as an ontological transformation

The first superordinate theme ("Psychosis as an ontological transformation") specifies the all-inclusive or encompassing nature of the experiential transformation that characterizes psychosis. Most participants stressed the atmospheric or mood-like character of the experience, noting that, rather than being restricted to particular perceptual or cognitive belief contents, the subjective changes entailed a more global and fundamental reorganization of their overall reality: "My psychosis was a total experience. It was not merely my beliefs or thoughts that changed, but also my behavior, my feeling, ... it was a complete and total form of experiencing" (Jan, 1.1). Paranoid delusional experiences, e.g., were typically not limited to specific persons or situations, but involved a diffuse suspiciousness regarding the indefinite background of experience that seemed to lurk everywhere and nowhere: "There was something there, beneath me, behind me, between and above me. Everywhere and always" (Cynthia, 1.5). For nearly all participants, this atmospheric alteration announced an unprecedented shift in their relation to reality, often somehow opening towards a new ontological domain: "It was as if I suddenly gained a new form of consciousness, that I discovered a different sort of world which others couldn't understand" (Julia, 1.5).

Closely related to this atmospheric and hence elusive quality of ontological experience was a difficulty in describing these changes in ordinary language (subtheme 1a "The limits of language"). The difficulty of finding an adequate expression seemed inherent to the encompassing nature of these experiences themselves, rather than being attributable to what is ordinarily understood by the 'negative symptoms' of schizophrenia (like 'poverty of speech'), which are typically assumed to indicate a diminishment or paucity of psychological activity or subjective life. Some participants described an astonishing and nearly incomprehensible quality that reduced them to vague and inadequate formulations: "I said 'what on earth is happening'. It doesn't make sense anymore, it just doesn't make sense" (Julia, 1.1). Others emphasized that empirical language must necessarily fail to do justice to the type of experience at issue: "I think it's

about having a real connection with the universe. I only want to describe it in these words because other words would fail to do justice to what I mean. It's like an experience that touches you in the most profound way, a perfect feeling, talking about it would describe what I actually mean" (Michael 1.4).

Another point stressed by many participants was the primary or non-derivative nature of their delusional experiences, whether at the onset or during a psychotic experience (subtheme 1b "The primacy of experience"). Rather than resulting from reasoned interpretations, the experiences seemed to transcend both rational or irrational inference: "Well, at a certain moment in time, something starts leading me. And it's really an experiencing, not something rational, or something I believe I should do because of some particular reason, but a matter of experiencing" (Michael 2.2). Participants furthermore pointed out how strange and incomprehensible the experiences seemed to them, and how incompatible with their ordinary (self-)conceptions and beliefs. This sense of the surprising, even incomprehensible nature of one's own subjective life not only marked the beginning of psychosis (as proposed in some current explanatory models of delusions, see Ward et al.²¹), but endured throughout the psychotic episode, even continuing after remission: "What it meant for me? I just asked myself what purpose it had, why it was that way. But I actually still don't have a clue, why it presented itself that way" (Bert 2.2).

2. Psychosis as a state of hypo-reality

The second superordinate theme ("Psychosis as a state of hypo-reality") introduces the first specific variation to the more general transformation of reality experience just discussed. Half of the participants described their psychosis as a transformation whereby everything, not only some particular facts, became increasingly questionable and uncertain. Participants described a radical and disruptive uncertainty, a loss of grip that extended over their self-identity, ability to recognize and trust others, thoughts and memories, sense of embodiment, and orientation in time, culminating in eroding their most basic sense of reality: "I was just staring at a blank white paper. I really didn't know what was happening anymore. My consciousness and subconscious had been drawn close to each other, dream and reality blended into one another and I just wasn't sure anymore" (Julia, 2.0).

A commonly reported outcome of this burgeoning doubt is the incipient experience of becoming detached from the natural flow of everyday life, from the immersive spontaneity of ordinary action and interaction (subtheme 2a "The detached observer of life")". Everyday scenarios and the implicit rules of normal conversation start to appear as ambiguous riddles that invite hyper-reflective analysis and rumination, often of an intellectual kind: "But, okay, the weather. If people start talking about the weather, then you start checking the language – "what do you mean by good weather?". There are clouds, do you think that's part of good weather? The way you relate to others changes when you're constantly questioning everything instead of simply living in the moment" (Tim, 1.9). Here the perplexity participants encounter seems to derive, not from any diminishment of the capacity for rational judgment, but from an inability to

simply go along with taken-for-granted customs and ways of speaking that normally occur spontaneously, without rational justification. In fact, the hyper-reflective search for rational justification seemed only to enhance the feeling of estrangement, further undermining the normal sense of natural flow. Some participants described how, over time, this constant outward-directed hyper-reflexivity also started to become directed inwards, furthermore alienating them from their own most intimate self-perspective: "I can register everything, but it as if I'm looking at things from the outside, from a point in space which I cannot fully reach" (Tim, 1.5).

Together with, and perhaps as a consequence of, the detachment from everyday certainties, participants reported obtaining an unusual liberty of perspective, of being able – as one participant put it (Brian, 1.3) – "to look at things from multiple perspectives at once" (subtheme 2b "An explosion of possibilities"). Here the ordinary reassuring limitation of ways to experience the world gave way to an unbounded series of latent possibilities. Often the usual, everyday sense of continuity and predictability of everyday experience disappeared in favor of a completely indefinite anticipation, a sense that anything and everything was possible: "Everything loses its familiarity. The predictability was completely gone. The king could have entered my room, so to speak, and I would have found that normal. I wouldn't have been surprised at all and would have said: see, I told you so", said Julia (Julia 3.3).

Julia offered the most evocative account of a generalized hypo-reality, involving radical uncertainty, unrelenting hyper-reflexive analysis, and unrestricted perspectival openness. Julia compared her experience to the American movie 'The Truman Show'22: It was as if nothing in particular had changed and things seemingly ran their usual course, yet everything nonetheless appeared in a strangely artificial and cinematic light (subtheme 2c "The reality-show"): "I thought it was all a film and that I was actually only a small pawn within that film" (Julia, 1.5). Within that film, other people seemed to have lost their objective autonomy; instead they offered the flimsy impression of merely putting on a show, of being actors, even of only playing at being fellow human beings: "I was in a sort of dream world and when I looked at the medical staff, they were just sitting there as some sort of machines, they only seemed to move when I looked at them" (Julia, 3.5). Julia furthermore emphasized how not only other people, but almost everything took on an arranged or constructed quality, as if it was purposefully put there in order to 'test' her and measure her reaction: "For me, everything was fake and photo-shopped, or consciously placed there for some indefinite reason. And if I saw a painting by one of my favorite artists, I would have considered that very suspicious, like 'how do you know that this is my favorite artist?'. [...] I would have thought that it was strategically placed there to attack me, or to pull me over in some way or another" (Julia 3.4).

3. Psychosis as a state of hyper-reality

Along with experiences of hypo-reality, two-thirds of the participants also reported alterations of experience that we classify as hyper-real: the second form of ontological transformation reported in the interviews (theme "Psychosis as a state of hyper-reality"). In contrast to hypo-reality, things and events in hyper-reality seemed to be permeated by an overall sense of necessity, compulsion, and heightened meaningfulness. Participants described how everything appears to gain a certain necessary or deeper significance: it is as if nothing merely 'happens' and coincidence ceases to exist as a viable experiential possibility: "Sometimes, I can open my bible and just pick up all the facts, everything makes sense, everything makes absolute sense. And then I tell myself 'what a coincidence'! But after a while, it's really frightening, all those insights ... you keep on saying 'what a coincidence'!" (Herman, 1.1).

This loss of coincidence and sheer facticity changes the overall sense or feel of the world: Normally, salient meanings emerge against a neutral background of non-significance, but now nearly everything seems to be imposing itself in the foreground, demanding immediate attention. This generalized salience gives the hyper-real world an aura of unavoidability and heightened intensity: "It is really a more compelling, a much-too-compelling reality. Much more compelling than ordinary reality" (Jan, 2.9).

As in subtheme 1c ("The primacy of experience"), participants emphasized that this heightened meaning seemed to occur independently from any act of interpretation, akin to an ambiguous figure (such as the famous duck/rabbit figure) suddenly revealing a radically new aspect: "I saw it visually, before my eyes; reality began to heal itself, like a pointillist work of art which reveals itself when you back away and you suddenly see the whole picture" (Julia 1.8). Perhaps because of the combination of the autonomy with which meaning suddenly appears and its felt necessity and momentousness, participants employed quasi-religious notions such as "revelation", "awakening," or "Godly commands" to denote their experience of these insights (subtheme 3a "Revelation of a new world").

For some participants, this revelation of the utter necessity of things evoked awe, astonishment, or feelings of holiness, of having been graced with insight into deeper layers or structures of reality. Participants particularly emphasized that this was not mere intellectual contemplation, but entailed a more fundamental experiential shift in which the self/world distinction seems temporarily dissolved in a blissful state of higher unity or mystical wholeness (subtheme 3b "Mystical unity"): "The light led me, all in a fluent movement, very strange. I often read in psychiatric textbooks that psychosis is a matter of chaotic impressions and confusion, but I wasn't confused at all! Everything was one fluent pleasurable movement of utter consistency, everything made sense" (Michael, 2.1).

Common to all participants' accounts were feelings of centrality or of having, oneself, an exceptional position within hyper-reality (subtheme 3c "The self in hyper-reality"): "Normal reality is indifferent towards you, but this reality makes you special" (Jan, 1.8). The specific nature of this exceptional position did

however differ markedly between participants. Some participants reported a quasi-cosmic feeling that the self was the medium for, or perhaps the direct expression of, the harmonic unity of existence. Michael, e.g., felt a kind of perfect rhythmic coordination and timing: "At that moment, I believe you are in contact with the universe. Every step that I took was rhythmical, and after a while, everything I did was rhythmical, every step, every eye movement. You have a better feeling for timing in which you master each moment, a moment in which you lose time and space, hour and time" (Michael, 2.1).

For others, this sense of overall connectedness led to grandiose or solipsistic experiences in which the entire world seemed to depend on their own personal existence: "I was riding with my bicycle and the earth moved. I thought that I could make the earth move, and I feared that if I would die, everything would disappear" (Chris, 1.9). For others still, ontological connectedness took on a threatening quality, with ominous paranoid feelings of being watched or followed by a source they were unable to locate in ordinary three-dimensional space; "You're incapable of grasping them. I think they're made of a different consistency, not matter but anti-matter, like they're located in a different domain of reality" (Cynthia, 1.6).

4. The complexity of delusional belief

For most participants, the above-mentioned alterations in reality experience were of primary concern, understandably enough. However, the interviews also offered a complex picture regarding the attitudes or forms of belief adopted in relation to the alterations (theme "The complexity of delusional belief").

Some accounts did suggest a literal interpretation in which delusional reality was more or less straightforwardly identified with everyday reality, as, e.g., in the case of Lydia who seemed firmly to believe the government was after her and sought means to escape this persecution (Lydia 1.1). Others, while similarly insisting on the veracity and realness of delusional experience, offered more qualified or tentative appraisals, pointing out, e.g., that while they really felt as if others could access their private thoughts, they somehow also knew this was impossible (Kurt, 1.2). The latter example illustrates that concepts like 'truth' and 'realness' should be approached with some caution, as they may sometimes be used to emphasize that one's experience is real, without necessarily making objective claims about everyday or shared reality.

Apart from these more ambiguous appraisals, 11 participants explicitly noted the difference between their altered delusional reality experience and the everyday or common-sense perspective (theme 4a "Double bookkeeping"). Bert, for example, who reported revelatory experiences that brought him ever more closely to unravelling what he called "the underlying structure of reality", also attested to a seemingly paradoxical self-awareness of this hyper-real predicament: "No, my awareness wasn't gone. I knew I just was in a different reality in which I couldn't communicate with others. I thought: 'I have to get out of here!'. But it's something I clearly was aware of, yes" (Bert, 1.5). Participants expressed such double awareness variously. While some emphasized the

mind-dependent quality of delusional experience (Frederik, 1.1; Kurt, 1.3), others focused on its privacy and consequent unavailability to others (Julia 1.6). Still others noted the irrelevance of delusional insights as motives for everyday action (Frederick, 1.2).

The preceding statements of participants suggest a reassuring image of two realities standing side-by-side with little interaction or mutual contamination. However, some participants emphasized a messier form of experiential simultaneity or intersection that we term double exposure (subtheme 4b "Double exposure"). Julia, for example, described how she was able, at times, to see others in the usual way, while simultaneously experiencing that visual perception in an altered form: "I recognized my husband as my husband, but at the same time I couldn't fully trust what I saw. I was situated in a sort of double world: I saw reality in a heightened way and I saw a reality corresponding with the reality of other people around me" (Julia, 3.2). Adding to this uncertainty, other participants emphasized how a sense of derealization gradually eroded their ordinary sense of reality, contributing to the disorientating sense that perhaps everything was somehow unreal.

Yet other participants, while experiencing a clear distinction between everyday and delusional reality, tended to reverse their evaluations of these respective worlds (4c "Ontological reversals"). Instead of experiencing everyday consciousness as adequate and well-adjusted and delusional consciousness as confused and false, everyday experience was esteemed to be hopelessly naive, banal, or artificial: "Earth used to be everything. But now we've been to Mars, Earth has become a little circle in the distance. Do you get it?" (Brian, 1.5). Not surprisingly, this value reversal was most characteristic of participants whose altered experiences were predominantly hyper-real, characterized by a sense of intense and deep metaphysical significance.

5. Aftermath: the enduring impact and value of delusional experience

Finally, some participants emphasized that the ontological transformations they experienced had a lasting and profound life-changing effect, persisting beyond the psychotic episode (Theme: "Aftermath: the enduring impact and value of delusional experience"). Despite the sometimes destabilizing effects of delusional experience, they were frequently acknowledged as having an enduring value and meaning, rather than being viewed, in purely medical terms, as mere symptoms of psychopathology: "I would never tell this to my psychiatrist because I fear they would look at me in a wrong way. But indeed, it has changed me profoundly", said Jan (Jan, 1.7). The new perspective could be disconcerting and sometimes difficult to tolerate. After the enlightening intensity of his psychotic experiences, Jan saw normal life differently: "Life after psychosis is poor and meaningless. Everything that was so elevated and so full of meaning loses that meaning after psychosis. I notice that my friends who had similar experiences keep on struggling with existential questions. And it is a daily struggle" (Jan, 2.6).

Other participants stressed how the unique value of delusional experience similarly changed their perception of those lacking such experiences: ordinary or normal people could seem superficial or devoid of reflective awareness or appreciation, less prone to wonder or amazement at the nature of life and existence: "I think I realize things that others will never realize by themselves. I just notice that other people don't have a clue. If you're inside everyday reality, it's impossible to know. You can only see the wood when you're situated above the wood – when you're in the wood, you don't notice that you're in it" (Brian, 1.2).

Importantly, this existential value of delusions also influenced views about therapeutic approaches (subtheme 5a "In search for a meaningful therapy"). Some participants were unsatisfied with therapeutic tips regarding stress-management or similar practical advice directed toward symptom-reduction and everyday concerns: "I have done all sorts of therapy. And I found that it often offers house-and-garden tips in order to manage yourself. But that really doesn't suffice. You need to get insight into what happened, into the entire story that enrolled" (Jan, 2.7).

Participants had diverse views regarding what would constitute an adequate therapeutic response. They agreed, however, that, whatever its concrete form, such a response could not ignore how their experience of fundamental categories of human existence (eg, the nature of life, meaning, and truth) had been altered by delusional experience. For many participants, the experience of psychosis seemed to contain an at least somewhat anti-psychological or anti-psychiatric message: Though psychological and biological factors were often appreciated for the relief they could bring, they were deemed insufficient due to their inadequate understanding and response to the felt meaning and validity of these experiences.

Discussion

Our study explored the subjective nature of lived experiences underlying delusions of individuals with a schizophrenia-spectrum diagnosis. We found that delusions were often embedded in more wide-ranging alterations of basic reality-experience, offering empirical support to previous clinical and phenomenological characterizations of delusions. 9,11-12 These alterations often involved intangible and quasi-ineffable atmospheric and ontological qualities that impacted participants' overall sense of immersion in reality. The elusive nature of these experiential alterations might explain why they remain understudied in current research, and why precise understanding of their formation and clinical implications is yet to be established. This study provides an impetus for such research.

Our results first of all allow more precision to the general psychiatric term 'derealization' which is most commonly used to describe such alterations. 'Derealization' in delusional experience does not seem to be a single or unanalyzable quality (contra, e.g., Jaspers⁹), but a complex and heterogeneous

experience. Our results regarding hypo- and hyper-reality demonstrate that experience can differ from standard reality in various ways. Indeed, experiences of hypo –and hyper-reality themselves vary across a number of relevant dimensions (eg, meaningfulness, familiarity, continuity, necessity/contingency, detachment/engagement), confirming previous theoretical work proposing a multifactorial approach of reality experience. ^{11-13,23} An important task for future phenomenological work is to analyze these different dimensions of derealization in more detail, and address the extent to which they might track established diagnostic categories (eg, major depression, mania, schizophrenia).

In line with most current explanatory models (for an overview, see Connors & Halligan⁴), our findings confirmed the crucial role of anomalous experience in delusion formation. However, our results suggest the need to look beyond circumscribed anomalous perceptual contents (the current research focus) to include the more implicit sense of reality or objectivity-character of experience. Phenomenologically considered, experiencing something not only involves a sense of 'what it is', but also of 'that it is' and 'how it is'. A more explicit focus on this ontological dimension could therefore enhance future interdisciplinary explanatory work, especially regarding bizarre and polythematic delusions that remain largely intractable today.

To plausibly explain these experiences, however, explanatory models (e.g., cognitive two-factor accounts⁴) will need to go beyond their current search for domain-specific and modular neuropsychological dysfunctions. Our results showed that alterations of reality experience affect almost all domains of experiential life, including the experience of self, embodiment, time, and others, rendering a localized deficit unlikely. In this respect, predictive coding accounts (see, e.g., Corlett and Fletcher²⁵), which are less wedded to modularity assumptions, might be more promising. A further advantage of these accounts is their emphasis on the role of aberrant surprise and expectation in delusions, a feature we confirmed in both hypo- and hyper-real experience. However, we also found that aberrant salience may take on different qualities, e.g., loss of the sense of mere coincidence in hyper-real experience, versus an acceptance of randomness and unpredictability in the "anything-goes" orientation of hypo-reality. All this suggests the need to expand the range of neurocognitive hypotheses (e.g., by recognizing the possibility of an under-weighting as well as an over-weighting of "prediction error"). ²⁶

Yet is questionable whether accounting for alterations in reality experience can be entirely achieved at a subpersonal or cognitive level of explanation. Our results suggest that reality experience is determined more broadly—beyond the neurological or psychological level—by how individuals engage and interact with the world and others. For example, our results showed that hypo-real experiences were often accompanied by a hyper-reflective scrutinizing that disrupted engagement in everyday meaningful activities and interaction with others. These findings indicate that hypo –and hyper-reality—and associated decline of a robust sense of common-sense reality – are modulated by the contextual dynamics of an individual's embodied relationship with others and the environment—a point that aligns with enactive approaches to psychopathology and psychiatry. Future research may capitalize on these observations by

studying delusional experience as a dynamic and situationally bounded phenomenon (e.g., through ecological assessment techniques) that may be instantiated or attenuated in specific social and environmental contexts.²⁹⁻³¹

Our results regarding the subjective valuation of these experiences (themes 4&5) furthermore challenge the dominant view of delusions as epistemic deficits resulting from inaccurate reality-testing or source-monitoring. We found that participants were often intensely absorbed by these experiences, yet without necessarily mistaking them for standard reality. This finding possibly accounts for the relative limited success of empirical research that attempts to explain delusions in terms of suboptimal reasoning strategies. Overall, participants were often well aware that delusional experience would be judged bizarre or unlikely when set against normal evidential standards. The more relevant point for participants, however, was not epistemic but experiential: delusional experience constituted a radical break with ordinary reality experience, a fact participants arduously attempted to reconcile with their everyday outlook in different ways. Apart from its therapeutic relevance (see further), this finding encourages future research to study delusion in non-epistemic experiential terms (for a cognitive/neurobiological proposal along these lines, see Gerrans³³).

Finally, our study has a number of clinical implications. Current guidelines³⁴ recommend the use of second-generation antipsychotic medication and psychological treatments (i.e., CBT for psychosis), yet both have demonstrated limited efficacy.^{7,35} The experiential context of delusions highlighted in our study suggests reasons for this limited efficacy and how treatments could be improved. As discussed, our findings showed that delusional experience arises from the broader interaction of an individual with its social and environmental context, with derealization experiences typically involving loss of trust and stable anchoring in the world. Therefore, pharmacological treatments that primarily target the individual are unlikely to be adequate on their own; and, for similar reasons, cognitive interventions that focus on challenging individual appraisals will be of limited benefit. Instead, embodied and situated strategies (e.g., body-oriented therapies, immersive activities, cultivation of 'dereflexion', increasing meaningful social connections – for an overview, see Nelson and colleagues³⁶) that are more focused on the overall framework of altered experience and aim to reduce feelings of self-alienation and uncertain embeddedness in everyday reality are more likely to prove beneficial. Our study encourages the further development and testing of these approaches.

However, beyond this strict mental health perspective, our findings also highlighted the more existential value delusions contain for some individuals. The acquired detachment and distance from everyday experience were not always experienced as mere deficit or affliction, but sometimes also as a transformative experience through which everyday conventions and concerns appear in a different, and often less 'natural' or compelling light. In this sense, delusional experience can open towards philosophical and existential quandaries that inquire into the status and justification of our everyday certainties and

habitual forms of life. What seems to be required here are approaches that are able to acknowledge and discuss, in an open and non-normative way, the uncertainty and contingency that permeate our everyday practices and which delusional experience may bring to the fore. 10,31

Despite the rich perspective afforded by our study, it has several limitations. As a qualitative investigation, our goal was exploratory rather than confirmatory and was primarily aimed at offering in-depth study of a set of subjective experiences associated with delusions that are often neglected. Research with larger and more diverse samples are needed to determine the overall prevalence and nature of the experiences described here. Our sample is also idiosyncratic in various ways, including a high percentage of Caucasian and hospitalized participants, and reliance on retrospective accounts which may not always accurately reflect the actual experiences of delusions of participants. Future research might benefit from the use of assessment techniques that measures these experiences in the moment (e.g., experience sampling methods). Furthermore, while one of the co-authors has lived experience of psychosis, service-user leadership and a more rigorous use of participatory methods would have deepened the interviews and analytic process that followed. Future research should include researchers with such experience to gain insight into the subjective complexities of psychosis.

Overall, qualitative phenomenological analysis that allowed in-depth exploration of delusional experience generated novel insights into the complexities of reality experience underlying delusions missing from previous research. It is hoped that this study will prompt further close examination of delusional experience, in both clinical and research settings, with the aim of improving diagnostic accuracy, explanatory models, and support for delusional individuals whose lived realities are not always evident from an everyday perspective.

Declaration of interests

We declare no competing interests.

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Panel 1: Research in context

Evidence before this study

We searched PubMed for articles published from database inception to December 31, 2020, with the broad terms ("delusion*" AND "derealization") AND ("schizophrenia" OR "SzS"), given the limited literature on this topic. There were no language restrictions, and we did not specify an age range. This search was supplemented by reviewing reference lists and forward citations of relevant articles, with a focus on the reference list in a recent review of delusions in schizophrenia. Across a small body of phenomenological and quantitative studies generated, there was evidence regarding the presence of altered reality-experience underlying delusions in schizophrenia, and conceptual and clinical suggestions regarding its multi-dimensional nature, its heterogeneity, and the phenomenon of double book-keeping/exposure. There were no studies, however, directly investigating the nature of delusional reality-experience in individuals with schizophrenia, and there were no qualitative analyses reported in previous research specifically dedicated to this subject.

Added value of this study

This first study, to our knowledge, to directly investigate altered delusional reality-experience in schizophrenia, provided evidence for the presence of atmospheric and ontological transformations characterizing these experiences. We found that delusional reality-experience is altered on several dimensions, and that there are different ways – a hypo –and hyper-real form – in which delusional realities differ from standard reality. The study also highlighted the deep significance of these experiences for patients, and how this can influence their views on what constitutes relevant treatment.

Implications of all the available evidence

Improved awareness and more explicit attention to the complex nature of delusional reality-experience and its meaning for patients among researchers and clinicians may help to improve diagnostic practices, explanatory models, and therapeutic support. This study will contribute to the better comprehension of delusional experiences that often remain refractory to everyday understanding. Table 1: Participant characteristics

Pseudon	ym Gender	Age	Ethnicity	Marital status	Accomodation	Occupation	Working diagnosis	Age at onset	N interviews
Cynthia	Female	34	White-Flemish	Single	Hospitalized	Unemployed	Paranoid schizophrenia	18	3
Jan	Male	51	White-Flemish	Divorced	Living alone	Voluntary work	Schizophrenia	21	2
Julia	Female	35	Russian-Flemish	Married	Living with husband	Full time	Paranoid schizophrenia	32	3
Bert	Male	30	White-Flemish	Single	Supported housing	Unemployed	Schizophrenia	22	2
Rick	Male	55	White-Flemish	Divorced	Living alone	Voluntary work	Schizophrenia	35	2
Michael	Male	32	Indian-Flemish	Single	Hospitalized	Unemployed	Schizotypal disorder	unknown	3
Tim	Male	40	White-Flemish	Single	Living alone	Unemployed	Schizophrenia	21	2
Brian	Male	47	White-Flemish	Single	Supported housing	Voluntary work	Bipolar/Schizophrenia	unknown	2
Herman	Male	55	White-Flemish	Single	Hospitalized	Unemployed	Schizophrenia	19	1
Chris	Male	58	White-Flemish	Single	Hospitalized	Unemployed	Paranoid schizophrenia	22	2
Lydia	Female	26	Asian-American	Single	Living alone	Student	Paranoid schizophrenia	16	1

Kurt	Male	28	White-Flemish	Single	Hospitalized	Unemployed	Schizophrenia	20	2
Frederick	Male	53	White-Flemish	Divorced	Hospitalized	Unemployed	Schizophrenia	30	2
Sophie	Female	19	White-Flemish	Single	Hospitalized	Unemployed	Schizophrenia	18	1
Adrian	Male	22	White-Flemish	Single	Hospitalized	Unemployed	Schizotypal disorder	20	2
Walter	Male	33	White-Flemish	Single	Hospitalized	Unemployed	Schizophrenia	21	1
Philip	Male	30	White-Flemish	Single	Supported housing	Voluntary work	Schizophrenia	23	2
Lisa	Female	62	White-Flemish	Divorced	Hospitalized	Unemployed	Paranoid Schizophrenia	31	2

Table 2: Superordinate and subordinate themes

Superordinate and subordinate themes	Total	Cynthia	Jan	Julia	Bert	Rick	Michael	Tim	Brian	Herman	Chris	Lydia	Kurt	Frederick	Sophie	Adrian	Walter	Philip	Lisa
1 Psychosis as an ontological transformation	15																		
1a The limits of language	12																		
1b The primacy of experience	10																		
2 Psychosis as a state of hyporeality	10													0					
2a The detached observer of life	9																		
2b An explosion of possibilities	7																		
2c The reality show	5																		
3 Psychosis as a state of hyper-reality	13								0										
3a Revelation of a new world	11																		
3b Mystical unity	7																		

3c The self in hyper-reality	13	0								
4 The complexity of delusional belief										
4a Double bookkeeping	11									0
4b Double exposure	4									
4c Ontological reversals	4									
5 The enduring impact and value of delusional experience	11									
5a In search for a meaningful therapy	10		0	0					0	

Panel 2: Quotations supporting themes and subthemes

Psychosis as an ontological transformation

"In one single instance, everything was totally different. I found myself in an entirely different world."

Bert "On that moment, I don't know, it's like I experienced a new world opening up"

Philip

The limits of language

"Surely, it was phenomenal. One cannot describe it in words. It's like what the mystics said about mystical experience, the experience is nearly impossible to put in words."

"I am simply unable to formulate it. No, really, it's something I cannot formulate"

Jan

The primacy of experience

"It was like an image in my head without any argument. Of course, I had to fact-check everything in the papers next to me, in my albums and history books in order to make sure whether it made sense. But there wasn't any reason or occasion for it. I was
The self in hyper-reality

Revelation of a new world

"Things revealed themselves as rhythmic givens. Everything in the right place, all at the right time"

Michael

"I received a command from God to make the world a better place. And I couldn't handle it, I couldn't manage the pressure."

Rick

Mystical unity

"I gained a new form of consciousness, discovered a new world which others couldn't follow. I was everywhere, I thought I discovered the key for true love"

"My feeling was totally different from normal. It was a state of euphoria in which I lived, a feeling of overflowing with a sort of universal love. A feeling of fullness – it's really a bliss to be able to experience that."

Jan

simply waiting in the psychiatrist's waiting room together with my sister."

Lydia

"I've always been someone who went through life with a certain modesty, keeping myself to the background. And then suddenly you have to deal with these fantasies of omnipotence, with delusions of grandeur. Yes, from where does that come? Is it me? I couldn't understand at all where they came from"

Jan

Psychosis as a state of hypo-reality

"You start to doubt reality, what is real, what there is, and whether there in fact there is any real."

Bert

"I lost my orientation. I lost everything. I lived like a fish without a head. I truly lost it. I didn't have contact anymore, I lost contact with the earth"

Rick

The detached observer of life

"I think that's the best description. You're on automatic pilot and you're an observer. You're doing all kinds of stuff but it's like you're not really present, as if you're observing everything from your own perspective. When you're observing, you participate less"

Andrew

"It was like I wasn't part of this world anymore, that I didn't have a self-experience, and a lot of suspicion towards others. If others told me "you're doing well", then I thought by myself "what is this?". Perpetual questioning and analysis."

Tin

An explosion of possibilities

"I could look at things from multiple perspectives, not like most people can only look from the perspective that best suits them. But the problem is: every perspective is as true as the other one"

Brian

"And I started thinking I was this crazy lady in the railway station, maybe with plastic bags, and I thought "how do I look?", "Do I look normal?". "Maybe I've been here for 16 years", "maybe I'm an old lady in the hospital", "maybe I've been stuck here for a long time and I'm starting to realize"

Sophie

The reality show

"Those coincidences weren't coincidences for me. Everything was

"Normal reality is indifferent towards you, but this reality makes you special"

Jan

"I was convinced that others would consider me as a figure of Jesus, that I discovered heaven, and that I proved the existence of the supernatural"

Frederick

Double bookkeeping

"I lived between two realities. Much of our time we are here on earth taking care of our daily business. But on the other hand, there is this question of the purpose of life, of God and the angles. I just couldn't get a grip on the situation"

Rick

"Sometimes I close my ears. But I also know that doesn't help, I know it's something inside of me. It's a disorder of my reality, I know that sounds weird and heavy. But that's the way it is"

Kurt

Double exposure

"I recognized my husband as my husband, but at the same time I couldn't fully trust what I saw. I was situated in a sort of double world: I saw reality in a heightened way, and I saw a reality which did not correspond with that reality, the reality of other people around me"

Julia

"I know that others exist, I know they are there, but at the same time there is a certain estrangement, an isolation"

Tim

Ontological reversals

"I think that someone who is actually sensitive to that dimension can actually serve as a conduit to that message"

Brian

"I assume there is this source of knowledge, a source whose value we often don't appreciate enough"

Philip

Aftermath: the enduring impact and value of delusional experience

"And throughout the chaos in my head, there was one certainty that I acquired in the psychosis. I knew that this life doesn't matter that much, we're heading for something better and that something really exists"

Walter

one big game. Everyone was an actor just putting on his show. I had to reconstruct everything, reality was one big puzzle, and I had to figure out what was real and what was not"

Lydia

"I had the impression that I was all alone, that there was no one else there, that others were only ideas or abstract data. So yes, physically they were there, but not fully or immediately present"

 T_{ii}

Psychosis as a state of hyper-reality

"During a psychosis, it is all so intense, all so utterly lifelike. You know that everything is meant to be"

Reri

"I had a sort of heightened perception – I saw connections everywhere, connections which I alone saw, for example, on the doors of the psychiatric ward. The semantics of words revealed a hidden meaning"

Kurt

"Perhaps it's a dangerous thing to say that other people are more superficial and less profound. But still, there's something more fleeting or cursory in other people. They're more prone to pass over things more easily"

Adrian

In search for a meaningful therapy

"I have done all sorts of therapy. And I found that it often offers house-and-garden tips in order to manage yourself. But that really doesn't suffice. You need to get insight into what happened, into the entire story that enrolled"

Jan

"I must admit I prefer rational thinking and philosophy over following therapy. I would be more inclined to read philosophical rather than psychological literature"

Michael