Extreme Overvalued Beliefs

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An extreme overvalued belief is shared by others in a person's cultural, religious, or subcultural group. The belief is often relished, amplified, and defended by the possessor of the belief and should be differentiated from a delusion or obsession. Over time, the belief grows more dominant, more refined, and more resistant to challenge. The individual has an intense emotional commitment to the belief and may carry out violent behavior in its service. Study participants ($n = 109$ forensic psychiatrists) were asked to select among three definitions (i.e., obsession, delusion, and extreme overvalued belief) as the motive for the criminal behavior seen in 12 randomized fictional vignettes. Strong interrater agreement (kappa = 0.91 [95% CI 0.830.98]) was seen for vignettes representing extreme overvalued belief. Vignettes representing delusion and obsession also had strong reliability (kappa = 0.99 for delusion and 0.98 for obsession). This preliminary report suggests that forensic psychiatrists, given proper definitions, possess a substantial ability to identify delusion, obsession, and extreme overvalued belief. The rich historical foundation of extreme overvalued belief and this small survey study highlight the benefit of inclusion of extreme overvalued belief in future glossaries of the Diagnostic and Statistical Manual.

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Forensic psychiatrists face the challenging problem of evaluating odd or unusual beliefs while conducting threat assessments and forensic evaluations. Psychotic beliefs can be confused with shared ideologies as motives for terrorism and mass shootings. In an effort to provide forensic psychiatry with a concise definition for such shared beliefs, the term "extreme overvalued belief" was derived from earlier, less concise definitions. It was adapted from the term "overvalued idea" (Ueberwertige Idee), first coined by Carl Wernicke, the German neuropsychiatrist who is well known for his work with aphasias and Wernicke-Korsakoff syndrome.[1–3] The main problem we uncovered is that the definition in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), is strikingly different from Wernicke's original conceptualization from 1892 and many subsequent textbook definitions.[1,4] The DSM-5 describes overvalued idea as a belief held with "less than delusional intensity" and "not shared by others" in their cultural or subcultural group (Ref. 4, p 826). The proper definition of delusion affects several important diagnostic terms often seen in forensic criminal cases, including schizophrenia, delusional disorder, *folie à deux*, and erotomania. To provide a framework based on historically validated phenomenology in describing disorders, we reviewed an extensive body of psychiatric literature to describe extreme overvalued belief, which we defined in a previous article as follows:

> An extreme overvalued belief is one that is shared by others in a person's cultural, religious, or subcultural group. The belief is often relished, amplified, and defended by the possessor of the belief and should be differentiated from an obsession or a delusion. The belief grows more dominant over time, more refined, and more resistant to challenge. The individual has an intense emotional commitment to the belief and may carry out violent behavior in its service (Ref. 2, p 33).

The definition of extreme overvalued belief was first described in a prior article in the *Journal* in

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response to an analysis of the insanity trial of Anders Breivik, a Norwegian terrorist responsible for the massacre of 77 people, mostly youth, in Oslo and toya, Norway, in July 2011.[2] Mental health professionals disagreed as to whether he held delusions due to schizophrenia or shared beliefs with other right-wing extremists. Prior to his attacks, Breivik released a bizarre manifesto and proclaimed that he was a "Knight Templar" on a mission to cleanse Norway of immigrants. He believed that he would become the New Regent in Norway following a *coup d'état* and that he would acquire the name "Sigurd the Crusader" as a pioneer in an impending European civil war. Both forensic teams agreed that he did not have hallucinations, nor did he exhibit grossly disorganized speech or behavior. This left his unusual beliefs as the main source of disagreement during his forensic evaluations. The Norwegian court declared that he held extremist beliefs shared by other right-wing groups in Norway and not idiosyncratic, fixed, and false beliefs from delusions, thus rejecting the insanity defense.[2,5]

Similar controversies regarding the source of fixated beliefs erupted in the cases of John Hinckley, Jr. (i.e., fixation on Jodi Foster), and other cases of lone-actor terrorism (such as Theodore Kaczynski's fixation on protecting the environment of the Earth).[6] Moreover, in the past two decades, online interaction has been of increasing concern to counterterrorism experts. Reports of violent attacks by lone-actor offenders has increased dramatically.[3,7] For example, in a recent case, an individual sent package bombs to political leaders and former U.S. President Barack Obama after viewing online extremist conspiracy theories. In a sentencing memorandum, his attorneys argued that he developed "delusions" and "obsessions" from online interaction.[8] In a separate incident, called "Pizzagate," a man fired shots into a pizza restaurant after he was "self-investigating" an online conspiracy theory that the restaurant was harboring "child sex slaves" linked to the Democratic Party.[9–10] Mass shootings and acts of terrorism are well known to be inspired by online interaction and social media.[2]

In our review of the literature, we discovered that the term "overvalued idea" varies in its exact wording.[11–17] It is usually described as being different from a delusion or obsession and as having shared ideologies (in keeping with Wernicke's seminal definition).[11–16] These definitions are summarized in Table 1. Karl Jaspers was also a key figure in bringing rigorous definitions to abnormal psychic phenomena. He defined delusion as qualitatively different from normal belief, with a radical transformation from the meaning attached to events and incorrigible to an extent unlike normal belief. Jaspers also contrasted delusion from overvalued idea; he described the latter as an isolated notion associated with strong affect and an abnormal personality, similar in quality to passionate political, religious, or ethics convictions that are strongly toned by affect and best understood in terms of an individual's personality and unique biography. Thus, Jaspers emphasized that overvalued ideas are isolated notions that develop comprehensibly out of a given personality and situation.[15] Frank Fish also brought the German tradition (including Wernicke) of descriptive psychopathology to English-speaking psychiatrists. His classic British clinical guide continues to influence students of the Royal College of Physicians.[17] He observed that there was frequently a discrepancy between the degree of conviction in overvalued ideas and the extent to which the beliefs directed abnormal behavior. He also argued that patients with overvalued ideas acted on them, determinedly and repeatedly, and compared them to the drive of an instinct, like nest building.[15,17]

Fixated Beliefs and Psychopathology

The classic descriptions of overvalued idea (Table 1) from various international texts are similar; however, they all are clearly different from the definitions in the DSM-5 and the DSM-IV, Text Revision.[11–16] To further confuse matters, several British texts categorize the following conditions as disorders with overvalued ideas: anorexia nervosa; paranoid state, querulous or litigious type; morbid jealousy; hypochondriasis; dysmorphophobia; and parasitophobia (Ekbom's syndrome).[12,15,17] Some of these disorders are seen as the product of delusions in U.S. texts.[6,18]

Wernicke's 1892 description of overvalued idea,[1] which was recently published in English translation,[7] does not mention these disorders. Instead, he described overvalued ideas in the context of criminality and insanity.[1,6] Although Wernicke did not explicitly define delusion, obsession, and overvalued idea, he gave case examples and stated that these three cognitive drivers of fixations can be easily

Table 1 Definitions of Overvalued Idea from Psychiatric Texts

Source	Definition
Freudenreich[12]	[Overvalued ideas are] a passionate attitude, also known as 'fanatic' in lay terms. One important aspect of overvalued ideas is that they are shared with other people, making them potentially destructive. Remember that delusions, by contrast, are uniquely false ideas held by individuals and identified by others as erroneous. While most people would not jeopardize their careers or lives for overvalued ideas, some will (and are secretly regarded as heroes by those less inclined to fight for an idea) (Ref. 12, p 6).
Gelder, Gath, Mayou, Cohen[13]	An overvalued idea is an isolated preoccupying belief, neither delusional nor obsessional in nature, which comes to dominate a person's life for many years and may affect his actions. The preoccupying belief may be understandable when the person's background is known (Ref. 13, p 10).
McHugh[14]	An overvalued idea is a thought shared by others in a society or culture but in the patient held with an intense emotional commitment capable of provoking dominating behavior in its service. An overvalued idea differs from a delusion in that delusions are false ideas unique to the possessor, whereas overvalued ideas develop from assumptions and beliefs shared by many others. An overvalued idea differs, too, from an obsession in that, although it dominates the mind as an obsession does, the subject does not fight an overvalued idea but instead relishes, amplifies, and defends it. Indeed, the idea fulminates in the mind of the subject, growing more dominant and more resistant to challenge (Ref. 14, p 243).
Winokur and Clayton[15]	[The definitive test of a delusion is] whether an unusual belief is shared by members of the patient's subculture. Delusions must also be differentiated from overvalued ideas, which are fanatically maintained notions, such as the superiority of one sex, nation, or race over others . . . (Ref. 15, p 376).
Sims[16]	The background on which an overvalued idea is held is not necessarily unreasonable or false. It becomes so dominant that all other ideas are secondary and relate to it: the patient's whole life comes to dominate around this one idea. It is usually associated with a very strong affect that the person because of his temperament has great difficulty in expressing . . . (Ref. 16, p 147).
American Psychiatric Association[4]	An unreasonable and sustained belief that is maintained with less than delusional intensity (i.e., the person is able to acknowledge the possibility that the belief may not be true). The belief is not one that is ordinarily accepted by the other members of the person's culture or subculture (Ref. 4, p 826).

distinguished on clinical grounds. He went on to describe overvalued ideas as experienced by the patient as normal and justified, fully explained by the events that led to their formation.[19]

The historical aspects of Wernicke's seminal work on overvalued idea is elaborated upon in several other articles.[1–3,6,19] The definition of extreme overvalued belief utilizes the terms "culture" and "subculture." Section III of the DSM-5 is called "Emerging Measures and Models." It states that "culture refers to systems of knowledge, concepts, rules, and practices that are learned and transmitted across generations. Culture includes language, religion, and spirituality, family structures, life-cycle stages, ceremonial rituals, and customs, as well as moral and legal systems" (Ref. 4, p 749). We believe that online transmission of beliefs also belongs in this model of culture systems. The definition of subculture does not appear in this section but can be thought of as a cultural group within a larger culture, often having beliefs and behavior at variance with those of the larger culture.

Some of these beliefs can be of such peculiar content to people outside of their group that they appear psychotic. For instance, many people believe that being thin is healthy and desirable, but some individuals overvalue these ideals and develop anorexia nervosa. Another individual might become infatuated with a celebrity and may begin stalking the celebrity. For example, John Hinckley, Jr., despite being infatuated with Jodi Foster, admitted that he had no chance of being with her. Similar behavior arises with religious beliefs, where a subculture (e.g., Al-Qaeda) embraces terrorism. In an online world, the rapid and repeated transmission of false information makes individuals increasingly susceptible to such extreme overvalued beliefs.[3,6]

Form and Content of Beliefs

The terms obsession, delusion, and overvalued idea are often used interchangeably by forensic examiners as well as the media.[3] Statements such as, "he was obsessed with anti-government videos" or "he had a delusional belief that he was saving babies by destroying an abortion clinic" provide examples of the confusion arising with various fixated beliefs. The beliefs are of critical importance in determining the motive during insanity evaluations. They are also critical in threat assessment and management because they may require different monitoring and treatment

strategies. For instance, antipsychotic drugs may help decrease the intensity of delusions in schizophrenia, but they have limited use in treating disorders due to overvalued ideas. For example, eating disorders and Ekbom's syndrome (delusional parasitosis) have both been described as founded on overvalued ideas. The infestation in Ekbom syndrome and learning new ways to diet can be transmitted online. Antipsychotic drugs are not effective for many of these patients; although psychotherapy and separation from others with similar shared beliefs can reduce the contagion effect.[20–21] Therefore, it is critical for examiners to identify the appropriate nature of the beliefs in the context of other signs and symptoms such as mania, disorganized speech, or personality traits.

The concept of extreme overvalued belief as a choice for examiners in forensic cases has been of interest to our group of academic researchers. Addressing pathological fixation by studying these three phenomena (obsession, delusion, and extreme overvalued belief) in psychiatry provides a step toward more precise definitions for the field. Therefore, we decided to conduct a workshop[22] with a live audience survey to test the ability of forensic psychiatrists to apply the above definition of extreme overvalued belief, along with established DSM-5 definitions of obsession and delusion to fictional case vignettes.

Methods

We created 12 fictional case vignettes (four each of extreme overvalued belief, obsession, and delusion cases) of criminal behavior (Table 2). We deliberately chose simple vignettes to demonstrate shared ideologies to differentiate them from fixed false beliefs and obsessions. We first gave them to 10 psychiatry residents at the Washington University in St. Louis, Missouri, to ensure clarity. The discussion and study were conducted during a workshop at the 49th Annual Meeting of the American Academy of Psychiatry and the Law (AAPL) in Austin, Texas in 2018. The simple vignettes were written to simulate cases that the authors hypothesized would have high interrater agreement among attendees of the workshop. They were based on a synthesis of our experience and cases in the psychiatric literature. We recognized that beliefs could not easily be identified without further data such as a person's culture and background, as many textbooks have stated. Therefore, the vignettes detailed beliefs which, along with other clear signs or symptoms (e.g., disorganized speech and auditory hallucinations for delusional beliefs or repeated intrusive images for obsessional beliefs), could be easily classified. These rigid contours were included to emphasize the need to examine other signs and symptoms in the case narrative to provide a controlled context to identify the type of belief. Because overvalued idea is clearly described in the literature, we chose to assign definitions in that tradition as opposed to the DSM-5 definition (see Table 3) and to assess whether extreme overvalued belief had good interrater reliability among U.S. forensic psychiatrists. The main purpose of our workshop was to gather some preliminary data on the reliability of extreme overvalued belief and to begin a discourse with AAPL members regarding definitions and scenarios described in the survey.

The protocol was approved on an exempt status by the institutional review board at Washington University in St. Louis. The participants were 109 AAPL forensic psychiatry workshop attendees.[22] Data were collected anonymously using the Turning Point[23] live-audience response system in which participants responded using a handheld clicker. The fictional vignettes for each category were presented in random order.

Based on the responses from the participants, Cohen's kappa coefficients and corresponding variances were computed for each vignette.[24] To quantify the overall reliability of the definition of extreme overvalued belief, a random effects meta-analysis of the kappa coefficients was conducted corresponding to each extreme overvalued belief vignette, weighted by the inverse variance. All statistical analyses were conducted in R software.[25]

Results

Out of 109 forensic psychiatrists surveyed, a high degree of interrater agreement was found in selecting one of the three definitions for beliefs commonly encountered during threat assessments and forensic evaluations. The kappa scores for the vignettes corresponding to extreme overvalued belief (vignettes 1, 5, 6, and 10) are presented in Table 4. A meta-analysis of the four vignettes found the summary kappa = 0.91 (95% CI 0.83–0.98), representing "a nearly perfect" degree of interrater reliability as defined by kappa > 0.8. One vignette involving shared religious ideology and the planet Jupiter had a lower

Table 2 Vignettes

1	A 35-year-old man with no prior psychiatric disorder plants bombs at a factory that builds computers. He is arrested before anyone is harmed. After his arrest, he tells the police that he believes that computers are ruining the planet and the ecosystem. He is an avid environmentalist and belongs to a group that advocates for the protection of the environment. He regularly attends meetings that advocate violence to "save planet Earth" from total destruction. He believes that others in his group will follow his lead and that he is a hero for doing this. No past psychiatric history or current symptoms are found, and the exam is notable only for increased speech volume when explaining the reasoning for his actions. (Extreme Overvalued Belief)
2	A 27-year-old male graduate student is questioned by police after he tells a new friend that he struggled with "weird thoughts of shooting a lot of people." On exam, he is anxious and stated that he never wants to harm anyone. He hates guns and has never owned one. If he sees a knife or a gun, he is "afraid of what might happen." Since his late teenage years, he has had repeated, intrusive images of people getting shot or killed and unwanted thoughts that weapons could hurt him as well. These images and thoughts cause him severe anxiety and distress, and he avoids crowds because it makes these thoughts worse. He has panic attacks at times and was treated in an emergency room for them five years ago. (Obsession)
3	A 40-year-old man with unclear past psychiatric history is arrested after stabbing his neighbor to death. He tells police that his neighbor was a space alien and that the "world is now safe" because he stopped the alien. On exam, he is disheveled and has disorganized speech. His home is found to be unkempt, littered with cigarette butts, with all the windows and vents covered with plastic trash bags and duct tape. (Delusion)
4	A 38-year-old man is detained and questioned by airport security after he is seen with religious books on an airplane that frightened another passenger. Security discovers many prayer books in his luggage. He appears anxious and states that he cannot refrain from praying because he has recurrent thoughts of the plane crashing and believes that reciting his prayers 15 times every time the clock lands on the hour will keep him safe. He states, "This probably sounds ridiculous to you, but I can't help it." These thoughts have bothered him for many years, and he is only able to stop them with the prayer routine. As a child, he always had to look under his bed three times before he went to bed. (Obsession)
5	A 42-year-old male is arrested after violent behavior during an anti-government protest. During and after his arrest, he challenges the legitimacy of the U.S. government and the entire criminal justice system. During his arraignment, he shouts out odd and what appear to be nonsensical statements to the court. After the courtroom proceedings, he exhibits organized, rational, sequential, and coherent thought processes. Further collateral information is obtained. He is neatly dressed, has no hallucinations, no prior psychiatric treatment, and no grossly disorganized behavior. He belongs to a group called "Freedom Rights" who refuse to pay income taxes and believe that they are free of any legal constraints because they don't recognize the legitimacy of the U.S. government. He has also delivered speeches to crowds espousing such beliefs. (Extreme Overvalued Belief)
6	A 40-year-old man is arrested after carrying Sarin nerve agent on a subway in a major metropolitan area. Witnesses tell police that a toxin took effect in a matter of seconds, leaving several people dead. The man states to police that "people must die to elevate their souls" and that "their souls would reach the planet Jupiter." After further investigation, it is determined that he belongs to a "new age church" in which all members believe that their souls will be saved after they die and that the souls will travel to the planet Jupiter to meet a prophet from centuries ago. He smoked marijuana as a teenager but became religiously devout and stopped using all drugs after he joined his church. He has no other psychiatric history. (Extreme Overvalued Belief)
7	A 32-year-old man with a history of prior psychiatric hospitalizations is arrested after a mass shooting in which he opened fire on 12 people attending a multicultural event, resulting in five dead and seven wounded. He has been hearing voices since adolescence. On exam, his speech is found to be grossly disorganized. He believes that he is a "superhero here to do good work," that all the people he shot are "future devils," and that he can tell "good people from bad people by looking into their souls." He has been treated with antipsychotic drugs in the past but stopped taking them two to three years ago. (Delusion)
8	A 24-year-old man with chronic mental health problems is arrested after killing his parents. He stated that his parents are actually "undercover government agents" who are harassing and spying on him. He tells the examiner that he knows that these individuals are not his parents, but rather imposters. He is certain of this because "my real parents walk and talk differently." He has a previous mental health admission for threatening his parents and assaultive behavior toward them. On exam, he is disheveled and unkempt, and requires repeated questioning because he frequently goes off on tangents. He was seen responding to auditory hallucinations by staff. (Delusion)
9	A 19-year-old woman is seen by police after she tells her neighbor that she has thoughts of stabbing her parents. She is visibly upset when evaluated and states that she loves her parents and would never want them harmed by anyone. She reports images of seeing her parents being stabbed that will not leave her mind. She tries to distract herself by singing or walking around. By the end of the interview, she is calmer and feels her thoughts are "silly" but very intrusive. She has some insomnia but denies all other symptoms and is willing to seek help for this problem. (Obsession)
10	A 43-year-old man shoots and kills a police officer during a routine traffic stop. An investigation reveals that he had formed many odd beliefs after several years of Internet use. It is determined that he and others he interacted with online believe that the U.S. government was originally set up by the founding fathers but was secretly replaced by a new government system based on admiralty law, the law of the sea and international commerce. He believed in the process of "redemption" and began filing multiple complex, legal-sounding documents to tap into a secret U.S. Treasury account that he and others believed had been set up for him at birth to draw on at any time. He was routinely rejected by the courts, his house was foreclosed on, and he was about to be evicted. On forensic evaluation, he spent much time talking about his redemption ideas, had no other symptoms, and said he "snapped" when he was pulled over by a government official. Upon a review of the Internet sites, it is determined that his beliefs match those of many others in videos devoted to this topic. (Extreme Overvalued Belief)

(Continued)

Table 2 Continued

11	A 38-year-old woman is arrested after she stabs and kills her gynecologist. She recently found out that he that also performs abortions. She believes that the doctor is trying to kill her unborn baby by forcibly performing an abortion on her. She is taken to an emergency room after her arrest because the police cannot understand her speech patterns and she is so upset about her "unborn baby being harmed." A pregnancy test is found to be negative, yet she insists that she is carrying "the first cousin of God" in her body. She can hear voices of many gods and demons telling her she is a bad person who must stop her doctor from killing her unborn baby. On exam she is disheveled and has grossly disorganized speech. A newspaper story the next morning reads, "Abortion doctor killed by crazed fanatic." (Delusion)
12	An 18-year-old woman is detained by security for trying to jump over a barrier into a secure area. When questioned, she is quite upset and tearful as police are called to investigate. She states that the lotion she uses to keep her hands clean was accidentally left in her luggage and she was trying to get it back. On exam, she has numerous lesions from skin picking all over her body. She washes her hands 50 to 60 times a day. The skin on her hands is cracked and bleeding. She has intrusive, unwanted thoughts of getting "the AIDS virus from someone." She knows it is not how people get the virus, but she can't seem to control these intrusive thoughts. The lotion she has in her luggage is what she likes to use to prevent getting sick. (Obsession)

agreement score (vignette 6). Vignettes representing delusion and obsession also had very high reliability: summary kappa = 0.99 for delusion and 0.98 for obsession.

Discussion

Clear definitions of the beliefs we describe here are of importance to clinicians, forensic examiners, the criminal justice system, media, and researchers. An increasingly online world has changed the way group dynamics influence beliefs. Forensic examiners often struggle to categorize odd and unusual beliefs in the individuals they examine.[26] A failure to recognize shared versus idiosyncratic beliefs, as highlighted by the Breivik, Hinckley, Kaczynski, and recent online inspired terrorism cases, may lead to inaccurate diagnostic classification.[2,3,7,14,19,27] Our results provide some preliminary data that an extreme overvalued belief can be reliably separated from delusion or obsession (within the constraints of the survey's limitations). Extreme overvalued belief needs further empirical assessment with larger numbers and in the context of real-world cases.

We acknowledge that there is inherent bias in creating controlled fictionalized vignettes with obvious signs of disorders such as auditory hallucinations along with delusions (schizophrenia) or intrusive thoughts since childhood (obsessive-compulsive disorder). This was done with the hope that future study designs could be extrapolated from our initial investigation. Although there was almost perfect agreement among forensic psychiatrists in selecting the motives in the fictional case vignettes here, we are cautious in interpreting these results. A genuine evaluation should be conducted only after a thorough review and examination in accordance with established forensic guidelines.

In vignette 6, there was less agreement among examiners, as noted in Table 4. We speculate that this was because of changes to the DSM-5 that participants may not have appreciated, specifically that the bizarre content of beliefs (e.g., "souls going to the planet Jupiter") was given less importance as a

Table 3 Definitions for Workshop Survey

Delusion	A false belief based on incorrect inference about external reality that is firmly held despite what almost everyone else believes and despite what constitutes incontrovertible and obvious proof or evidence to the contrary. The belief is not ordinarily accepted by other members of the person's culture or subculture (i.e., it is not an article of religious faith) (Ref. 4, p 819).
Extreme Overvalued Belief	A belief that is shared by others in a person's cultural, religious, or subcultural group. The belief is often relished, amplified, and defended by the possessor of the belief and should be differentiated from a delusion or obsession. The belief grows more dominant over time, more refined, and more resistant to challenge. The individual has an intense emotional commitment to the belief and may carry out violent behavior in its service (Ref. 3, p 2).
Obsession	Recurrent and persistent thoughts, urges, or images that are experienced, at some time during the disturbance, as intrusive and unwanted and that in most individuals cause marked anxiety or distress. The individual attempts to ignore or suppress such thoughts, urges, images, or to neutralize them with some other thought or action (i.e., by performing a compulsion) (Ref. 4, p 826).

Table 4 Interrater Reliability of Definitions

Vignette	Estimated kappa (95% CI)
1	0.91 (0.85, 0.98)
2	0.96 (0.91, 1.00)
3	0.99 (0.96, 1.00)
4	0.94 (0.89, 1.00)
5	0.96 (0.91, 1.00)
6	0.73 (0.62, 0.84)
7	0.99 (0.96, 1.00)
8	0.99 (0.96, 1.00)
9	0.99 (0.96, 1.00)
10	0.90 (0.83, 0.97)
11	0.99 (0.96, 1.00)
12	0.99 (0.96, 1.00)

Schneiderian first-rank symptom of a bizarre delusion or special hallucination in the DSM-5 compared with the DSM-IV.[15,16]

We also acknowledge that the survey is limited by forcing the psychiatrists to choose one of three categories of pathological beliefs (i.e., without allowing for the possibility of no diagnosis, normal belief, or culturally sanctioned belief). Extremist ideology itself is not a diagnosis, and the pathological nature of a belief does not always depend on a criminal act (behavior). In fact, it is the criminal act that is extreme in the vignettes, without the cases making an argument that the beliefs themselves are. Therefore, the results provided here are not intended to explain why some people with shared beliefs engage in socially deviant behavior while others do not. It is often difficult in psychiatry to distinguish psychotic from nonpsychotic symptoms when there are no easily identified symptoms as provided in the fictional vignettes. For example, an individual with schizophrenia could have both delusions and extreme overvalued beliefs. Another individual might present with manic symptoms, cognitive deficits, and have extreme overvalued beliefs. Such cases could prove difficult and create equally strong yet opposing forensic opinions regarding insanity. Our survey, with its easily identifiable diagnostic clues, may be vastly different from such actual cases.

Finally, although forensic psychiatrists are trained to identify delusions in insanity cases, our survey might be prejudicial in associating extreme overvalued beliefs with violence, but not delusions. Among the three definitions surveyed, only extreme overvalued belief contains a propensity toward violence in the definition: "the individual has an intense emotional commitment to the belief and may carry out violent behavior in its service" (Ref. 3, p 2). Individuals operating under the influence of delusions may also be predisposed toward violence (driven by fear of persecution, revenge, etc.). Psychosis involving persecutory or Capgras delusions represent salient risk factors for violence among individuals with a major mental illness[28] and were not equally stressed in the survey. Delusions and extreme overvalued beliefs may contribute to violent behavior. It is also important to note that many persons with such beliefs may never engage in such acts.

Conclusion

Current definitions of delusion and overvalued idea in the DSM-5 pose a challenging problem for differentiating delusion from rigidly held, nondelusional, culturally shared beliefs. We believe that classifying beliefs by putative causation would promote progress in forensic psychiatry.[28] The concept of an overvalued idea has been ignored by psychiatry in the United States,[18] and it is now seen as an important cognitive driver in many cases of terrorism, assassinations, and targeted violence.[2,3,29–31] Regardless of the diagnosis, we stress that it is important for forensic psychiatrists to properly identify a defendant's belief as either a fixed false conviction (i.e., a delusion) or as an intense emotional commitment to a commonly held belief shared by other members of his or her cultural group (i.e., an extreme overvalued belief).[6]

Fixation on a person or cause with an accompanied deterioration in social or occupational function has recently been identified as an important correlate and warning behavior for targeted violence. This includes a noticeable increase in perseveration, strident opinion, negative statements about the target(s), increasing anxiety or fear about the target, and an angry emotional undertone.[29–31] Our preliminary findings provide evidence of high interrater reliability of extreme overvalued belief among forensic psychiatrists when forced to choose among three definitions with fictionalized vignettes. Further studies should be conducted to determine reliability in real-world cases without the controlled clues given in fictional vignettes.

We believe the definition can aid research to discover mechanisms by which a pathological transition occurs from "normal-valuedness" to "over-valuedness." Cognitive dissonance has been found to be an effective tool in the prevention of anorexia nervosa, a common disorder caused by overvalued ideas.[31] Further study of such disorders, utilizing data derived

from a more precise definition, may uncover new ways to prevent targeted violence.[3] The overlooked historical definition of overvalued idea merits consideration for use in forensic psychiatry. This study, with its rudimentary controlled design, showed high agreement among the forensic psychiatrist participants. We believe the historical foundation along with the preliminary data from this study highlight the benefit of inclusion of extreme overvalued beliefs in future versions of the DSM's glossary. This addition to the DSM's differential diagnosis sections of schizophrenia, delusional disorder, *folie à deux*, and erotomania is recommended to bolster this important distinction.[27] We further emphasize that extreme overvalued beliefs may not be a diagnosis of a mental disorder, just as personality dimensions, intellectual ability, deviant sexual behavior, and grief may not be diagnoses; however, as the Anders Breivik and cases of online inspired lone-actor violence have highlighted, forensic experts can now explain abnormal and sometimes criminal behavior in concise terms when there is no clear mental disorder to describe.

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