Communication

Extreme Overvalued Beliefs

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Abstract:

Psychiatry needs operational definitions to appreciate differences seen in idiosyncratic, psychotic thinking, and shared subcultural beliefs or ideologies. Carl Wernicke first described overvalued idea in 1906. The concept has been applied to describe it as a motive in mass shootings and terrorism. We review the concept of overvalued idea and extreme overvalued belief as a basis for making the distinction between delusions and non-delusions.

Keywords: psychosis; delusion; over valued idea; terrorism; mass shootings; violence; forensic psychiatry

Psychiatry lacks operational definitions to differentiate idiosyncratic, psychotic thinking from shared subcultural beliefs or ideologies. Rigidly-held non-delusional beliefs are an important aspect behind the motive for many global and homegrown violent and terrorist attacks (1). The fact that no particular sociodemographic information has been found to be associated with this often aberrant behavior requires new strategies to be developed. Terrorism is a behavior that
comes with enormous direct and indirect costs—lost lives, expensive counter-terrorism programs, political division, loss of civil liberties, and psychological disorders (2). A literature search on the topic of primary prevention of terrorism and mass shootings reveals strikingly little scholarly academic work by psychiatrists. Media often erroneously report a terrorist attack as based on delusional thinking, obsessional thinking or psychosis. This article reviews the concept of over-valued idea, first defined by Carl Wernicke and later applied to terrorism as an important area of psychopathology with important implications for both forensic evaluations and primary prevention of terrorism and mass shootings.

**Extreme Overvalued Beliefs**

There has previously been a lack of agreement as to what precisely constitutes an over-valued idea (3). Consensus regarding definitions is helpful to facilitate research and the development of innovative strategies. In 2016, our group of forensic psychiatrists (Rahman, Resnick, Harry) at the American Academy of Psychiatry and the Law introduced the term *extreme overvalued belief* to describe the rigidly held non-delusional beliefs that Breivik (Norwegian terrorist), McVeigh and Nichols (Oklahoma City bombing) as well as the 9/11 terrorists held during their respective attacks (4). We defined *extreme overvalued belief* to differentiate it from prior definitions of overvalued idea:

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 idea fulminates in the mind of the individual growing 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. It is usually associated with an abnormal personality (4).
This definition expands on what was first described as *Ueberwerthige Idee* (overvalued idea) by Carl Wernicke in *Gundriss der Psychiatrie* (1906) and later invoked by then psychiatrist-in-chief Paul McHugh at Johns Hopkins in response to the 9/11 terrorist attacks (4). FBI trained forensic behavioral specialist Matt Logan also discusses this concept in *Lone Wolf Killers: A Perspective on Overvalued Ideas* (5).

Wernicke is honored by having his name describe a type of aphasia, but his psychiatric contributions have largely been neglected. *Gundriss der Psychiatrie* was recently translated from German into English. In his classical description of overvalued idea, Wernicke stated that “special conditions must prevail before such overemphasis takes on an aberrant character. Normally there is contradictory evidence, which gradually corrects any overvaluation. For aberrant overvaluation however, these counterarguments, demonstrably, are no longer available.” He went on to describe that overvalued ideas can seem completely normal; yet the way an individual is treated can determine whether they *acquire* an aberrant character (emphasis added). Wernicke’s examples include people who commit suicide after loss of a fortune, after being sentenced to dishonorable punishment, or after the death of a loved person (6). Wernicke’s description captures the behavioral profile described by FBI profilers as the common motive of many mass shooters, terrorists and assassins that act in an unpredictable and aberrant fashion (7). Psychologists, economists, and others have not found a specific personality profile or a situational condition (e.g., poverty, political oppression, lack of sufficient education) that explains terrorism. Such behavior does not often meet the classic personality disorder criteria seen in criminal psychopathology such as antisocial personality disorder, but instead are often described as having some psychosocial problems in their background (8).

Two things have changed quite dramatically since Wernicke described overvalued idea in 1906- access to information (particularly online) and access to much more lethal types of weapons. Applying Wernicke’s concept to the development of extremism, a pathway to
violence can be drawn in the following three steps: 1) there are a core set of beliefs normally
shared by others in their culture/ subculture. 2) As the individual views progressively more
extremist information and has a lack of contradictory information, reinforcement and refinement
of the extreme beliefs occur 3) Additional amplification is acquired and coupled to the use of
violence in its service.

British and American texts of psychiatry have clearly differentiated obsessions, delusions
and overvalued ideas from each other. Karl Jaspers believed that delusions were from a mental
illness and that overvalued ideas stemmed from personality features. To confuse matters, the
DSM-5 and DSM-IV have a vague and difficult to trace definition of overvalued idea. They
describe it as being “less than delusional intensity” and not shared by others in their cultural or
subcultural group. The definition does not appear at all in any of the earlier DSM series. This
places the current definition as the exact opposite of Wernicke’s definition which states that it is
a belief shared by others (4). This confusing array of definitions may have contributed to the
lack of growth seen in this area of scholarly work and lead to our group’s development of
“extreme overvalued belief” based on definitions from Wernicke’s original work.

Myths about Mass Murderers

Meloy has written extensively about the biological and psychodynamic understanding of
psychopathy (7). He recently described the “seven myths of mass murder” and describes how
the public and professionals are unaware of the facts surrounding many high profile cases. For
example, these individuals often have meticulous planning and do not just “snap.” Also, there is
no clear way of easily be dividing them into “psychopaths, psychotics, and depressives.” This
can make the screening of such individuals a difficult challenge for counter-terrorism efforts.
Personality disorders in mass murderers are often a vague mixture of antisocial, paranoid,
narcissistic, and schizoid traits (9). Databases recording mass shootings and global acts of
terrorism exist. Despite this, epidemiological studies have been limited in their ability to provide
answers to this issue. Structured risk assessment instruments are also limited. Reliable and validated data do not currently exist (8). Research findings on the link between acts of violence and mental illness vary widely because study designs, sampling frames, operational definitions, and comparison groups also vary widely.

Delusions are commonly encountered symptoms for mental health professionals to evaluate. A delusion is usually defined as a fixed, false and idiosyncratic belief. Delusions are usually associated with other psychotic symptoms and the impaired individual thereby often becomes apparent to others. Individuals with Capgras delusions (that a person such as a close relative is replaced by an imposter) and persecutory delusions are often associated with a propensity towards violence. Most patients with psychosis are victims, not perpetrators of violence. As delusions improve with medication and psychotherapy, the individual usually becomes less prone to violence (4). By way of contrast, an individual with an extreme overvalued belief shares beliefs with the rest of his culture or subculture, making it 1) more difficult to identify as a potential threat and 2) requiring a different strategy from delusions to neutralize them.

Eating Disorders and Overvalued Ideas

In order to better understand Wernicke’s amplification of ideology from overvalued ideas, it may be useful to examine the most widely studied type of behavior stemming from them—eating disorders. The concept of overvalued idea has been widely used to describe eating disorders, particularly in the British literature. The negative body image and cognitive distortions seen in eating disorders amplify in the mind of the individual, growing more dominant and form a
powerful driving force behind starvation and excessive exercise, even to the point of death.

Selective eating patterns also occur in which patients will limit their food intake to a narrow
range of preferred foods. Attempts to widen their repertoire of foods is met with resistance and
counter-arguments. The behavior is slow to develop and individuals do not suddenly develop
eating disorders (10). This parallels the restriction of ideology and amplification that is seen in
violent behavior stemming from extreme overvalued beliefs (4).

Online Eating Disorder Data

Peer and media effects can contribute to the worsening of eating disorder behaviors by
intensifying previously held rigid beliefs regarding weight and eating. A meta-analysis showed
that pro-eating disorder websites have a large effect on refining and amplifying the dysfunctional
body image and eating habits seen in eating disorders. In a Stanford cross-sectional study of
698 families of patients (aged 10–22 years) diagnosed with an eating disorder, forty-one percent
of patients visited pro-recovery sites, 35.5% visited pro–eating disorder sites, 25.0% visited
both, and 48.7% visited neither. Of those that visited pro-eating disorder sites, 96.0% reported
learning new weight loss or purging techniques. The authors concluded that pro–eating disorder
website visits were prevalent among adolescents with eating disorders, and that parents had
little knowledge of this (11). This parallels the reports from family members of some radicalized
terrorists and mass murderers that reported not knowing that they had viewed radical internet
content. Eating disorder treatment units are equipped with a comprehensive treatment strategy
including group therapy that challenges patients’ dysfunctional narrative thereby extinguishing
maladaptive behaviors. Research on the impact of censorship/criminalization of pro-eating
disorder websites has concluded that it further isolates and insulates the eating disorder
sufferer. Banning the use of these websites may in fact worsen the behavior - users migrate to
other, more secret websites, and the extreme overvalued beliefs begin to hold more valence.
Instead, balancing the pro-eating disorder content with pro-recovery content may be a more
effective strategy. For example, in 2012 the Instagram made some hashtags unsearchable and
disabled accounts that promoted eating disorders. Studies found that pro–eating disorder
hashtags actually multiplied as people instead used deliberately misspelled hashtags like
#anorexique to circumvent banned terms. Instagram later released a tool where users could
anonymously flag a photo they deemed concerning for an eating disorder. Instagram will send
the user a note of support along with directions to resources where they can get help. This may
serve as an effective model for preventing online extremism (12).

Countering Violent Extremism

Countering violent extremism (CVE) is a broad phrase that covers a wide array of
approaches that have been advanced to reduce the radicalizing effects of extremist narratives.
Under the Obama administration, the U.S. developed a Strategic Implementation Plan for
Empowering Local Partners to Prevent Violent Extremism. It has three objectives: involve (1)
enhancing federal community engagement efforts related to CVE, (2) developing greater
government and law enforcement expertise for preventing violent extremism, and (3) countering
violent extremist propaganda (13).

Several programs in Muslim states (Saudi Arabia, Iraq, Yemen, Indonesia, Singapore)
have utilized de-radicalization programs carried out by moderate Muslim clerics who engaged
detainees in a theological dialogue about what they portrayed as a correct interpretation of
Islam (14). In response to growing right-winged extremism, Canada has begun to consider
similar counter-extremist narratives, building on the strengths and expertise of diverse sectors in
society (15).

The internet is of increasing interest to countering violent extremism efforts during recent
years. Attempts have been made to classify and identify extremist social media messaging
using linguistic features such as offensive terms to discriminate hate and extremism promoting
messages from other messages. To better understand how a radicalized individual begins to amplify his beliefs, an examination of the way the internet utilizes individual consumer information for advertising is helpful. Digital advertisers have used small computer files called cookies and now use canvas fingerprinting to detect the subtle differences in the rendering of text to extract a consistent fingerprint that can easily be used without the consumer’s awareness. Publishers place paid advertising on their websites and mobile applications to provide customers tailored products or services. The information can help, for instance, to find more books by an author they enjoy reading or have a movie title suggested to them based on interest in a topic. The information is honed and tailored over time to accurately detect and influence shopping habits. A similar feedback effect occurs with online information searches. Persons searching radical material on an online video may receive progressively more similar radical content with additional videos and social media newsfeeds.

Refinement of online eating disorder and consumer shopping consumption parallels extremist consumption of radical ideology which Wernicke described as growing in the mind of the individual, becoming more dominant and resistant to challenge.

Form and Content of Beliefs in Threat Assessment

The form and content of beliefs are important in discussing psychiatric definitions. The form of belief can be a delusion, obsession or overvalued idea. The content of the belief is also of relevance to determine the risk of violence towards others. Just as there is an increased risk of violence with certain types of delusions and not others, there is also an increased risk of violence with some overvalued ideas. Overvalued ideas involving body image and weight create self-destructive forces, whereas extreme overvalued beliefs may create violent behavior. For example, a person that holds a delusion that he is Jesus likely has a lower propensity towards violence than a person with persecutory delusions of being stalked by his neighbor (4). Similarly, a woman with an overvalued belief that she is overweight may develop a propensity
towards anorexia, while a man with extreme overvalued beliefs might carry out a “lone wolf”
terrorist attack.

Mass Suicides, Cults and Obedience to Authority

When beliefs are shared by others, idiosyncratic beliefs can become normalized (20). In a study of 343 psychiatric outpatients who described themselves as religious, participants were asked to give their view of a demonic causality of their illness. A high prevalence of such beliefs was not only found in schizophrenic patients (56%) but also in non-delusional patients: affective disorders (29%), anxiety disorders (48%), personality disorders (37%) and adjustment disorders (23%). The authors concluded that demonic influence should be interpreted against the cultural and religious background which is shaping causal models of mental distress in the individual (21). Occasionally, these rigidly held non-delusional beliefs can become amplified and overvalued by an individual or group leading to extreme behavior in its service.

The greatest episode of deliberate loss of American lives prior to 9/11 was the mass suicide of 909 inhabitants (304 children) of Jonestown, Guyana from cyanide poisoning in 1978. Reverend Jim Jones, founder of the People’s Temple instructed his followers to commit suicide while spreading rigidly held beliefs of intelligence organizations conspiring against the Temple. Similarly, 39 followers of Heaven’s Gate died in a mass suicide in California in 1999. They held rigid non-delusional beliefs that their suicides would allow them to exit their “human vessels” allowing their souls to go on a journey aboard a spaceship they believed to be following comet Hale–Bopp. Some men in the group underwent castration in preparation for their “afterlives.” The Aum Shinrikyo cult attacked a Tokyo subway with sarin nerve gas in 1995, killing nearly a dozen people and injuring nearly 5,000 (22). Studies show that a majority of persons entering cults do not necessarily exhibit psychopathology and that current cult members appear psychologically well-adjusted generally, and demonstrate few conspicuous symptoms of psychopathology (23).
On the surface many individuals hold what appear to be idiosyncratic beliefs: conspiracies involving assassinations of leaders, extraterrestrial life, UFOs, etc. In some rare cases, individuals relish, amplify and defend these beliefs to the point of harm towards themselves and others. American astronauts have been stalked by individuals claiming that the moon landing was faked. Astronaut Buzz Aldrin punched a man in self-defense from a moon-hoax believer that was forcing him to “swear on the Bible” that he walked on the moon (24).

Parental concerns about perceived vaccine safety issues, such as a purported association between vaccines and autism, though not supported by a credible body of scientific evidence, led increasing numbers of parents to refuse or delay vaccination for their children. The most frequent reason for non-vaccination stated by 69% of the parents in one study, was concern that the vaccine might cause harm (25).

In 1983, the American Psychological Association created The Task Force on Deceptive and Indirect Techniques of Persuasion and Control to investigate whether “brainwashing” or coercive practices played a role in recruitment by new religious movements. The task force report was ultimately rejected because it “lacked scientific rigor” and the association decided that it did not have sufficient information available to take a position on this issue (26).

Stanley Milgram, interested in the Jewish Holocaust, studied obedience to authority figures with a series of experiments. In his 1974 article, *The Perils of Obedience* he stated that “ordinary people, simply doing their jobs, and without any particular hostility on their part, can become agents in a terrible destructive process. Moreover, even when the destructive effects of their work become patently clear, and they are asked to carry out actions incompatible with fundamental standards of morality, relatively few people have the resources needed to resist authority.” He went on to create an “agentic” theory in which the essence of obedience consists in the fact that a person comes to view themselves as the instrument for carrying out another person’s wishes, and they therefore no longer see themselves as responsible for their actions.
In the online world, authority figures can also be a powerful destructive force. Milgram’s experiment may explain why it is not uncommon for terrorists to view videos of charismatic figures online and subsequently carry out violent behavior in the service of extreme overvalued beliefs (27).

**Violent True Believer**

Psychiatry usually begins when a person seeks help from a psychiatrist for a problem or symptoms- most terrorists and mass shooters don’t do this. Violent extremists hold their own beliefs to be superior to the beliefs of others and may be anchoring a bias. Anchor bias or focalism is a type of cognitive bias in which a person relies too heavily on one trait or piece of information when making decisions (28). Reid Meloy, in response to the 9/11 attacks, submitted a description of a “violent true believer” to the Behavioral Analysis Program of the FBI. The purpose of the advisory paper was to marshal psychological knowledge concerning “the violent true believer” and his homicidal-suicidal state of mind. The violent true believer is an individual committed to an ideology or belief system which advances homicide and suicide as a legitimate means to further a particular goal (29). This body of literature overlaps with the definition of extreme overvalued belief.

**Social Transmission of Beliefs**

Research has also shown that people on the political extremes are more likely to perceive large partisan differences and political polarization and to be intolerant of people with different political beliefs (28). A study of 61 million Facebook users demonstrated that the online world can affect a significant real-world behavior on a large scale. They revealed that the effect of social transmission on real-world voting was greater than the direct effect of the messages themselves, and nearly all the transmission occurred between ‘close friends’ who were more likely to have a face-to-face relationship. These results suggest that strong ties are instrumental
for spreading both online and real-world behavior in human social networks (30). Ecker reported that people are reluctant to correct misinformation in their memories if it fits in with their political beliefs. His study offered some solutions which could easily be adapted to online search engines and newsfeeds. For example, providing people with a narrative that replaces the gap left by false information and focusing on facts to highlight, rather than the myths (31). Extreme and false beliefs are now considered a new cyber-weapon used by extremists and even by foreign powers during elections (32). Further study may help elucidate the use of internet and search engine functions to identify and neutralize extremist and false narratives using what has been learned about online amplification and overvalued ideas from past online and psychiatric experience (33).

Conclusion

The available literature regarding the psychiatric and psychological nature of violent extremism will require new definitions and strategies to counter it. Ultimately, terrorism and mass shootings are behaviors-ones with a large magnitude of effects. Extreme overvalued belief, derived from the work of earlier psychiatrists, may prove important in the nosology for motives behind many acts of terrorism and mass shootings. The definition is needed to aid in the development of a differential diagnosis during criminal responsibility evaluations and for the development of new evidence based research tools. Similar to psychiatry's experience with eating disorders, it is likely that merely attempting to ban extreme/radical content would be ineffective and encourage further secrecy and extremism. Instead, providing viewers of extreme content with alternate material containing a contradictory, factual message may help to decrease the development of extreme overvalued beliefs. Social transmission (person to person) is a more effective tool and the production of counter-narrative messages could be created to serve two functions: 1) Prevent the user from progressing to further extremist ideology through time (amplification of beliefs) and 2)
disrupt the extremist messaging through counter narratives (dilution of beliefs). A number of possibilities may be useful and combining them may prove more effective. Advisory panels from different cultural, political, medical, ethical and religious groups could provide needed counter-narratives. Large scale public awareness could be used to interrupt the social transmission of psychopathology of overvaluation seen in mass murders, acts of terrorism, mass suicides, avoidance of immunizations, etc. Further public health initiatives must be created to prevent extremism. Public awareness of getting the facts and not discarding them in favor of false or overvalued ideology is important. Harnessing the power of the internet to produce internet tools for counter-narratives and automated fact checking may be useful to research. The education needed would be similar to ones used in eating disorders, tobacco products, alcohol, firearms and seat belt laws. All are now seen as effective primary prevention programs. For this to occur, it is first critical for psychiatry to agree upon a term for non-delusional rigidly held beliefs which is shared by others.

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