Schizophrenia Bulletin vol. 36 no. 4 pp. 667–679, 2010
doi:10.1093/schbul/sbq001
Advance Access publication on February 8, 2010

What is Bizarre in Bizarre Delusions? A Critical Review

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Diagnostic and Statistical Manual of Mental Disorder, Fourth Edition (DSM-IV) **treats the presence of bizarre delusions (BD) as the heaviest-weighted clinical criterion of schizophrenia. Although BD play a major role in contemporary diagnostic systems, only a few empirical studies explore this issue. These studies provide highly heterogenous results because they are based on different experimental paradigms, in terms of definition, clinical sample, and number of raters. Here, we first discuss the psychopathological sources of the concept of BD, which were initially described as either nonsensical or incomprehensible. Then, we provide a critical review of contemporary studies on the reliability of BD and their methodological and conceptual limitations. Current approaches have focused intensely on BD's reliability and have defined BD strictly in terms of delusional content—mainly in terms of the physical impossibility or the cultural or historical incomprehensibility of the delusional claims. These approaches have neglected formal features of experience that underlie BD and the crucial issue of the nature and validity of BD. In the discussion, we argue that clinical diagnosis of BD cannot be limited to delusional contents alone and requires taking into account the subjective side of BD (how altered experience manifests itself) as well as the conditions of intersubjective encounter (how BD are expressed to and experienced by the clinician). The notion of "bizarreness" in schizophrenia is not purely theoretical; it has practical relevance for the therapeutic encounter and implications on further empirical research and on diagnostic approaches.**

Key words: schizophrenia/delusions/bizarre delusions/bizarreness/*DSM-IV*/diagnostic systems

Introduction

The presence of bizarre delusions (BD) is considered a sufficient criterion of schizophrenia in the *Diagnostic and Statistical Manual of Mental Disorder, Fourth Edition* (*DSM-IV*), so long as dysfunction/suffering and length-of-illness criteria are satisfied. Given the importance of this psychopathological concept, there is a surprising shortage of empirical and conceptual studies. Recently, however, Bell et al[1] published a review of the reliability of BD. Their main conclusions were that reliability of BD was inferior to that for delusions "in general" and that the concept was inadequate for scientific usage.[1] In any case, only a small fraction of patients receive their schizophrenia diagnosis because of the presence of BD (4%–8%).[2,3]

It seems to us that contemporary discussions of BD are articulated as a series of merely technical problems, independent of more fundamental conceptual issues in psychopathology. There has been a consequent failure to address certain basic questions concerning the concept of BD—questions concerning the empirical and intuitive sources of this psychopathological concept as well as its conceptual validity.[4] We believe that "bizarreness" needs to be understood as linked not merely to delusional *content* but to a *form* of experiencing as well. Here, we use the term "content" to refer to the propositional aspect of the delusional claim (what the delusion is *about*) and the term "form" to refer to the mode of subjectivity that is associated with the delusion in question (the *way* it is experienced). This point is closely related to the broader issue of the conceptual validity of the schizophrenia diagnosis.[5] A related problem is the proximity of BD to first rank symptoms (FRS).

Discussion of reliability needs to clarify certain epistemological assumptions that underlie data collection. Specifically, one needs to consider the form of assessment and type of expertise that are required in order to make reliable judgments regarding BD. One problem is that a structured series of questions, especially if focused on content alone, may fail to disclose the *way* in which

delusions develop and are experienced—factors of relevance for determining bizarreness.

Below, we review historical and contemporary descriptions of BD as well as recent studies of the reliability of BD. Then, we consider limitations of studies on BD's reliability and conceptual validity. We end by articulating some ideas concerning further research and diagnostic approaches and concerning the general significance of bizarreness in schizophrenia.

BD and schizophrenia in classical psychopathology and phenomenology

The contemporary notion of BD originates in the Research Diagnostic Criteria (RDC).[6] Recent notions formulate its essence variously: (1) "the content [is] patently absurd and has no possible basis in fact" (*DSM-III*); (2) "involving a phenomenon that the person's culture would regard as totally implausible" (*DSM-IIIR*); and (3) "clearly implausible and not understandable and not derived from ordinary life experiences" (*DSM-IV*, *DSM-IV TR*). (All these terms defining bizarreness are, in turn, badly or not defined at all, thus in need of further specification. In other words, we are here far away from the operationalistic ideal formulated by Hempel.[7]) In brief, the *DSM*s have attempted to define bizarreness through the following notions: physical (or perhaps logical) impossibility, general acceptance in cultural context, and overall implausibility or incomprehensibility with emphasis on grounding in ordinary experience.

According to Spitzer,[8] a central figure in the development of the *DSM*s, the notion of BD stems jointly from Emil Kraepelin, who defined delusions in schizophrenia as "non-sensical," and Karl Jaspers, who considered them "incomprehensible." According to Kraepelin, the notion of "non-sensicality" (which, incidentally, seems unlikely to be reliable in itself) enables us to distinguish delusion in dementia praecox from delusion in paranoia or affective psychoses; whereas, the former presents "an extraordinary, sometimes wholly nonsensical stamp," the latter, "with all the improbability and uncertainty of its foundation, does not usually contain any apparent impossibilities."[8–10] Jaspers[11] concept of incomprehensibility can only be grasped in the context of his reflections on modes of understanding, his approach to sociality (intersubjectivity), and his generic concept of delusion as such; these will be discussed below.

It seems clear, in any case, that the notion of bizarreness extends well beyond the field of delusion alone. Bizarreness was, in some sense, considered by all classical authors to be the hallmark of schizophrenia. The typicality of schizophrenia, says Jaspers, resides in the Gestalt emerging in the encounter with the patient: "all these personalities have something baffling [to] … our understanding in a peculiar way; there is something queer, cold, inaccessible, rigid and petrified" (p. 447). Bleuler's rather polysemic concept of autism, which he considered a diagnostic trait-feature of schizophrenia-spectrum disorders, included bizarre manifestations, e.g., rigid or unpredictable attitudes and behaviors, deranged hierarchy of values and goals, and idiosyncratic logic.[12,13] Schizophrenia, he wrote, is characterized by an element of strangeness "seen nowhere else in this particular fashion." The source of this bizarreness was viewed by Kraepelin, Bleuler, and Jaspers as residing in a certain disorganization, a coexistence of mutually incompatible elements in the patient's experience, cognition, emotion, and action that places the patient at, or beyond, the boundaries of interpersonal understanding.

Conrad[14] observed that among patients in the initial stages of schizophrenia, judgments and emotions were often inappropriate to their social context, consisting of isolated bizarre cognitions or actions ("*Unsinnige Handlung*"). Binswanger[15] undertook an ambitious phenomenological project of extracting the essential structures of the lifeworld in schizophrenia, an existential style overarching single symptoms and signs. He described 3 types of bizarre existence: *Verstiegenheit* (Presumptuousness), *Verschrobenheit* (Distortion), and *Maniererheit* (Mannerism).[15,16] (Binswanger's efforts were rather critically received, especially with respect to clinical utility if his typology.)

Other continental authors agreed that a certain characteristic atmosphere or *Gestalt*, irreducible to single symptoms or signs, distinguished the schizophrenia spectrum from other disorders. Although different terms are used, their meanings converge in pointing to the intersubjective nature of this pathological Gestalt. Rümke, for instance, noted that a skilled clinician could often diagnose schizophrenia very quickly in the encounter with the patient. He named the diagnostic feeling of the psychiatrist the *praecox feeling* ("*praecox Gefühl*"). Rümke[17] noted that this feeling was often difficult to verbalize and had something to do with one's inability to empathize with the patient's personality as a whole. Along similar lines, Minkowski[18] spoke of "*diagnostic par penetration,*" which involved an intuitive grasp, not of the dysfunction of any particular mental capacity, but of an overall lack of cohesion, of deficiency in the normally harmonious interplay of faculties ("disorder is in the 'interstitial space'"). Both Wyrsch's concept of *diagnosis through intuition*[19] and Müller-Suhr's notion of "radical incomprehensibility"[20] are very similar to Minkowski's approach. Tellenbach spoke of *atmospheric diagnosis* [21] to capture the clinician's awareness of disharmony between the specific atmospheres of his own and the patient's lived world.[13,22,23]

In our own work, we have suggested that the sentiment of strangeness may result, in part, from abnormalities in the patient's *ways* of experiencing or *structures* of consciousness, which mean that the patient and interviewer operate with different mental frameworks and

perspectives (eg, on space, time, causality, selfhood, etc.).[24] The potential diagnostic validity (and theoretical fruitfulness) of this type of Gestalt approach to diagnosis was vindicated in Gottesmann and Shield's[25] milestone twin study, in which such an approach seemed better able to identify schizophrenia-spectrum disorders. Unfortunately, however, little empirical research has been conducted on clinical approaches based on Gestalt approach.

Jaspers and delusions

In *General Psychopathology*, Jaspers described delusion as "a judgement made which is held on to with full conviction, not only with a consciousness of validity but with a sense of absolute certainty."[11,26] In the book, Jaspers makes a crucial shift from the content of delusions to their form. He also offers a triad of *external indicators*—falsity, conviction, and incorrigibility—but does not appear to consider these indicators as providing a definition of *what delusion actually is.*

Jaspers contrasted what he called "*delusions proper*" or "*true* delusions," which are *primary* and rather specific to schizophrenia, with "secondary delusion" or "*delusion-like ideas*," which can be found *both* in schizophrenia and other disorders. This distinction was based on 2 criteria: *mode of development* and, secondarily, *comprehensibility* of the delusion. In primary delusion (characteristic of schizophrenia), the delusional significance or content supposedly articulates itself immediately, whether in perception, memory, or fantasy, without any intervening processes of reflection—as in the case of a patient who saw a dog lifting his paw and instantly "knew" that this lifted paw indicated an approaching apocalypse. These true delusions are said to be non-understandable from our normal empathic stance; they are psychologically "irreducible" in the sense that we cannot readily understand them as originating in particular affects, instincts, or fears. In contrast, delusion-like ideas or secondary delusions *are* accessible to empathic understanding, and they do make sense in the light of affects and other experiences lived through prior to the delusional manifestation.

For Jaspers, a crucial criterion for the understandability of a mental content—eg, of a belief or mood—is that it be essentially normal either differing quantitatively from normal states (eg, lowered mood) or involving some combination of normal experiences (eg, secondary delusions of morbid jealousy). Understanding, thus, requires that the experience to be understood be accessible to an empathic act, as, eg, when one readily grasps that sadness or a depressed attitude is triggered by the death of a person's spouse. What Jaspers termed *genetic understanding* had, in this view, to conform to a commonsense perspective and to be imaginable within such a framework. The emphasis in this type of understanding seems to fall largely on the supposed interaction of mental contents, especially beliefs and emotional states, as in the case of so-called "mood-congruent" delusions, in which depressed mood is assumed to cause delusions of guilt.[24] According to this view, the "un-understandability" of a mental disorder closes off the very possibility of a "genetic" explanation and implies that the disorder can only be subjected to a causal–organic form of explanation.

In *General Psychopathology*, Jaspers speaks not only of genetic but also of "static" un-understandability. Static un-understandability refers to the sheer incomprehensibility or recalcitrance to empathy of a given experience or state of mind rather than to its lack of comprehensible causal/motivational links with experiences earlier in time. Examples of Jaspers are thought alienation and other symptoms involving diminished ownership of experience or action. Jaspers does not explain the precise conceptual basis of this "static un-understandability." His emphasis on disturbances of fundamental self-experience suggests, however, that he accepted the Cartesian assumption that a sense of possessing one's own experiences and actions ("cogito ergo sum") is, quite simply, an indubitable feature of human experience, or at least of any remotely *normal* form of human experience. Because it appears that this most basic feature *can* be absent in schizophrenia, one might conclude that schizophrenic experience must be inaccessible to normal empathy, recalcitrant to any normal form of "understanding," and subject only to causal forms of neurobiological explanation. Jaspers does not necessarily describe the alterations of self-experience as "delusions," but it is obvious that they would form at least the experiential basis for many delusions, such as beliefs about external influence.

We see, then, that, for Jaspers, the concept of delusion was not *defined* by the triad of falsity, conviction, and incorrigibility but required more overarching phenomenological and existential considerations concerning how the delusion in question had developed and its embedding (or lack of embedding) within a normal, everyday, or commonsense world or subjective life. It seems clear that there is great overlap between BD, as currently conceived, and Jaspers's notion of primary or true delusions.

Relation between BD and FRS

Kurt Schneider, a pupil of Jaspers, described a group of symptoms that were of special value in diagnosing schizophrenia. These he called the "*first rank symptoms*" (FRS) because, in absence of "*coarse brain disease*", they were said to be very strong (indeed, virtually pathognomonic) indicators of schizophrenia. Schneider does not explain exactly how he derived these particular symptoms; his list seems designed, however, to specify the particular symptoms that Jaspers presents as examples of schizophrenic incomprehensibility in his *General Psychopathology*. The symptoms are described through typical statements from patients, and nearly all involve obvious

anomalies of the sense of self or of self-awareness.[27,28] (The exception is "delusional percept," where the role of self-disturbance is not obvious.) But unlike Jaspers, Schneider does not explicitly address the intersubjective aspects of the clinical encounter, yet emphasizes a diminished sense of self-presence (or mineness of experience) as prerequisite for diagnosing influence phenomena.[28] Because of its specificity and clarity, Schneider's list lent itself readily to the reliability-oriented project of operationalization within Anglophone psychiatry. In *DSM III* and later versions of the *DSM*, the FRS are presented as influence (passivity) phenomena and as certain hallucinations (eg, delusional perception, voices commenting, voices discussing), associated with delusions. In these versions of the *DSM*,[29–32] several FRS are offered as prime *examples* of BD in the standard diagnostic criteria of schizophrenia.

The relation between the concepts of BD and FRS is complex. The available literature on FRS is richer than that on BD.[2,3] In their review, Nordgaard et al[28] draw attention to various conceptual and methodological issues, as well as to questions about diagnostic specificity that are unresolved in FRS research. Similar issues seem to apply to the realm of BD.

Numerous examples of BD, particularly in *DSM III* and *III-R*, were drawn from the FRS: in particular, delusions of control and of thought broadcasting, thought insertion, and thought withdrawal.[33–35] All these delusions in schizophrenia seem to be founded on initial anomalous experiences of influence and passivity.[36] And, because they present a mixture of incomprehensibility and of (seeming) empirical or logical impossibility, they seem well suited for illustrating BD. The conceptual affiliation between the un-understandability of schizophrenia, as described by Jaspers, and Schneider's symptom list seems clear. Moreover, as indicated above, many FRS indicate profound alterations in the very structure of our experiencing, such as an altered sense of causal relationships, "loss of ego boundaries," and various other deformations of self-experience.[37] Often, clinicians seem to derive a tacit sense of these changes from the patient's statements and this, in turn, may inspire an implicit sense of bizarreness. Among other sources of current diagnostic approaches, the Present State Examination and CATEGO system strongly contributed to the conflation of BD with FRS.[38] Although the objective of improving reliability was laudable, this conflation may have played a major role in emphasizing delusional content at the expense of form.

FRS and BD also show similar profiles when jointly considered among schizophrenic patients.[3,39,40] "Non Schneiderian bizarre delusions" (BD without FRS) have been found to be infrequent: only 4% among clinical vignettes on delusion[3] and 12% among interviewed schizophrenic patients.[39] On the other hand, 11% of clinical vignettes with FRS were assessed as non-bizarre.[3] It should be noted that the FRS comprise both delusions and hallucinations, whereas BD refer by definition only to delusional processes. The difficult issue of the relationship between hallucination and delusion is beyond our concern in the present paper. Here, we simply note the impossibility of a strict equivalence between FRS and BD.

Recent Definitions of BD and Conceptual Implications

The problem of finding a reliable and valid consensual definition of BD remains unresolved.[41,42] Current approaches apply several distinct (if somewhat overlapping) criteria. As already noted, these emphasize several notions:

1. apparent physical or logical impossibility (implying extreme implausibility)
2. presence of a belief that is not consensually shared in a given social or cultural context
3. absence of historical or (what Jaspers called) genetic understanding: this refers to an inability to understand how a given state of mind could emerge from relevant biographical antecedents
4. incomprehensibility, in the sense of a lack of (what Jaspers called) "static understanding": this refers to the capacity to empathize with, to imaginatively identify with, a given state of mind
5. notion of "not being derived from ordinary life situations."

With regard to item 5 (from *DSM IV* and *DSM IV-R*), it is unclear what "derived" means, especially if there is some assumption of causality. Would the beliefs of a passenger concerning the miraculous landing of Flight 1549 in 2009 on the Hudson River in New York have to be considered "bizarre," because they would clearly derive from her experience of an *extraordinary* life situation? Obviously, this was not the framers' intention. It seems, then, that the definition requires refinement, perhaps by seeking some non-circular way of stating that the *extraordinary* situations at issue derive from something idiosyncratic in *the patient's* orientation.

Mullen[43] has described the first 3 notions listed above in terms of (a) *objective*, (b) *cultural*, and (c) *individual* bizarreness. According to him, the first 2 orientations mainly focus on delusional content, when the third (and also the fourth, we would add) refer to form as well as content of delusional experiences.

In the RDC, BD was initially a specific delusional category.[6] When it was consequently incorporated into the *DSM III*,[29] as 1 of 6 essential criteria of schizophrenia, emphasis was put on the dominant thematic content ("content is patently absurd and has no possible basis in fact"). All the examples provided were FRS involving experiences of influence.

In 1987, in *DSM III-R*, the schizophrenia concept was somewhat narrowed[30]: 10% of patients diagnosed with schizophrenia according to *DSM III* now received other diagnoses in *DSM III-R*. Moreover, two-thirds of this diagnostic switch was due to the new definition of BD, now defined as "involving a phenomenon that the person's culture would regard as totally implausible."[44] Although more restrictive (fewer patients qualified), this new definition of BD took on more crucial diagnostic significance, for it was now listed as 1 of 3 sufficient criteria: thus, an isolated BD during an active pathological phase implies the diagnosis of schizophrenia. In contrast, nonbizarre delusions (NBD) are described as "involving situations that occur in real life, such as being followed, poisoned, infected, loved at a distance, having a disease, being deceived by one's spouse or lover."

There are 3 main problems with the presentation of BD in *DSM III-R*, which have been noted by several authors: (1) significant discrepancy between the official definition and the illustrative examples[42]; (2) logical inconsistency between the definitions of BD and NBD because these are not perfectly mutually exclusive[8]; and (3) a problematic overlap between BD (which can include an influence theme) and "delusion of influence," which is another specific delusional category.[45]

In *DSM IV*[31] and *DSM IV-TR*,[32] the definition of BD was modified once again (and was now deleted from the *DSM* quick reference guides). This time the content of BD was described as "clearly implausible and not understandable and not derived from ordinary life experiences." Among 5 possible rank-A criteria, 2 are generally necessary for the diagnosis of schizophrenia, except in the case of bizarre delusional content, which is considered a sufficient diagnostic feature.[31,32] BD has thus become, once again, the heaviest-weighted item among the rank-A criteria for schizophrenia. Proposed examples of BD imply both FRS and non-Schneiderian phenomena. In contrast, the ICD-10 definition of schizophrenia makes no reference to BD.[46]

Reliability of diagnosing BD

The original reliability studies for the present review were selected from a PubMed search in December 2008 that included "bizarre delusions", delusions, "reliability", "psychosis", and "schizophrenia" in the search phrase. Studies published in English between 1980 and 2008 concerning the reliability of BD and the relation between BD and other variables were selected. An additional PubMed search in November 2009 did not turn up any new studies on the reliability of BD.

In their meta-analytic evaluation of the reliability of BD, Bell and colleagues have compared methodologies based on structured interviews (considering on-line interviews and clinical vignettes as equivalent) vs other standardized assessment instruments. They conclude that diagnosis of delusions in general has an acceptable reliability, but that this is not the case with BD, either with structured interviews or other instruments.[1]

Most empirical studies of the reliability of BD rely on the *DSM III-R* definition[2,3,8,40,42,47]; only 2 studies employ *DSM IV* criteria.[39,48] Moreover, a few studies employ alternative conceptions of BD that rely either on clinical intuition[42] or on definitions involving escape from a "culturally determined consensual reality,"[41] impossible content,[47] or implausible[49] content. The discriminant aspect of delusional bizarreness (as absence of understandability) has been emphasized in order to differentiate schizophrenia from other delusional disorders.[50] Delusions were also described as bizarre "if they involve beliefs that violate virtually all subcultures' understanding of the laws of the natural and physical world"; or as un-understandable in the Jaspersian sense of being psychologically irreducible "in terms of the emotional experiences of the delusional patient."[8]

As regards inter-rater reliability (IRR), empirical results are highly heterogenous. The standard reliability benchmark (kappa) concerning individual symptoms is usually considered to be between 0.5 and 0.6.[48,51] Several studies present poor to mild IRR (inferior or close to 0.45),[40–42,47,48] whereas other teams report acceptable IRR (superior to 0.6).[2,3,8,34,39,52] When different *DSM* definitions are statistically contrasted, IRR appears to remain stable, with a non-significant advantage for *DSM III-R*[42] and *DSM III*.[48] When compared with *DSM III-R*, alternative definitions imply a lower IRR.[8,42] Only 2 studies describe the diagnostic weight of BD, ie, the proportion of patients who met the diagnosis for schizophrenia solely on the basis of the presence of BD alone.[2,3] Results of IRR and selected definitions are detailed in table 1, and table 2 reports the main conclusions derived by authors as well as our comments on their approaches.

As reported in table 1, empirical studies provide a wide range of reliabilities (kappa from 0.28 to 0.85). Diagnostic process, as a classification or a labeling, implies a consensus on the criteria to be met for using the term.[53] Among different causes of disagreement between clinical raters, we can emphasize heterogeneity in the number and training of raters, in the sample sizes, and to a lesser extent, in the definitions that were used. As noticed before, definitions of BD are based on delusional content alone, with the exception of Flaum et al.[42]

As described by Bell et al,[1] empirical studies show a variation in number and choice of raters, ranging from a couple of interviewers from the same clinical team[3,34,41] to a larger randomly selected group.[42,48] This too may partially explain contradictory IRR findings: when the clinicians are few and from the same research team, IRR is better; with a larger and more heterogenous group, which is more similar to "ecological" clinical conditions, IRR is lower. The heterogeneity of reliability results is also reflected by a heterogeneity of experimental methods.

Table 1. Studies of bizarre delusions (BD)

Studies	Definition of BD	IRR (Kappa)	Sample (*N*)	SCZ (%)	SFD (%)	SAD (%)	BAD (%)	MDP (%)	DD (%)	% of BD	Diagnostic weight	FRS	Instruments of assessment	Clinical Material	raters
Kendler et al[41]	1 of 5 delusional dimensions "cultural consensual reality"	(All diagnoses) 0.27-0.30	52	65	—	15	—	6	10	—	—	—	Semi-structured interviews	Live interviews	2
Flaum et al[42]	Clinical impression *DSM III* *DSM III-R*	0.28 0.29 0.31	40	100	—	—	—	—	—	55% 62% 66%	—	—	Recollected case vignettes from structured interviews (SCID)	Case vignettes	45
Goldman et al[2]	*DSM III-R*	(All diagnoses) 0.78	214	56	3	12	17	5	5	SCZ disorders: 78.9% Non-SCZ disorders: 43.5%	4.60%	—	Recollected case vignettes from structured interviews (SCID)	Case vignettes	3
Junginger et al[47]	*DSM III-R* Implausibility dimension	0.45	138	60	—	14	17	4	<5	SCZ <15% Non-SCZ <5%	—	Yes	Vignette assessment	Case vignettes	3
Spitzer et al[8]	*DSM III-R* "physically impossible" "historically un-understandable"	0.64 0.65 0.45	180	—	—	—	—	—	—	33.20 25.40 27.60	—	—	Vignette assessment	Case vignettes	11
Tanenberg-Karant et al[3]	*DSM III-R*	0.68 (FRS: 0.86)	196, First episode; 6 months follow-up		48		32	20	—	16% of delusion vignettes (Schizophrenic spectrum: 76%)	7.45%	Yes	Recollected case vignettes from structured interviews (SCID)	Case vignettes	2
Mojtabai and Nicholson[48]	*DSM III* *DSM III-R* *DSM IV*	0.43 0.39 0.38	30	—	—	—	—	—	—	47% of vignettes (12% of vignettes are non-delusional)	—	—	Vignette assessment	Case vignettes	50
Peralta and Cuesta[34]	SAPS	0.60-0.85	660	53	13	6		13	4	13%–38%	—	Yes	Structured interviews	Live interviews	2
Nakaya et al[39]	*DSM IV*	SBD = 0.85 NSBD = 0.92	129	100	—	—	—	—	—	BD = 67% NSBD only = 12% SBD only = 28% BD (S and NS) = 28%	—	Yes	Semi-structured interviews	Live interviews	2

Table 1. Continued

Studies	Definition of BD	IRR (Kappa)	Sample (*N*)	SCZ (%)	SFD (%)	SAD (%)	BAD (%)	MDP (%)	DD (%)	% of BD	Diagnostic weight	FRS	Instruments of assessment	Clinical Material	raters
Cohen and Junginger[40]	*DSM III-R* with 3 factors: 1. Base-rate 2. Physical possibility 3. Consensus potential	0.37 0.62 0.78 0.65	138	60	—	14	17	4	<5	SCZ disorders: 27% Non-SCZ disorders: 22%	—	Yes	Vignette assessment	Case vignettes	3

Note: SCZ, schizophrenia; SFD, schizophreniform disorder; SAD, schizo-affective disorder; BAD, bipolar affective disorder; MDP, major depressive disorder; DD, delusional disorder; FRS, first-rank symptoms.

Table 2. Main Conclusions of Studies of bizarre delusions (BD)

Studies	Main conclusions from authors	Comments on studies
Kendler et al[41]	Multi-dimensional delusions: 2 main factors (involvement and structure)	Size and representativity of the sample
	Low reliability of bizarreness/importance given to criteria	Number of raters
Flaum et al[42]	Not reliable: to drop or to precise definitions and examples	Recollection bias in selection of vignettes
	Confusion with FRS (more precise and more reliable)	Limited to schizophrenia
		Limited to short delusional contents
Goldman et al[2]	Correlation bi/SAPS, BPRS générale, shortness of hospitalization	Number and biased selection of raters
	Independance from SANS, GAS, premorbid and outcome functioning	Limited size of delusional disorders sample
	Sensibility, specificity, VPP, VPN, diagnosis efficiency of bizarreness	Limited to delusional contents
	High reliability but low diagnostic efficiency and consequences/criteria emphasis	
Junginger et al[47]	Low reliability of bizarreness/other delusion categories	Issue of delusions and hallucinations
	Correlations between BD and FRS	Number of raters
	Implausibility dimension is compared to BD category	Limited to delusional contents
Spitzer et al[8]	The less worst reliability is provided by the *DSM III-R* definition	No details about diagnosis
	Poor to moderate agreement	Limited to delusional contents
	High correlation between the 3 definitions	
Tanenberg-Karant et al[3]	FRS > bizarreness for prevalence, reliability, specificity, diagnostic efficiency	Number of raters
	Stability of results after 6 months	Issue of delusions and hallucinations
	Prevalence of bizarreness without FRS: only 4% of delusions	No delusional disorders sample
		Limited to delusional contents
Mojtabai and Nicholson[48]	Possibility of absence of delusion in ratings	No details about diagnosis
	Representative sample of random raters	Limited to delusional contents
	Reliability of bizarreness depends more on experimental conditions than on definitions	
Peralta and Cuesta[34]	BD as one from 4 delusion dimensions	BD reduced to FRS
	Correlation between BD and acoustic hallucinations	
Nakaya et al[39]	Correlation between BD and delusion, disorganization, and depression symptomatology	No information about FRS without BD
	Correlation between BD and negative and excitation symptomatology if FRS	Issue of delusions and hallucinations
	Best reliability from *DSM IV* definition of BD	Number of raters
Cohen et al[40]	BD has no significant specificity for schizophrenia, with poor reliability	Issue of delusions and hallucinations
	BD and Schneiderian delusions have a close dimensional profile	Number of raters
	With low physical possibility and consensus potential rates	Limited to delusional contents

Sample sizes range from 30[48] to 660 participants.[34] Sample populations were sometimes limited to schizophrenia patients,[39,42] but often included patients suffering from affective disorders with psychotic features.[2,3,34,40,41,47]

The role of bizarreness is also crucial for diagnosing paranoia, where it functioned as a strict exclusion criterion. However, only a few studies take into account patients with delusional disorders. When such

non-schizophrenic delusional patients were evaluated, they comprised less than 10% of the original psychotic sample[2,39,41,47]; in other reliability studies, these patients were simply non-identifiable.[3,8,34,42,48] Except in one study,[48] raters were limited to distinguishing between different types of delusion, without using the category of non-delusional ideas. Also, because these paradigms are distant from ecological conditions, they may imply a possible overestimation of the measured IRR.

Reliability and methodological limitations

At a methodological level, contradictions concerning IRR may result from heterogeneity in the definitions of BD. Another kind of inconsistency can also be involved, in this case *between* definitions and proposed examples.[8,42] We have already mentioned the main attempts at definition, which partially overlap: namely, physical impossibility, lack of social and cultural consensus (*shareability*), absence of understandable relationship to biographical antecedents, and the (as noted, rather problematic) notion of implausible or non-understandable beliefs that "are not derived from ordinary life experiences" (*DSM-IV*, *DSM-IV TR*). Yet another issue, a possible paradox, has been raised by Heinimaa[54]: namely, in order to assess the plausibility of a belief, we need at least a minimal basis of understandability, yet this very basis presumably "excludes the incomprehensibility of the statement"; to put it differently, "to be genuinely implausible the claim must be plausible under some thinkable circumstances."

As already detailed, the notion of BD also shows a limited schizophrenic specificity (because BD can also be found among patients with affective disorders), uncertain prevalence, and a failure to correlate with other data, including clinical, prognostic, social, and cognitive features.[2,3,8,39,40] Several studies conclude that the notion of FRS, correctly applied, offers narrower but more appropriate criteria for the diagnosis of schizophrenia.[3,39,47]

Four studies[8,40,42,47] indicate that the IRR that results from using broader definitions of BD is neither better nor worse than that resulting from narrower definitions. The limited reliability of BD is not, however, solely an issue of definitions; it also concerns experimental conditions, and these 4 studies are all based on written clinical cases. Indeed, with a few exceptions,[34,39,41] the evaluation of BD is generally based on examination of *written contents*. This suggests a tendency to emphasize thematic or propositional content because mode of expression as well as interpersonal and atmospheric factors are likely to be neglected in written reports; hence, it is far more difficult to have any sense of the overall form or structure of the patient's subjective life. The studies of diagnosis of BD reviewed by Bell et al illustrate this trend. Although 2 studies with structured interviews did involve direct assessment of "live" interviews,[39,41] in other cases, information about BD derived from structured interviews was presented to raters in the form of dictated case vignettes,[2,3,42] which reduce the clinical encounter to little more than a summary of the delusional content. In light of this factor, it is noteworthy that studies based on live interviews often show a more acceptable IRR,[34,39] than do case vignette studies.[3,8,42,47,48]

Discussion

Both Bell et al and the present work highlight certain limits to the *reliability* of BD, thereby calling into doubt its value as a first-rank criterion for diagnosing schizophrenia. In addition, however, it is important to recall that reliability of a clinical diagnostic criterion, even if maximal, does not speak to the issue of its *validity*.[8,55]

Because BD is a species of a more generic concept—delusion—it can be criticized on 2 distinct levels: *as* a delusion and as a particular *kind* of schizophrenic delusion. At both levels of definition, delusional content has been predominant. "Delusion" in general is defined as "a false belief based on incorrect inference about external reality that is firmly sustained despite what almost everyone else believes and despite what constitutes incontrovertible and obvious proof or evidence to the contrary."[32] Nearly every element of this definition has been seriously questioned by various authors.[54,56–58]

In addition to problems shared with the generic delusion notion, the conceptual validity of BD in particular raises another issue. As we have argued, the phenomenon of bizarreness is not exhausted by features of the thematic content of a belief or by what could be captured by the propositional content of a delusional claim. The BD must also or essentially be understood as a subjective phenomenon, involving the form, conditions of possibility, or experiential frameworks of the patient's experience or "lived world"; and this must be intersubjectively grasped during the clinical encounter. Such comprehensive approaches, which take into account the subjective experience of patients, have been proposed within different theoretical frameworks, mainly inherited from analytical philosophy[54,59] or from phenomenology, as already described.[14,17–19,21]

Following a phenomenological approach,[57,60–62] we have proposed that delusional statements may be sometimes considered as empirical or epistemic statements, ie, statements of knowledge of facts or states of affairs (as in: "Florence is a city in Italy"). Such delusional statements may occur in all psychotic disorders ("My neighbour is Corsican; I know he belongs to the mafia"). What is characteristic is their more or less ordinary, world-related content (empirical or "ontic"—the latter term following a distinction from Heidegger), which is usually associated with a certain engagement in the delusional situation (eg, suspicion or fear). Empirical or ontic delusions concern the particular state of the world; they are expressed in

ways analogous to normal beliefs; they tend also to have practical implications (eg, I should avoid my neighbor). In contrast, BD, although *phrased as knowledge statements* (''I know that a machine located in the basement of the town hall is controlling all my thoughts''), are often best considered more as distorted metaphors, expressive of the unthinkable, shattering experience of change in the very conditions of experience itself (eg, alterations of self-consciousness, changes in the temporal or spatial structures). These delusions thematize these ''frame conditions'' and for this reason, we call them ''ontological,'' following Heidegger's use of the latter term to capture encompassing, formal, or ''horizonal'' features of experience[57,60,63] or ''autistic-solipsistic.''[62] In other words, ontological delusions address issues involving a radical change of overall framework of experience: typically, they concern neither the self nor the world in isolation, but the relationship *between* self and world.

Because we have shown in this review, bizarreness constitutes a fundamental psychopathological feature of schizophrenic experience, yet also illustrates the problems haunting psychopathology, especially recent psychopathology. The changing yet continuously unsatisfactory definitions of BD in recent decades reveal the limitations of the polythetic-operational diagnostic approach. These systems necessarily rely on various conceptual assumptions, which may or may not be mutually consistent. Yet these frameworks are seldom made explicit; indeed the systems are often presented as atheoretical. A common result is a lack of careful theoretical analysis and critique, which can retard progress toward more conceptual validity and operational reliability in the diagnosis of schizophrenia.

Given the poor or middling reliability of the notion of BD and the paucity of supportive empirical studies, many authors question the heavy diagnostic weighting or even the very relevance of BD. Thus, Flaum et al recommend that we either: (1) simply drop the notion of BD or (2) retain BD category and improve descriptive criteria ''with the definition and examples much more clearly stipulated.''[42] We disagree with the suggestion of simply eliminating the BD criterion (except perhaps as a short-term measure), and we are dubious about the prospect of simply adding additional criteria. Moreover, the crucial weight on BD as a sufficient criterion A in the *DSM IV* and *IV-R* definitions contrasts with its limited incremental value—ie, the extent to which presence/absence of BD really determines the application of the schizophrenia diagnosis. Two studies that explore this issue indicate that, in fact, very few individuals qualify for the schizophrenia diagnosis purely by virtue of having BD: 4.6%[2] and 7.45%, respectively.[3] Most schizophrenia patients with BD would have qualified for criterion A by other symptom criteria as well. These results are consistent with previous findings on FRS and their limited schizophrenic specificity.[28]

Our review highlights the centrality of bizarreness in schizophrenic pathology and also the need for more basic, conceptual–clinical work—not only on the issue of BD in particular but on schizophrenic bizarreness in general, as well as on fundamental epistemological aspects of descriptive psychopathology. By focusing so intensely on BD's reliability, current approaches neglect the (even more) crucial issue of its nature and validity. Both as a paradigmatic instance of schizophrenic delusions in general and as a particular kind of unshared, or perhaps unshareable, experience, BD cannot be reduced to thematic content alone. We believe that clinical diagnosis requires taking into account both the subjective side of BD (how altered experience manifests itself) and also the conditions of intersubjective encounter (how BD are expressed to and experienced by the clinician). In the long run, this may lead to an approach that more fully satisfies concerns about *both* validity and reliability.

Difficulties with achieving reliability in judgments of BD in particular should not, in any case, cause us to neglect the importance of the central yet difficult-to-define aspect of schizophrenia that is referred to by the more *general* notion of bizarreness. If Jaspers and Rümke were right, then the strange, off-putting, seemingly incomprehensible qualities of this illness may have more than purely diagnostic significance. Indeed, bizarreness may be linked to the very kernel of the malady, and thus could provide the key, or at least an enigmatic clue, to understanding its fundamental nature or core features.

Various philosophers have pointed to the need for an account of experience, even if one adopt a form of modular neurobiological reductionism that views experience as a product of the brain.[64] One way of gaining a better understanding of the unusual experiences at issue is that of careful phenomenological description, as recently pointed out in several publications.[4,65,66] For instance, recent phenomenologically oriented works relate alterations in self-experience to neurocognitive evidence, such as neurobiological correlates of alterations in perceptual organization in schizophrenia.[67]

One of the present authors has recently been involved in developing a semi-structured research interview focused on abnormalities of fundamental self-experience (EASE scale); initial results have been promising.[37] Another of the present authors has attempted to extend our comprehension of these phenomena through comparisons with forms of hyper–self-consciousness found in modernist and postmodernist culture.[61,63,68–70] Both approaches can help to clarify what may be unique or highly characteristic of schizophrenia in particular. The question of the limits of psychological understanding or explanation (which is clearly bound up with the question of bizarreness) is an issue of broad psychopathological pathogenetic and psychotherapeutic relevance; among other things, it may help to delineate just which

elements of the illness might (and which might not) be explicable, at least in part, in terms of psychological motivations of various kinds.[71]

One may certainly acknowledge the centrality and challenge of schizophrenic bizarreness without adopting an either-or, Jaspersian pessimism about the very possibility of any degree of empathic or psychological understanding of the condition. The bizarre qualities of schizophrenic experiences (including but not restricted to delusions) do, however, represent a major challenge to the project of empathy or psychological understanding. It is understandable, then, that these symptoms have been the prime objects of recent philosophical and psychiatric discussion concerning "the limits of empathic understanding in psychopathology"[72] and the more general question of how (or whether) to make sense out of paradoxical,[68] irrational, or otherwise incomprehensible aspects of mental illness and mental life.[73–75] Although such considerations may at first seem abstruse and purely theoretical, they do have practical relevance for the therapeutic encounter. Indeed, they may make a crucial contribution by helping clinicians understand more precisely the difficulties and possible limits of interpersonal understanding and, in particular, the nature and source of the sense of distance, the empathic gulf (*praecox Gefühl*), that can separate them from their schizophrenia-spectrum patients. Such understanding could be an important component of the training of clinicians for work with such patients, and a key factor in improving the efficacy of psychological treatments of schizophrenia.

We conclude this paper with 3 lines of suggestion, all of which might help to better characterize and define delusions among people with schizophrenia in *DSM V*. The first 2 are in line with recommendations from other authors who have written recently on BD and FRS.[1–4,8,48] The third expresses a broader interest in bizarreness.

1. Given the paucity of empirical studies, heterogenous findings showing insufficient[40–42,47,48] or barely acceptable reliability,[2,39] and the absence of validity data, we suggest that, at least at this time, BD should not be considered as a sufficient criteria A in *DSM V*.[1–3,39,42,48]
2. Regarding more rigorous assessment of IRR, future reliability studies about BD should take several methodological issues into account. These include: the definition of bizarreness employed, the diagnostic weight accorded to BD,[2,3] the possibility of non-delusional experiences that are bizarre,[48] other diagnoses than schizophrenia,[2,34] correlations between BD and FRS,[3,39] and habits of interviewers, both in terms of training received and methods for achieving consensus.[1,48] Interview conditions of BD diagnosis may represent a major issue for both reliability and validity: to our knowledge, eg, no study has yet attempted to compare BD reliability with case vignettes versus using the live conditions of clinical encounter.
3. Finally, we should consider the notion of bizarreness as extending beyond the confines of delusion—ie, as a general experiential dimension relevant to perceptual familiarity, stream of thoughts, self-awareness, bodily experiences, modes of action, formal organization of cognition and discourse, and attunement to others and the world. Such a dimensional approach would avoid reducing typical manifestations of schizophrenia to verbal content alone, but rather would consider multimodal experiences that characterize self-experience as a whole. It might also contribute to a better understanding of experiences that are strange, hermetically concealed, or at the very boundaries of mutual comprehensibility.

Acknowledgments

Pr Jean Naudin and 4 anonymous referees.

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