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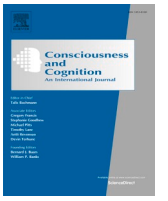

In defense of the one-factor doxastic account: A phenomenal account of delusions

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ABSTRACT

According to the doxastic model, delusions are beliefs. In the metacognitive model, delusions are imaginings mistaken for beliefs. I argue that endorsement of false second-order beliefs could also create unpleasant dissonance, that mentally healthy people often endorse irrational or conflicting beliefs, and that the lack of delusion-motivated action can be explained by the influence of nonbelief factors on action. The two-factor doxastic model posits irrationality as necessary, and one metric of rationality many scholars employ is whether a response is easily understood by folk psychology. A precedent for folk-psychological acceptance of contextually bizarre beliefs as a result of personal experience can already be found in the lack of imaginative resistance encountered not in response to the impossibilities portrayed in speculative fiction, but in response to the characters' ability to incorporate these occurrences into their mental frameworks, despite them often being at odds with these characters' bedrock understanding of the world.

1. Introduction

1.1. Current theories of delusion

The majority of mainstream understandings of delusion conceive of delusions as a type of belief, regardless of whether they are thought to be irrational or maladaptive beliefs or what other differences each account may have. These accounts can be further subdivided in a few different ways, including whether they attribute delusions to a perceptual or processing level abnormality only (one-factor) or both a change in sensory perception and/or primary cognitive processing and a higher-level deficit involving self-evaluation and ability to reject nonsensical or irrational explanations (two-factor). Both the one-factor and the two-factor account, as well as any other theory of delusions that characterizes them as beliefs that reflect the content stated by the patient, fall under the umbrella of doxastic theories or doxastic accounts of delusion. There are also a few non-doxastic accounts of delusion, one of the most popular and compelling being the metacognitive account. The metacognitive account argues that delusions are imaginings mistaken for beliefs, using as a basis for this argument that they are not well integrated with the delusional person's other beliefs and don't guide their actions and influence their emotions the same way as beliefs. I argue that endorsement of false second-order beliefs could create similarly unpleasant dissonance to the dissonance that is created by holding incompatible and unintegrated first-order beliefs, that mentally healthy people also often endorse irrational or conflicting beliefs without their belief-status being called into question, and that the lack of delusion-motivated action can be explained by the influence of nonbelief factors on action. These arguments all aim to discredit the metacognitive model in favor of the doxastic model. Within the doxastic model, I explore the debate between the one-

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factor and two-factor models and make a case for the one-factor model.

According to the one-factor model, delusions form in response to a perceptual or experienced abnormality, including but not limited to a primary sensory hallucination or a more subtle alteration in perceptual processing such as delusional mood, which encompasses feelings of altered, pervasive, and sometimes inexplicable significance in response to everyday events. The two-factor model acknowledges these altered experiences and primary processing events as a necessary component of delusion formation, but also relies on the irrationality of the higher-level cognitive response to unusual perceptual experiences as required for delusions to develop and assume belief-status. I aim to discredit the categorization of higher-order processing in delusions as inherently irrational by exploring what rational processing of abnormal first-order experiences would entail according to two-factor theorists and the possibility that belief formation in response to primary processing of initially incompatible information can be a rational response even if the beliefs formed are at odds with pre-existing beliefs. To explore this I use a metric of rationality employed by many scholars: whether a response is easily understood by folk psychology.

1.2. Support from folk psychology and phenomenology

A precedent for folk-psychological acceptance of contextually bizarre beliefs as a result of personal experience can already be found in the lack of imaginative resistance encountered not in response to the impossibilities portrayed in speculative fiction, but in response to the characters' ability to incorporate these occurrences into their mental frameworks, despite them often being at odds with these characters' bedrock understanding of the world. I show specific examples of this mechanism at work and assimilate them into a defense of the one-factor model in which abnormal experience alone is sufficient to account for delusional beliefs. While I draw from phenomenology, or the focus on the lived experience of delusion, to explain and give validity to altered reality and its role in the development of delusions, my account is not a purely phenomenological or experiential account because it does grant delusions belief status beyond the belief of having a subjective experience, let alone an experience restricted entirely to a separate, compartmentalized plane of reality, referred to as "double bookkeeping".

2. Overview: Doxastic model vs metacognitive model and one-factor vs two-factor doxastic models

There are a variety of different distinctions that can be made when formulating theories of delusion formation and maintenance: two important points of departure among psychological philosophers are the metacognitive account vs the doxastic account and the one-factor vs two-factor approaches.

2.1. Doxastic vs metacognitive debate

According to the doxastic account of delusions, delusions can be analyzed on the level of being first-order beliefs: that is, delusional patients believe the content of their delusions (Bayne & Pacherie, 2005). The doxastic account can encompass both the one-factor and the two-factor model of delusions. According to the newer metacognitive model, delusions are second-order beliefs - in other words, while patients believe they hold these beliefs, they are in fact only imaginings which have been mistaken for beliefs (Currie, 2002). This is related to what Currie and Ravenscroft refer to as a disorder of imagination theory, in which schizophrenic patients suffer no deficit in imagination per se, but do fail to recognize it as such (2002) - they use the terminology of Howard Searles and refer to this lack as "dedifferentiation" affecting the ability to experience fantasy *as such* rather than as a representation of reality. This controversial account is motivated by the fact that in some ways, delusional beliefs do not appear to behave like typically defined beliefs: for instance, a definitive characteristic of beliefs is that they have an influence on actions (Schwitzgebel, 2002), while delusional patients often choose courses of action inconsistent with holding the delusional belief (Currie, 2002; Tumulty, 2011). An additional characteristic of beliefs is that they are integrated and mutually consistent, and many delusions are so irrational that if they were true beliefs, it is difficult to see how they could be held when they are clearly inconsistent with the subjects' other knowledge of the world (Currie & Jureidini, 2001).

2.2. One-factor vs two-factor debate

According to the one-factor account of delusions, delusions form in response to an abnormal experience and subsequent attempts to contextualize it (Maher, 1999). According to the two-factor model, the abnormal perceptual experience is necessary but not sufficient for delusion formation and maintenance, and the interpretation or high-level processing of this input must also be deficient or dysfunctional (Coltheart, 2010). The evidence that supports this view is that some patients will experience a similar disruption in their fundamental perception as delusional patients and fail to develop similar delusional beliefs (McKay, 2019). An example is patients with vmPFC damage who develop an abnormal skin conductance response to familiar faces as seen in Capgras patients without developing the accompanying delusion that their loved one is an impostor (Tranel & Damasio, 1994). Critics of the two-factor model claim that it is difficult to show that patients without delusions experience an identical deficit to delusional patients with no additional deficits (Corlett, 2019).

3. Response to the metacognitive account's explanation for the irrationality of delusions

Part of the appeal of the metacognitive account in contrast to the doxastic account is that within the doxastic account, delusional

patients hold beliefs that are inconsistent with the framework of their other beliefs, while as beliefs are typically defined, they are mutually informed and well-integrated with each other. Various counterarguments to this point have been made, among them that otherwise rational people often do hold illogical or contradictory beliefs. An alternative argument I have seldom seen raised overtly is that a false-second order belief is still a false belief, and believing that one believes something irrational or at odds with their other beliefs may itself be sufficient to generate the very dissonance that the metacognitive model works to avoid. While this has not been shown explicitly, the influence of second-order intentional states as being comparable to first-order intentional states has been documented in the context of the theory of planned behavior (Hagger and Chatzisarantis, 2005).

3.1. The palatability of inconsistent first-order beliefs vs. inconsistent second-order beliefs

It is well-known that endorsing conflicting first-order beliefs through words or actions usually leads to unpleasant feelings of cognitive dissonance which then normally prompt the disavowal or modification of one or both the conflicting beliefs or behaviors (Fischer, Frey, Peus, & Kastenmüller, 2008). However, the psychological implications of endorsing a second-order belief that conflicts with an existing framework of first-order beliefs has not been extensively explored. While believing one's imagining is a belief that contradicts other logic or evidence available provides an added degree of distance relative to directly believing in contradictory premises, under the metacognitive model the delusional individual is now left with the first-order belief that they believe a premise (their second-order, false belief, i.e. the delusional content) that contradicts the original first-order beliefs that constitute their non-delusional framework. One of three conclusions consistent with the metacognitive framework for explaining delusions can be drawn from these premises:

(a) The consequences of having a false second-order belief are never fully realized because the implications, such as the first order belief that one holds contradictory views, are never realized by the delusional patient
(b) Delusional patients do believe they hold contradictory first-order beliefs, but this belief is not distressing and does not cause dissonance
(c) Delusional patients do believe they hold contradictory or incompatible first-order beliefs, and this belief creates a similar level of dissonance and distress as actually holding incompatible first-order beliefs

While it is possible that the consequences of their conflicting beliefs are never fully realized or dealt with, as postulated in a, this is a similar endpoint to a proposed outcome of the initial doxastic account that the metacognitive account seeks to improve upon. Similarly, if they do realize the contradiction on some level but persist in their second order false belief unbothered, as discussed in b, it remains unclear whether this alternative is more preferable than being unperturbed by the implications of conflicting first order beliefs in the doxastic account. One difference is that in the metacognitive model, conflict or contradiction only exists if one presumes the patient also believes they are thinking logically. Delusional patients, and even mentally healthy people, are likely aware that they are not perfect rational agents, which is true of both populations. However, believing oneself to be perfectly self-consistent and logical and having a general drive towards maintaining those traits are different things. One could make the argument that delusional subjects don't desire to maintain rationality or self-consistency at all, but in addition to there being little basis for such an argument, it not only doesn't support the metacognitive model but renders it all but irrelevant, as its entire framework is constructed with the goal of avoiding the dissonance of irrationally inconsistent and conflicting beliefs. Finally, in example c, if they did understand the natural implications and also did experience the same dissonance, this would be no more preferable than the doxastic model because it would encounter the same endpoint obstacles it sought to avoid, while also adding an additional layer of complexity. The problems brought up by this metacognitive model still stand - namely, that there is an unpleasant dissonance in holding contradictory beliefs that the mind will seek to alleviate. However, it is by no means unheard of for individuals, both mentally ill and healthy, to hold conflicting beliefs simultaneously for extended periods - in fact this dynamic is commonplace within certain situations, situations that have long been accepted as involving straightforward first-order beliefs.

3.2. Irrational beliefs in mentally healthy populations

A belief in something bizarre is typically only a candidate for being classified as a delusion if it cannot be explained by the cultural or religious views an individual shares with their native community (American Psychiatric Association, 2013). This exception is written into the definition of a delusion to avoid diagnosing people with certain religious or paranormal views as delusional. However, it is also a necessary exemption because many such views would otherwise meet criteria for delusion. For instance, belief in the use of mediums, séances, or ouija boards to commune with the dead all involve endorsing the belief that someone can communicate with you while also accepting the knowledge that said person is dead and buried, and yet variations of these practices are common within Western culture. While I am not arguing these views should be considered delusions, or even that they are unhealthy or maladaptive, it is relevant that they too involve beliefs that outwardly appear contradictory, and they are still able to be held by believers without, or in spite of, significant cognitive dissonance.

4. Response to the metacognitive account's explanation for lack of delusion-motivated action

Aside from the argument for the metacognitive account described previously, that delusions are not beliefs because they fail to properly inform or integrate with other beliefs, another key argument is their relative lack of influence on actions (Currie & Jureidini

2004). While there are tragic cases in which a person who believes their loved one has been replaced by an impostor will react with violence to the alleged impostor (de Pauw & Szulecka, 1988), or where persons with persecutory delusions will take action as a result (Freeman, 2007), this pattern is not typical. In the instance of Capgras, most patients will treat their proposed impostor with neutrality, civility, or even flirtation (Lucchelli & Spinnler, 2007), and display little concern for the whereabouts of their actual loved one, whom they claim is missing. And in the context of more polythematic delusions, as often seen in schizophrenic disorders, it is likewise not necessarily typical, though not uncommon (Bortolotti (2011); Bortolotti and Miyazono (2015)) for delusions to inform patient actions directly in the ways that might be expected given their presumed belief status. However, there are alternative explanations for this lack of observable motivation and influence on action, such as the fact that some beliefs may be sincerely held, but have no necessary impact on day-to-day behavior, such as the normal belief that humans are bipeds (Bortolotti (2011)) or have unclear, subtle, and non-straightforward implications for behavior, such as the belief that one is the Duchess of Cambridge (Ichino, 2019). An additional confounding factor is the fact that non-belief intentional states also have concrete influence on actions in certain scenarios. Consequently, if the patients' beliefs are aligned with their delusional claims, but they run counter to conflicting evidentiary support and actionable cues that are more readily accessible to neural systems that directly guide the patients' physical actions, the influence of said beliefs may fail to supersede the influence of these cues, even if this inhibition is representative of the influence of factors largely consisting of non-belief intentional states.

4.1. Mental states related to belief that also influence action

There are schools of thought, such as motivational externalism, that emphasize that actions may not align with beliefs such as moral judgements, for various reasons, including opposing emotions like fear, or lack of motivation due to depression or apathy (Shafer-Landau, 2000). There are also many known cases in which environmental cues may have an effect on behavior in spite of not correlating directly to beliefs, or even being diametrically opposed to them. For instance, there are individuals that avoid certain behaviors - such as opening an umbrella indoors, walking under a ladder, or crossing the path of a black cat - despite professing not to be superstitious (Campbell, 1996). While it is possible they only verbally renounce superstitions they in fact do believe in - for instance, out of embarrassment - it is also possible that they perform these simple rituals out of a form of compulsion in spite of their better judgement. Gendler describes these cases as instances of *alief* - an intentional state distinct from, but closely related to, belief (Gendler, 2008). According to Gendler, aliefs are characterized by three components: an imaginative, conceptual, or propositional representation of some content; an affective or emotional component; and a behavioral component consisting of "readying the motor routine". While other philosophers, such as Currie (Currie & Ichino, 2012), debate the status of aliefs as an independent construct in need of characterization, they do not deny that non-belief cognitive attitudes do exist and can influence action (Currie & Ichino, 2012). Currie refers to these instances of non-belief influence not as aliefs but rather as 'Gendler cases' and uses as an example a case also described by Gendler in which persons asked to cross an elevated glass Skywalk will often display reluctance or hesitancy despite understanding on a rational level that it is completely safe (Gendler, 2008). Yet another example cited in her paper involves research study participants' reluctance to drink from a bottle labelled as a poison even when they understand objectively that the drink is not poisoned and is safe to consume.

4.2. The influence of non-belief mental states on action in delusional patients

While it may seem tempting to draw a parallel between the (often irrational) influences in these Gendler cases and the influence of delusional content on patients, this represents a surface-level similarity (content that is not rational) while an alternative parallel can also be drawn between these Gendler cases and the influence of *un*altered perceptions of reality on the actions of delusional patients - this perhaps unprecedented framework is consistent with the notion of regarding delusions as genuine first-order beliefs and also explains why, despite that characterization, they could often fail to influence action. Of note, this explanation mirrors the metacognitive theory's characterization of delusion as a non-belief intentional state using a complementary set of arguments. The metacognitive theory uses the lack of delusion-motivated action as a justification for delusions being non-belief intentional states existing alongside genuine and countering beliefs which are coherent with external reality as judged by others and with patients' own actions. However, the same scholars responsible for developing and championing this explanation also highlight experimental evidence showing the influence of non-belief intentional states on action in healthy non-delusional subjects, as mentioned above (Currie and Ichino, 2012). This allows for a counter-narrative in which lack of delusionally motivated action can be explained by the influence of non-belief intentional states out-competing delusional beliefs, rather than the converse. For example, a patient who has a delusion that he can fly may genuinely believe he has this ability, and may fail to jump off of a building in part because he feels constrained by the same alief-related reasons a rational and healthy person may be reluctant to walk across the Skywalk even knowing it is safe. Similarly, cases of delusions whose belief would make violent actions practical, for instance Capgras, (Bourget and Whitehurst, 2004) in which a potentially threatening impostor presents, would still be laden with the non-belief-dependent influences of the affective and motivational associations with physically injuring someone or taking a life.

4.3. The effect of social factors on lack of delusional action

While the influence of alief-like factors is most clearly evident in the case of delusions for which acting on their implications would clash with such bedrock or background principles, to use the terminology of Wittgenstein and Searle (Rhodes & Gipps, 2008) as physical laws, the influence of social and situational factors should also be taken into consideration. It is well documented that social

influence can have a more powerful effect on behaviors such as verbal endorsement than even the most straightforward of first-order beliefs. The famous Solomon Asch experiment in which participants were asked to compare obvious differences in the lengths of lines when surrounded by confederates giving the wrong answer provides a rather serendipitous window into a similar dynamic, one in which a person is "submitted to two contradictory and irreconcilable forces - the evidence of his own experience of an utterly clear perceptual fact and the unanimous evidence of a group of equals" (Asch, 1951). While the majority of subjects did not change the majority of their judgements to fit the group, a significant number of trials (32%) deviated markedly based on the unanimous wrong input. While a genuine change in perceptual judgements did take place in some subjects, they were a small minority of yielding subjects. A larger group did not reassess their judgement, but did assume they must be wrong, however, yet another group of yielders did not doubt their own judgement, but merely conformed out of pressure. This shows that even rational people will act in ways not accordant with their basic beliefs if they are put in contexts which run counter to these beliefs.

4.4. Double bookkeeping and compartmentalized reality in delusion

Another relevant model, double bookkeeping (Bleuler, 1950) posits that delusional patients don't act on their delusions because they view external (ontic) reality as irrelevant to the private reality of their delusions, behaving in line with the expectations of external reality while simultaneously existing in an almost solipsistic paradigm with regard to accepting their internal reality as true. This conceptualization is distinct from the one I have outlined in the previous subsections, in which beliefs in line with ontic reality but conflicting with the delusion are rejected, rather than existing in dual agnosticism (Parnas, Urfer-Parnas, & Stephenson, 2020). The argument that there is simultaneous acceptance of ontic reality and a contradictory private experience of delusions is compelling and seems to fit with some first-person accounts of patients (Sass, 2013). However, the ability to interact with reality in ways that are reasonable irrespective of the delusion can be accounted for by the effect of non-belief factors on behavior, as in the above subsections. The key point of divergence is the characterization of delusion as being outside the scope of belief, lacking the ability to have belief-like relevance to conceptions of others and ontic reality. To counter this I raise the point that delusional subjects often struggle significantly to make sense of their delusions and attempt to incorporate them into their framework of lived reality, regardless of whether this involves acting on them or simply mentalizations. While I explained my disagreement with Currie's argument that the dissonance created by believing a delusion makes its belief status untenable, the fact that dissonance and discomfort surrounding delusions exist is hard to dispute. Delusions are, by definition, resistant to the presentation of counter-evidence. However, not all counterevidence is effortlessly ignored, dismissed, or incorporated, and being challenged about the validity of their delusions can be distressing for patients. If delusions existed on a separate plane of reality and were not actual beliefs, there would be minimal dissonance, tension, or desire to reconcile them with other beliefs.

5. Folk-psychology perception of delusions as elucidated by reactions to fiction

The major point of contention between the one-factor model and the two-factor model involves the degree of dysfunction or irrationality of the delusional content given the aberrant experience. In other words, a simplified version of this debate relates to whether the delusion involves a reasonable explanation or extrapolation for a bizarre experience or whether this explanation itself is also irrational even given the experience. Central to this question is the question of whether delusions are within the reach of empathy, whether they can be understood by others who can imagine thinking something similar themselves. (Ratcliffe, 2013) Interestingly, there are ways to determine the degree of normalcy or relatability of the delusional response that can be inferred from existing folk psychology principles.

5.1. Imaginative resistance in fiction

Philosophers of psychology have remarked on the fact that consumers of fiction such as books or movies are often able to imagine various scenarios that violate the principles of physics or other natural laws without encountering imaginative resistance (Gendler, 2000), or inability to imagine these events. A careful distinction is made here between imagination and belief - it is not universally accepted that moviegoers or readers actually *believe*, per se, that an event occurs even *within the fictional universe*, and rather may merely imagine it (Currie & Jureidini, 2001). However, even given this limitation, many of the constraints that apply to belief formation also apply to imagination - Currie and Ravenscroft (2002) cited a principle of simulation theory that we proceed from imagined or assumed premises in a similar way to the way we proceed from our beliefs. For instance, the same inferential mirroring is applied by agents experiencing either belief of a proposed scenario or imagination of it meaning that they apply the same background constraints and reasoning techniques to interpret and draw conclusions about these mental representations, whether they involve belief or imagining (Currie & Ichino, 2013). This would lead them to the same logical conclusions as if they did believe, perhaps only within the realm of fiction, in the characters' existence. Support for this appreciative similarity is found in the fact that there are propositions that *do* normally incur imaginative resistance, in that there are hypotheticals that many readers are not easily able to imagine, even if it does not involve a physical impossibility such as human flight or invisibility. Such examples may involve ethical or moral conjectures, such as imagining the morality of murdering female infants as a standard social practice (Currie & Ichino, 2013). One explanation as to why the latter type of fictional conjecture incurs imaginative resistance not provoked by the former is that in a fictional universe (for instance, the world of Hogwarts) casting spells and flying on broomsticks are aspects of an established framework. However, it being normal and acceptable to kill female infants is difficult to reconcile with a fictional framework that is substantially similar to our own world (Currie & Ichino, 2013). While the most common examples of imaginative resistance involve inability or unwillingness to regard

an abhorrent premise to be morally right even within a story (Hume, 1757; Walton, 1994), it has also been applied to aesthetics and humor, not in cases in which a narrator or their characters find something funny that the reader may find unfunny both to themselves and to others, but in cases in which an unfunny joke is supposed to *be* funny *within the story* (Walton, 1994). Another example particularly relevant to the case being made in this paper is the imaginative resistance that has been described in accepting attributions of nonsensical or implausible mental states to characters, such as if an author were to suggest that Romeo, while displaying all the same actions and making all the same professions as in the original Shakespeare play, only believed he was in love with Juliet and actually wanted to manipulate and humiliate her (Weatherson, 2004).

5.2. Character reactions to impossible scenarios

While it has been well documented, and variously accounted for, that supernatural plot elements such as ghosts or zombies or superheroes are not typically met by target audiences with imaginative resistance, one aspect of such narratives that has garnered little attention is that within such narratives, these unexpected plot elements are themselves accepted at face value by the narratives' protagonists and other characters, often within a storyline in which their occurrence is incongruous with the originally presented fictional universe, in which magical and supernatural events do not occur and are not thought possible. For instance, the emergence of Spiderman as depicted in the 2002 live-action film of the same name occurs in a world where the human ability to shoot spider-web and climb walls to scale buildings was previously unknown and unheard of, yet Peter Parker does not assume that he himself has developed a delusion, and none of the citizens depicted witnessing his abilities in action appear to seriously doubt their own sanity once the initial shock has dissipated. What has implications for folk psychology's appraisal of delusional states is not these fictional characters' beliefs or behavior in the face of unprecedented and inexplicable scenarios, but audience members' corresponding lack of imaginative resistance to these depicted reactions.

5.3. Character reactions to fantastical plot devices don't typically incur imaginative resistance

While the supernatural/sci-fi/fantasy component itself may be consistent with the accepted fictional universe, whatever it may be, if this universe is otherwise similar to our own, containing people who would presumably act and respond to events in similar ways to actual people, a natural assumption when consuming fiction described by Baudrillard as "the Reality Principle" (1994), why do viewers not encounter imaginative resistance to these characters' reactions, if not to the events themselves? While the proposition that Sheila Hammond has been turned into a zombie may not be expected to incur imaginative resistance within the accepted context of the horror show *The Santa Clarita Diet* (2017), why is there no obstacle in integrating her husband's and daughter's acceptance of this bizarre predicament, considering that the background world of the story does not differ substantially from the real world? Why do we not expect them to attribute what they witness to their own hallucinations or insanity? Arguably because within the narrative, in which supernatural events present themselves with sufficient demonstrable evidence, a paradigm shift occurs, making logical a fundamental shift of belief.

5.4. Implications for folk psychology understanding of delusional reasoning

The most reasonable conclusion to draw from the aforementioned evidence is that either

(a) Readers/viewers encounter imaginative resistance in response to depictions of characters who accept the existence of implausible events
(b) Readers/viewers do not encounter imaginative resistance because they believe that said characters are not mentally sound in their responses to the situations depicted
(c) Readers/viewers believe that the beliefs acquired and courses of action taken by characters in these types of fictional narratives are rational and proportionate responses, and therefore do not experience imaginative resistance

It has been accepted within the literature (Gendler, 2000) that fictional scenarios involving physical impossibilities often do not generate imaginative resistance in their respective audience. While markedly less emphasis has been placed on the lack of protagonist and character disbelief of these magical scenarios, several of the examples given to support this lack of imaginative resistance take place within fictional universes where their occurrence is unprecedented and it should be noted that the lack of imaginative resistance observed for these works also encompasses the lack of imaginative resistance to the mental states attributed to the characters, which eliminates possibility a. The conjecture that consumers of speculative fiction necessarily attribute insanity to the story's actors would also be inconsistent with their own previously established comfort with their own imagining of the supernatural element itself within the story, hence eliminating b. We are left with c, the conclusion that audience failure to encounter imaginative resistance to these character responses is present and is consistent with audience attribution of healthy or rational mental states to these characters.

Because the attribution of mental states to fictional characters *can* incur imaginative resistance, for instance, in the numerous examples set forth by Weatherson in *Morality, fiction, and impossibility* (2004) including the aforementioned example involving Romeo and Juliet, it stands to reason that their lack of triggering such a response in mainstream speculative fiction is significant of a deeper lack of conceptual resistance to the acceptance of bizarre or impossible occurrences when sufficient perceptual and witnessed evidence for their reality is made available.

5.5. Alternative explanations for cases of apparent dissociation of the two "factors"

To apply this folk psychology understanding to delusional patients, we are still left with the problem that in some cases an apparent dissociation is observed between the presence of a perceptual deficit or abnormal perceptual experience and the subsequent development of a corresponding delusional belief (Davies, Coltheart, Langdon, & Breen, 2001). There are a few ways to explain this apparent disconnect that do not necessitate that all delusions involve a pathological reasoning deficit, all of which have previously been put forward. For instance, it was observed that the documented patients with vmPFC damage who experience a lack of appropriate skin-conductance response (SCR) to familiar faces but do not develop the delusion that loved ones are impostors have broader disruptions in their skin conductance response that affect said response to a range of emotionally salient visual stimuli, such as graphic sexual or violent imagery (Tranel & Damasio, 1994), - deficits not consistently seen in most Capgras patients, which potentially confounds their use as a counterexample. Additionally, while these vmPFC patients do not present with Capgras delusion, they are not free of higher-level cognitive abnormalities co-occurring with their abnormal skin conductance response - such patients are often described as having an unemotional affect and even as being sociopaths (Young et al., 2010).

6. Implications for the fundamental understanding of delusions

Psychologists and philosophers of cognition have disagreed about the extent to which delusions are subject to the forms of empathy and understanding that allow others to temporarily access the mental state they arise from, with some, such as Klee (2004) saying firmly that some delusions, particularly bizarre or "stark" delusions, are necessarily inexplicable beliefs because they fundamentally lack the "rational coherence" that would allow them to fit within the framework of anyone who does not share them. Jaspers alternatively made the distinction between a "phenomenological" or static, understanding of delusions, meaning a description, delineation, and differentiation of the delusional content and experiences and the understanding entailed therein (Kumazaki, 2013) vs a "genetic" understanding of delusions in which one "grasps the emergence of one psychic event from another" (Jaspers, 1997). According to Jaspers it was only through this "genetic" understanding that "meaningful connections" could be discovered pertaining to the experiences, mental states, and actions of the patient who relayed them, hence this type of understanding consisted of a deeper empathy rather than simply a mental representation (Kumazaki, 2013). The capacity for others to genuinely empathize with delusional thought processes at all is under debate. Critics of Jaspers, such as Berrios (1992) argue that anyone attempting to understand delusional views would necessarily incorporate their own "second-order framework", and Sims (1988) claims that precisely what distinguishes a delusion from an overvalued idea is that it is not understandable. An implicit folk psychological acceptance that it is normal or rational in some circumstances to modify even bedrock cognitive principles to accommodate first-order perceptions does not allow for these delusional states to be fully understood by outsiders.

6.1. The one-factor doxastic account of delusions and empathy

If we determine that delusions are doxastic in nature and can be analyzed using the one-factor account, this does not mean that the delusional experience is translatable in any fundamental sense. Granted that folk psychology accepts the rationality of endorsing bizarre beliefs if they are the only option congruent with abnormal, salient firsthand experience, this does not lead to the conclusion that ordinary persons would accept others' delusional beliefs at face value - if approached by a friend, family member, or coworker who claimed to be able to control traffic or the weather, it is unlikely anyone listening would give the truthfulness of the proposition any serious thought. How can we then reconcile the rationality of both perspectives, and what level of understanding or empathy does this leave room for when relating to a delusional person as an outside observer, or as a clinician?

6.2. Delusions as resistant to understanding

A healthy person and a delusional person can overlap completely in the explicit physical information they share - for instance, in the case of a supremely articulate delusional person telling a concerned relative that they see and talk to angels, giving an extremely detailed description of what these angels look and sound like, assuming their relative takes them to be speaking in good faith, that relative then has access to all the same *explicit* physical information that they have - all the visual and acoustic properties of these perceptions. In a case in which a psychotic person merely hallucinates such a vision, but does not take it to be real, perhaps they truly can convey a complete description of their physical experience to someone else. Maintaining consistency with the one-factor account of delusions, this discrepancy between the cases of altered perception that are and are not endorsed as real can be explained by positing a fundamental qualia about certain altered perceptual experiences that is beyond the realm of explicit knowledge. The content of these altered experiences that lead to the development of delusions may in some cases fundamentally resemble non-disturbed perceptual experiences, for instance in the case of mundane delusions that are held with equal conviction to bizarre ones. This provides further support for the conjecture that these qualia lead to conclusions that supersede conclusions that can be drawn working merely with the explicit information that can be garnered therein. This suggests that our very sense of reality as an ontological construct is in some instances governed by tacit phenomenal qualia that comprise an embedded component of first-person experience itself.

7. Conclusion

This paper began by attacking the metacognitive account of delusions, namely that delusions are not genuine beliefs but rather

imaginings that are subsequently mistaken for beliefs, in favor of the doxastic account in which delusions are actual beliefs. This was done by analyzing and refuting the three major arguments of the metacognitive account: those that highlight the failure of delusions to integrate with previously held beliefs, the irrationality of delusions, and the general failure of delusions to influence action. The paper then approaches the one-factor vs two-factor debate within the framework of the doxastic model, applying previous scholars' analysis of the imaginative paradigms elucidated by fiction to draw conclusions about the folk psychology understanding of the delusional mind state. Finally, it examines delusions as rational first-order beliefs generated in response to various altered experiences and changes in perception, exploring what this means for the ultimate scientific and public understanding of and empathy for these belief states.

7.1. Irrationality or inconsistency in second-order beliefs would also create dissonance

The paper began by countering the suggestion that the cognitive dissonance inherent in holding contradictory first-order beliefs would be prohibitive by demonstrating that endorsing false second-order beliefs would also entail simultaneously accepting contradictory premises and would also result in some level of cognitive dissonance, while also presenting an alternative explanation for the fact that delusions often exist in direct opposition to traditionally held beliefs, relying on previously established arguments and relevant examples of instances in which mentally healthy people are able to hold contradictory or irrational beliefs, such as in cases of religion or culturally accepted paranormal beliefs.

7.2. Gendler cases and social influence explain lack of action on delusional belief

The remaining significant claim of the metacognitive model over the doxastic model centers around a lack of delusionally-motivated actions undertaken by patients and even a consistent engagement in actions counter to the content of these delusions. However, this obstacle can likewise be overcome using common examples of instances in which mentally healthy people sometimes act in ways that are at odds with their rationally held beliefs, but are consistent with documented non-belief intentional states or cognitive attitudes, such as observing superstitions despite not believing in them, or reluctance to drink from a bottle labelled poison despite rational understanding of it being safe (Currie & Ichino, 2012).

7.3. Folk psychology accepts responding to bizarre experience with eventual belief

The paper makes a case for the one-factor rather than the two-factor version of the doxastic model, using the concept of imaginative resistance to fictional elements that are difficult or impossible to engage with. Portrayals of fictional characters believing in the reality of physically impossible scenarios that they witness or otherwise experience typically do not incur imaginative resistance. Acceptance of firsthand experience, even when it contradicts more foundational background assumptions, is expected according to the tenets of folk psychology: the mental framework that leads to the acceptance and maintenance of delusions is not beyond standard logic or rationality.

For the reasons laid out in this paper, a convincing case can be made that delusions are genuine beliefs (doxastic model) and furthermore that their adoption into beliefs by the patients who hold them is not necessarily contingent upon pathological flaws in their ability to reason logically (one-factor model).

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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