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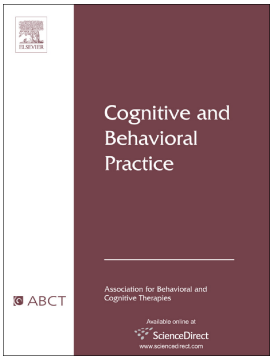

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Deaths of Despair: Conceptual and Clinical Implications

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Abstract

Since the late 1990s, mortality rates for middle-aged (4555), White non-Hispanic (WNH) Americans began to rise while rates declined for all other demographic and age groups. Coinciding with the rise in mortality, rates of death due to suicide, drug- and alcohol-related overdoses, and alcohol-related liver diseases increased as well for this demographic. Research suggests these causes of death (i.e., suicide, poisoning, alcohol-related liver disease) are driving the overall mortality rate for middle-aged WNHs and have been described as "deaths of despair" in the literature. In the current paper, we describe the social and clinical features of "deaths of despair," explore theoretical models of psychopathology (e.g., depression, posttraumatic stress disorder) that may inform our understanding of mechanisms of risk for negative mental health outcomes, and propose an initial conceptual model of "deaths of despair" to identify intervention targets. We then review an applied case example demonstrating how this model could be used for clinical application. We conclude our paper by describing how current cognitive-behavioral interventions may address these mechanisms of "despair."

Keywords: suicide; rural; substance use; mortality rate; overdose

In the late 1990s, an alarming phenomenon occurred where mortality and morbidity rates for middle-aged, White non-Hispanics (WNH) in the United States began to rise (Case & Deaton, 2015). Since the 1970s, mortality rates had been trending downward for all age and ethnic groups; however, in 1998 this long-term decline suddenly stopped and reversed for middle-aged (45–54) WNHs, particularly those with only a high-school degree (Stein, Gennuso, Ugboaja, & Remington, 2017). Whereas mortality rates for all other demographic groups continued to decline at a rate of 2% per year from 1998 to 2017, the mortality rate for middle-aged WNHs rose by half a percent annually (Case & Deaton, 2017). Rural areas with higher densities of working-class WNHs saw the largest increase in mortality (Stein et al., 2017). Interestingly, this reversal was not experienced by any other industrialized, wealthy nation (Case & Deaton, 2015). Mortality rates in France, Germany, United Kingdom, Canada, Australia, and Sweden declined in tandem with U.S. rates from 1998 to 2013, including declines for middle-aged WNHs without a college degree, making this turnaround in mortality unique to the U.S. (Case & Deaton, 2015).

Paralleling this rise in mortality, rates of suicide, drug- and alcohol-related overdoses, and alcohol-related liver diseases also increased for middle-aged WNHs from 1998 to 2017 (Case & Deaton, 2017). Deaths from overdose increased more than fourfold and mortality from alcohol-related liver disease rose by 50%; rates of suicide increased by approximately 37% in this demographic (Case & Deaton, 2015). It is believed these causes of death—specifically, suicide, alcohol-related liver disease and cirrhosis, and drug/alcohol poisoning—are driving the overall mortality rate for middle-aged WNHs and have been coined “deaths of despair” (DOD) by Case and Deaton (2017). Self-reported poor health, chronic pain, psychological distress,

difficulties with activities of daily living, and alcohol use also increased for middle-aged WNHs during this time period, suggesting a link between distress and DOD (Case & Deaton, 2017). Due to the significant mental health need within this population, the purpose of this article is to describe the phenomenon of DOD, its associated features, a preliminary case conceptualization based on current theoretical models, and candidate targets for intervention utilizing cognitive-behavioral strategies.

To inform the clinical conceptualization of DOD, it is important to understand factors contributing to the rise in mortality and morbidity, as approximately 500,000 middle-aged WNH Americans have died by DOD since 1998 (Case & Denton, 2015). Case and Deaton (2017) indicate the increase in loss of life due to suicide, overdose, and alcoholism was so large that it actually offset the declining mortality rate for cancer and heart disease from 1998 through 2013 and was associated with a decline in the overall life expectancy in the U.S. in 2014 and 2015. Without intervention, especially with the growing opioid epidemic in the U.S., it is likely that the mortality rate for middle-aged WNHs will continue to climb, particularly for those living in rural areas without a college degree (Case & Deaton, 2017; Stein et al., 2017).

Economic, social, and psychological factors have been proposed as contributing to the rise in mortality and morbidity in middle-aged WNHs (Case & Deaton, 2017; Stein et al., 2017). Cumulative disadvantage theory (Dannefer, 1987) suggests exposure to socioeconomic disadvantages early in life can set the trajectory for poorer health outcomes in adulthood, which can impact different cohorts over time (DiPrete & Eirich, 2006; Ferraro & Kelley-Moore, 2003). For example, being a member of a lower socioeconomic status group can result in poorer health care during pregnancy, which can impede later cognitive development and functioning (Duncan, Brooks-Gunn, & Klebanov, 1994). These cognitive disadvantages may lead to challenges with

educational development and attainment of future employment, limiting wealth, health, and well-being in adulthood (DiPrete & Eirich, 2006). Further, educational attainment is strongly related to health outcomes (Deaton & Paxson, 2001) with the effect of education on health inequality growing stronger over time (Olshansky et al., 2012), which may partially explain why the mortality rate is increasing for WNHs with only a high-school education and declining for those with a college degree (Case & Deaton, 2015).

Disadvantage can accumulate across generations as well. Case and Deaton (2017) speculate that decades of economic decline in "blue-collar" industries resulted in an accumulation of pain, distress, and social dysfunction, leading to an increase in self-destructive behaviors, and ultimately death in middle-aged WNHs. Beginning in the 1970s, widespread de-industrialization and job loss began to sweep across the U.S., impacting industries such as manufacturing, farming, forestry, fishing, and mining (Sherman, 2009). Decades of industrial decline had a profound effect on entire communities of working-class WNHs (Case & Deaton, 2017), especially in rural areas (Stein et al., 2017). Workers in these communities faced challenges of high unemployment, limited job opportunities, low and stagnant wages, underemployment, increasing poverty (Sherman, 2009), and increased demand for college degrees, which were difficult for working-class families to afford (Case & Deaton, 2017).

Of these factors, unemployment, as well as being underemployed, can have a significant impact on mental health (Paul & Moser, 2009; Rosenthal, Carroll-Scott, Earnshaw, Santilli, & Ickovics, 2012). Case and Deaton (2017) suggest that over the last 40–50 years, working-class WNHs became disillusioned as industries that comfortably provided for their fathers and grandfathers began to collapse, leaving many to feel hopeless and desperate (Case & Deaton, 2017). This is in line with research indicating unemployment is one of the strongest factors

impacting psychological well-being (McKee-Ryan, Song, Wandberg, & Kinicki, 2005; Van der Meer, 2014), and is related to increases in depression, anxiety, and somatization (Burgard, Brand, & House, 2009; McGee & Thompson, 2015; Paul & Moser, 2009). Further, studies indicate unemployment negatively impacts self-esteem, self-acceptance, life satisfaction, social support, and meaning in life (Brand, 2015), and is strongly linked to suicide, with studies finding unemployment associated with a 2- to 3-fold increase in risk of death by suicide (Blakely, Collings, & Atkinson, 2003; Lewis & Sloggett, 1998; Kposowa, 2001). Similarly, being underemployed is associated with increased severity of depressive symptoms and alcohol use (Dooley, Prause, & Ham-Rowbottom, 2000; Rosenthal et al., 2012). Taken together, middle-aged WNHs may be experiencing significant psychological distress associated with job loss or underemployment, putting them at a higher risk for suicide.

When considering the role of gender, men have a higher risk of being psychologically impacted by unemployment or underemployment than women (Van der Meer, 2014; Vandello & Bosson, 2013), which may be explained by gender differences in social expectations. It is believed the status of "manhood" is achieved and maintained through social accomplishments (Schrock & Schwalbe, 2009), and because of this, men may experience a threat to their manhood following the loss of job or inability to gain full-time employment (Rosenthal et al., 2012; Vandello & Bosson, 2013). Indeed, research indicates men believe others will view them as "less manly" if they are unemployed or cannot provide for their family, as being unemployed is seen as a violation of prescribed gender norms for men (Michniewicz, Vandello, & Bosson, 2014). Because of this, unemployed/underemployed men may feel a loss of male identity, feelings of shame, hopelessness, and failure (Sherman, 2009). Perceived expectations to conform to sociocultural gender-stereortypes contributes to overall psychological distress experienced in

men with strong masculine identities, a condition known as masculine gender role stress (Copenhaver, Lash, & Eisler, 2000; Eisler, 1995), where unemployed men who are unable to provide for their families would experience considerable psychological pain and distress. As a means to cope, they may engage in harmful behaviors such as increased alcohol consumption, drug use, and domestic violence (Coehhaver et al., 2000; Jakupcak, Lisak, & Roemer, 2002; Michniewicz et al., 2014).

In contrast, the natural coping response for women in times of stress is to "tend and befriend" (Taylor, 2006), which may be a protective factor for unemployed/underemployed women in the context of DOD. This survival mechanism selectively evolved for women and their offspring includes nurturing and safety-seeking behaviors (most often from other women) for protection and comfort (Taylor et al., 2000). This model of coping suggests unemployed women lacking resources may be naturally inclined to seek safety and support from social groups, and therefore, would be less likely to use self-destructive coping behaviors like substance use or attempt suicide. From this, unemployed/underemployed men may be experiencing more social dysfunction than unemployed/underemployed women, suggesting DOD would be more common in men. Indeed, Case and Deaton (2017) indicate that even though mortality due to overdose, alcoholism, and suicide rose for both men and women from 1998 to 2015, approximately four times more men died from DOD than women.

In addition to unemployment, exposure to trauma and other stressful life experiences may increase the risk for DOD in WNHs. Historical trauma is seen as the collective experience of trauma by a specific group of people across generations, where a singular or series of traumatizing events continues to affect the well-being of contemporary group members (Evans-Campbell, 2008; Mohatt, Thompson, Thai, & Tebes, 2014). The transmission of historical

trauma was first conceptualized based on documentation of various symptoms of PTSD exhibited by offspring of Holocaust survivors (Abrams, 1999; Danieli, 1998), and later in studies with other populations with a history of collective trauma, such as African Americans, and American Indian/Alaskan Natives (Sotero, 2006). Studies have found children of parents affected by trauma manifested PTSD-like symptoms of depersonalization, nightmares, numbing, hypervigilance, unresolved grief, denial, and survivor guilt (Brave Heart, & DeBruyn, 1998; Brave Heart, 2003; Whitbeck, Adams, Hoyt, & Chen, 2004). Historical trauma not only affects the individual (e.g., PTSD, guilt, anxiety, grief, and depression), but also is believed to have an impact on families and communities as a whole (Evans-Campbell, 2008). It has been suggested that families may experience impaired family communication and stress around parenting, while communities may experience loss of traditional culture and values, as well as high rates of substance use and comorbid health conditions (Evans-Campbell, 2008).

It is important to note significant distinction between the aforementioned groups who have experienced historical trauma and WNHs living in rural areas. Although distressing, job loss experienced by WNH men is not a traumatic event and causes nowhere near the magnitude of suffering experienced by other groups with history of collective trauma (e.g., African Americans, American Indian/Alaskan Natives, Holocaust survivors). However, it stands to reason that loss of industry, resulting in widespread job loss, could constitute significant upheaval and adversity at the community level, especially when the community has been dependent on these industries for generations. The impact of collective trauma and loss was documented following the tragic Buffalo Creek flood in West Virginia in 1972, where residents in communities destroyed by flooding reported not only loss of personal belongings, but also a loss of faith in order, communality, connection, and safety (Erikson, 1976). Rural communities

experiencing widespread job loss due to the collapse of blue-collar industries may have experienced similar losses.

Following loss or exposure to any type of traumatic event, persons may attempt to make sense of what happened as an active coping strategy (Janoff-Bulman, 2010; Taylor, 1983). It is believed finding meaning after experiencing trauma or loss lessens its impact and enables adaptation by restoring belief in a world that is predictable, comprehensible, and controllable (Janoff-Bulman, 2010; Taylor, 1983). Ability to find meaning following sudden and unpredictable negative life events predicts ability to recover from these events (Janoff-Bulman, 2010; Updegraff, Silver, & Holman, 2008). For example, research looking at consequences of Americans' searching for and finding meaning after the 9/11 attacks found meaning-seeking predicted greater symptoms of posttraumatic stress, whereas having found meaning predicted lower posttraumatic stress symptoms, even after controlling for pre-9/11 mental health, exposure to 9/11, and acute stress response (Updegraff et al., 2008). Therefore, those living in rural communities impacted by the closing of blue-collar industries may have been left to find meaning, and those struggling to find this may experience a weakened sense of security, predictability, and control, ultimately impeding their recovery from psychological distress (Updegraff et al.).

In addition, unemployment and living in poverty significantly increase the risk of being exposed to violence and trauma (Wadsworth et al., 2008) and the subsequent development of PTSD (Cunradi, Caetano, & Schafer, 2002). Therefore, the collective experience of upheaval and adversity, as well as trauma in rural communities following the initial collapse of certain blue-collar industries in the 1970s, may continue to influence the health of subsequent generations of WNHs. This is important to understand as extensive research suggests groups with a history of

trauma are more likely to have poor health outcomes in later generations, such as exposure to violence and involvement in child welfare systems, substance abuse, depression, and suicide (Mohatt et al., 2014). By virtue of being born into a group with a collective experience of upheaval and adversity, as well as trauma, WNHs in rural communities are at a higher risk of being exposed to subsequent traumas over their lifetime, creating a condition known as complex trauma (Courtois, 2004).

Complex and historical trauma, combined with economic distress, social dysfunction, and psychological pain, may be driving middle-aged WNHs to increase their use of alcohol and drugs, leading to the rise in deaths related to overdose and alcohol-related liver disease (Case & Deaton, 2017). This is in line with the self-medication model of substance use, which suggests middle-aged WNHs are using substances in an attempt to alleviate their pain and distress (Khantzian, 1997). In addition, the rise in opioid prescriptions in the early 2000s, creating today's epidemic, can be seen as "fueling" the increase in deaths related to overdose and the overall mortality rate (Case & Deaton, 2017). Data indicate half of all unemployed, middle-aged, WNH men are taking medication for pain, and two-thirds of these are on some type of opioid (Case & Deaton, 2017). Others may be engaging in self-destructive health behaviors such as smoking and overeating to cope with physical and psychological distress, evident by a halting decline in heart disease and rise in diabetes in this demographic (Case & Deaton, 2017). Taken together, middle-aged WNHs are engaging in self-soothing but self-destructive behaviors that are driving the increase in mortality for this demographic.

A poor social safety net may be contributing to the risk and rise of DOD for middle-aged WNHs in the U.S. (Case & Deaton, 2017). Social safety nets consist of federal, state, and local government welfare programs protecting low-income individuals and families from "falling" into

poverty and hardship by providing food, housing, medical/mental health services (i.e., Medicare), and monetary assistance (i.e., Social Security and Unemployment; Gentilini, & Omamo, 2009). Compared to other developed nations (i.e., France, Sweden, U.K.), the U.S. has a less robust safety net, where many Americans live in poverty and face poor access to health care, including mental health and addiction services (Case & Deaton, 2017); this may partially explain why this phenomenon is predominantly documented in the U.S. (Case & Deaton, 2015). Education seems to be a protective factor against DOD, specifically, a 4-year college education, or higher (Case & Deaton, 2015). The overall mortality rate rose for middle-aged WNHs with only a high school degree between 1998 and 2015, while overall mortality rates dropped for those with a BA or more education (Case & Deaton, 2017). Chronic lower respiratory disease and deaths related to drugs and alcohol and suicide also increase for those with only a high school degree (Case & Deaton, 2017). As rural Americans often have limited access to resources, they may be especially sensitive to changes in the national safety net.

It is important to acknowledge that challenges related to poor access to education, underemployment or unemployment, or actual denial of masculinity by a White majority exist for non-WNH men. However, the DOD phenomenon, described from here on out, is unique in that mortality rates for WNH men without a college degree increased from 1998 to 2015 whereas Black and Hispanic middle-aged men without college degrees saw continued decline in mortality rates (Case & Deaton, 2017). However, college-educated middle-aged WNH men did not see rise in mortality, making the relationship between poor access to resources and mortality unique to middle aged WNH men.

Current Theoretical Models

Although there is limited research on DOD, the extant literature has developed several conceptual models of psychological distress that may inform our understanding of potential mechanisms of risk. Experiences associated with DOD, such as challenges related to cumulative disadvantage, unemployment, and masculinity issues may be understood within cognitive-behavioral models of posttraumatic stress disorder (PTSD) and major depressive disorder (MDD), moral injury, Precarious Manhood Theory, and the Interpersonal-Psychological Theory of Suicide.

An updated version of Beck's cognitive model (Beck, Emery, & Greenberg, 1985) provides a foundation for conceptualizing psychopathology related to DOD, stating psychological problems result from an exaggeration of beliefs, affect, and behaviors that normally allow for adaptive responses to problems and goal attainment (Beck & Haigh, 2014). Therefore, symptoms of a disorder manifest as significantly distorted beliefs which intensify affect, and in response, maladaptive coping behaviors emerge (Beck & Haigh, 2014). With respect to PTSD, maladaptive beliefs and avoidant coping strategies manifest in response to the traumatic event, which interferes with the natural recovery process from trauma (Resick & Schnicke, 1992). Although job loss and poverty in isolation may not qualify as a formal trauma, they may contribute to the broader experience of what is known as complex trauma (Courtois, 2004). In terms of maladaptive cognitions, cognitive models of PTSD identify difficulties with incorporating traumatic experiences into existing beliefs as a prime driver of PTSD symptomatology (Resick & Schnicke, 1992). Specifically, the Just World Belief, a core belief held by many individuals, posits that "good" people experience positive events and "bad" people experience negative events. Violation of this belief through experiences of trauma can lead to increased feelings of self-blame and difficulties processing trauma-related memories

precipitating increases in avoidant coping strategies and PTSD symptom distress (Resick & Schnicke, 1992). Resick, Monson, and Chard (2017) identify two types of maladaptive cognitive strategies for adapting to trauma: assimilated and overaccommodated cognitions. Assimilated cognitions are thoughts related to the trauma such as internalization of blame and negative self-worth related to the event (e.g., "I wouldn't be unemployed if I had worked harder"). Overaccommodated cognitions are thoughts that extend trauma-related experiences to contexts that may be inaccurate (e.g., "Since I've been rejected from multiple jobs, I'll never get a job").

In addition, Benight and Bandura (2004) identify low coping self-efficacy and lack of social support as key factors that impact recovery from trauma. Within the context of DOD, past research shows that children living in rural America endorse prevalent difficulties with poverty and exposure to violence (Evans, 2003). When faced with such challenges, rural men may internalize beliefs regarding negative self-worth associated with exposure to adversity and on-going economic challenges. In the presence of limited coping self-efficacy and support, these individuals may turn to substance use and other maladaptive coping strategies to manage difficult emotions.

When considering MDD symptoms, the Learned Helplessness Theory of Depression (Maier & Seligman, 1976) proposes that repeated exposure to negative events precipitates feelings of low self-efficacy and lack of control, leading to symptoms of depression—including hopelessness. Hopelessness is also a risk factor for suicidal ideation and substance use, which have been identified as characteristics associated with DOD (Franklin et al., 2017; Woicik, Stewart, Pihl, & Conrod, 2009). In light of significant challenges faced by individuals living in rural America across the lifespan (e.g., poverty, exposure to violence), rural men may develop a

sense of hopelessness regarding the future and other depressive symptoms due to a perceived lack of control over current life circumstances.

An additional framework that may inform our understanding of DOD is moral injury. Moral injury is defined as the distress associated with experiences of or engaging in behaviors that violate deeply held morals and ethical beliefs (Litz et al., 2009). These may include behaviors that the individual has perpetrated or experiences of betrayal from other trusted individuals (Drescher, Foy, Kelly, Leshner, Schutz, & Litz, 2011). Originally developed from experiences of military veterans, moral injury is associated with symptoms of PTSD, MDD, and suicidal ideation (Maguen et al., 2011). Individuals who experience DOD may in part suffer from distress associated with perceived betrayal from society. For example, the ongoing challenges with poverty and unemployment experienced by rural men may be in direct contradiction to moral and ethical beliefs regarding self-reliance and independence, such as the Protestant Work Ethic (Porter, 2010; Sherman, 2009). Such experiences may, in turn, drive feelings of hopelessness and anger related to feeling betrayed and forgotten by general American society.

As research shows, there are higher numbers of DOD among men, understanding that specific risk factors associated with masculinity may inform our clinical conceptualization. Precarious Manhood Theory states that masculinity is a dynamic, tenuous state that is frequently impacted by social reinforcement and validation (Vandello, Bosson, Cohen, Burnaford, & Weaver, 2008). Men experience distress when being perceived as less masculine, such as when engaging in gender-role violating behaviors. For example, Vandello et al. (2008) found that men become stressed when asked to braid doll hair (i.e., a perceived "feminine" activity) but could "restore" their masculinity and decrease discomfort by engaging in stereotypically masculine

behaviors such as hitting a punching bag. Within the context of DOD, past research finds that men report fearing negative judgment and being seen as "less of a man" if they lose their jobs (Michniewicz, Vandello, & Bosson, 2013). Furthermore, men report perceiving a greater loss in gender status if they experienced mental health symptoms not considered stereotypically masculine, such as depression or anxiety (Michniewicz, Bosson, Lenes, & Chen, 2016). Individuals experiencing DOD may experience further exacerbation of distress due to the perceived loss of gender status from unemployment and associated negative mental health outcomes. These may lead to engaging in stereotypically masculine coping behaviors such as substance use and risky behaviors to regain gender status but simultaneously increase suicide risk.

Linking the aforementioned models and suicide risk, the Interpersonal Psychology Theory of Suicide (IPTS; Joiner, 2007) posits that the major drivers of suicidal desire are thwarted belongingness (TB; i.e., feeling as if one cannot make desired connections with others) and perceived burdensomeness (PB; i.e., feeling one's continued existence causes a burden to others). High acquired capability for suicide (ACS) is a sense of cognitive fearlessness against death and harm to self. The IPTS predicts risk for suicide attempt is highest when all three variables (TP, PB, ACS) are high. As individuals at risk of DOD experience increased distress from symptoms of PTSD, depression, and betrayal related to moral injury, they may experience increased TB and PB due to perceived loss of gender status related to unemployment and isolating to avoid judgment from others. In addition, at-risk individuals may possess higher ACS due to a history of complex trauma and engagement in maladaptive coping strategies (e.g., substance use, risky behaviors), leading to elevated risk of suicide attempt.

Further, persons at risk for DOD with ACS have access to various lethal means. For example, firearm ownership is greater in rural areas (Price, Thompson, & Dake, 2004), where, compared to urban areas, three times as many firearms are owned by persons living in rural areas (Connor, 2005; Weisheit & Wells, 1996). This is concerning since familiarity with and access to firearms are robust predictors of suicide (Miller, Hemenway, & Azrael, 2004), and research has demonstrated that rural residence is associated with greater use of firearms among suicide decedents (McCarthy et al., 2012). In addition to firearms, rural individuals have familiarity and access to pesticide and other highly lethal poisons used in agriculture (Hirsch & Cukrowicz, 2014). Research suggests there is higher rate of suicide deaths by pesticide ingestion in rural compared to urban areas (Hirsch, 2006; Hirsch & Cukrowicz, 2014). Thus, access to lethal elements, such as firearms and pesticides, may in part explain the elevated suicide risk for NHW males living in rural areas.

In summary, several existing theoretical models point to potential mechanisms that may explain the transition from adversity associated with living in a rural area with limited economic opportunities to increased mental health distress and subsequent suicide risk. In particular, the developmental history and cultural context of DOD may explain in part the constellation of risk factors that place middle-aged, NHW, unemployed, rural men at elevated suicide risk (see Fig. 1). To provide an applied example of how these models may guide clinical practice, we present a clinical case developed from an amalgam of clinical experiences and the extant literature.

Case Example

To illustrate how the proposed model can be used to target risk factors related to DOD, we provide a fictional case example based on sessions with real clients.

Description of the Case

Sean (a composite of several clients) is a 50-year-old Caucasian male, divorced, father of two, with a high school education. He called 911 after overdosing on his medication in an apparent suicide attempt. He was triaged to the acute inpatient unit at his local VA Medical Center, where he was seen for a psychological assessment. Sean lives in a small town in rural Oregon and has been unemployed and collecting Social Security Disability Income for the last 8 years. He is an Army veteran who joined out of high school, serving for 4 years in the 1980s. Following an honorable discharge, Sean found employment working as a lumberman for a logging company in his hometown. However, due to changes in environmental regulations in the 1990s, the timber industry in Oregon entered a period of decline, and he became unemployed. Sean worked on and off over the next 10 years, driving a truck for a small logging company until he was injured on the job: A log fell and shattered his leg. As a result, Sean can no longer work due to pain and extensive mobility issues. Sean's education and skill set qualify him only for manual labor jobs in the area. The town where Sean lives was hit hard economically following the collapse of the logging industry, and jobs became scarce, unemployment rose, and many live in poverty as a result.

Because of his injury and years of being on pain medication, Sean developed severe opioid use disorder. After the accident, Sean's wife left him, taking their two daughters. He indicated he is "less of a man" and "weak" because of being unemployed, no longer a lumberman, nor husband or father. Logging was a family tradition (his father and grandfather were both lumbermen) as well as a strong tradition in the community (logging was the town's lifeline since the 1920s and is reflected in the high school mascot: The Mighty Loggers). Sean

reported that after his accident he was embarrassed to be seen in his community because he perceived others either judging him or feeling sorry for him. Therefore, he isolated at home and avoided social contact. Sean had few close friends or family in the area and lacked a sense of belonging, believing "no one cared" about him. In addition to an addiction to opiates, Sean drank heavily, smoked cigarettes, was overweight, had high blood pressure, and lived a sedentary lifestyle. He believed he should be able to "fix" himself but had limited success. He believed there was nothing he could do to change his situation and felt "stuck," and reported, "everything is out of my control, I can't work anymore, I can barely get around, and I sit in pain all day." In addition, Sean believed he was a "burden" to his ex-wife and daughters, indicating he was a "total failure at being a father and husband." Sean also indicated he felt "completely dependent" on the government but at the same time "betrayed" by them. Sean said he blames the government for the collapse of the logging industry and for his current state of "misery." He endorsed frequent suicidal ideation with intent, and in his most recent attempt, he indicated getting intoxicated and deciding it was "time to put an end" to his "pointless existence." Sean wanted to "ease" his "suffering" by ingesting a large number of pills, but felt remorse immediately after, and called 911.

In a standard clinical interview, Sean meets DSM-5 criteria for major depressive disorder, opioid use disorder, alcohol use disorder, and endorses subclinical PTSD symptomology from his job-related accident.

Conceptualization

Sean's presenting problems were conceptualized using the proposed cognitive-behavioral model for risk factors related to DOD. It was hypothesized that a number of mechanisms might

be operating that contribute to Sean's psychopathology/high risk for suicide. For example, repeated exposure to negative life events has resulted in Sean's experiences of cumulative disadvantage and complex trauma. Sean was exposed to trauma at an early age, experiencing abuse from his father (Vietnam Veteran with PTSD), who was verbally and physically abusive towards him and his mother. When Sean was 10, his father left him and his mother, leaving them to live in poverty. Sean was exposed to additional negative life events (i.e., job-related accident, divorce, unemployment) in adulthood. Sean's maladaptive thoughts related to the traumatic events and difficulty incorporating traumas into his existing beliefs, like his endorsement of a "Just World" further maintains the severity of his trauma-related symptoms. He believes he was a good person, who served his country, went to church regularly, and was honest and hardworking; therefore, he should experience positive events in his life. However, this did not happen for him, and as a result, experiences self-blame and negative self-worth, which interferes with processing trauma-related memories. For example, Sean believes he is "weak and less of a man" because he is unemployed and no longer a lumberman. He blames himself for the divorce, believing if he "only tried harder," he would still be married. Sean also takes responsibility for being injured on the job, believing if he "would have jumped out of the way," he would "still be working today." These assimilated beliefs about himself result in depressed mood and excessive worry, further leading to attempts to cope with unhealthy behaviors.

Further, Sean's maladaptive cognitions about self, others, and the world maintain his co-occurring depressive symptoms and high risk for suicide. Following repeated exposure to negative events, Sean perceives he has no control over current life events, and his low self-efficacy contributes to a sense of hopelessness. Also, Sean endorses maladaptive thoughts about others. For example, he believes "no one cares" about him, states he feels "alone" and lacks a

sense of belonging, which in turn increases the severity of his depressive symptoms and risk for suicide. In response to the traumatic events, Sean has developed maladaptive cognitions about the future, believing he "will always be in pain, "will always be alone," and "will never work again." Sean's maladaptive thoughts contribute to his overall symptoms of depression and sense of hopelessness, perceived lack of control, and anger.

Sean also experiences moral injury from feeling "let down/betrayed" by the government (for letting the timber industry collapse) and his wife (for leaving him after his injury and taking their two daughters). Similarly, Sean endorses a "Protestant Work Ethic," believing anyone who works hard enough can achieve success. He views himself as a hard-working lumberman, following in the footsteps of his father and grandfather into a profession that provided comfortably for them. However, Sean perceives he was not successful as a lumberman and, as a result, feels both shame at his perceived failure and anger at perceived betrayal, further experiencing a violation of expectations and moral injury.

Sean frequently engages in avoidant and unhealthy coping behaviors in an attempt to change the way he feels. Because of extensive fear and worry of being judged by others, and his perceived loss of social status and manhood, he isolates at home. He frequently drinks alcohol and uses opiates daily, often taking more than prescribed. However, due to chronic alcohol and opioid use, as well as years of social isolation, Sean has developed severe substance use disorder, lost all his friends and social support, and is experiencing significant health problems, like obesity, diabetes, and high blood pressure. Despite risk factors and pathology, Sean possesses multiple strengths and values that can be incorporated into his treatment plan, which include pride in community and industriousness, as well as having a strong religious code and moral beliefs.

Treatment

Sean's complex constellation of symptoms and presenting problems was addressed using a phase-based treatment approach, where suicide risk, substance use, and skills training were targeted first, followed by treatment of trauma-related symptoms and depression. Phase-based interventions have been used to treat complex PTSD and co-occurring conditions, such as borderline personality disorder (BPD; Harned, Korslund, Foa, & Linehan, 2012), substance use disorders (Najavits, Schmitz, Gotthardt, & Weiss, 2005), and schizoaffective disorders (Landes, Garovoy, & Burkman, 2013). For example, Harned and Linehan (2008) developed a protocol that includes Dialectical Behavior Therapy (DBT; Linehan, 1993b) in the first phase of treatment to stabilize patients before beginning trauma work. In the second phase of treatment, traumatic experiences are addressed with concurrent use of DBT and a modified version of prolonged exposure (PE; Foa & Rothbaum, 1998). Preliminary research found this phase-based treatment protocol feasible, and showed a reduction of PTSD symptom severity with no exacerbation of self-harm behaviors in persons with complex PTSD and comorbid BPD (Harned et al., 2012).

In the case of Sean, the first phase of treatment targeted suicide risk and substance use, along with skills training. This was achieved by reducing the availability of highly lethal and commonly used suicide methods accessible to him (Johnson & Coyne-Beasley, 2009). Sean gave his firearms to his cousin to secure in a gun safe, and his opioid pain medication was changed to a less lethal type. Collaborative Assessment and Management of Suicidality (CAMS) and safety planning for suicide were implemented to reduce further risk of suicide (Jobes, 2016). In regards to substance use, Sean learned to identify high-risk triggers for drinking and current coping strategies, and reviewed past successes to enhance self-efficacy (Marlatt & Donovan, 2005).

Mindfulness-based relapse prevention skills (i.e., Urge Surfing and SOBER Breathing Space) were taught to help Sean manage craving (Bowen, Chawla, & Marlatt, 2011). In addition, Sean learned coping skills for general distress tolerance and interpersonal effectiveness (Linehan, 1993b), and relaxation techniques such as progressive muscle relaxation and diagrammatic breathing.

The second phase of treatment began once Sean was no longer actively suicidal and demonstrated improvement in substance use symptoms. This phase commenced with psychoeducation on CBT, symptoms of PTSD, and depression, followed by Cognitive Processing Therapy (CPT), which helped Sean identify, evaluate, and change thoughts and images associated with the traumatic events and his maladaptive behavioral responses (Resick, Monson, & Chard, 2017; Resick, & Schnicke, 1992) CPT was chosen to address maladaptive cognitions as prior research has found CPT to be effective in treating PTSD, as well as comorbid symptoms of depression, anger, and guilt (Chard, 2005; Owens, Chard, & Cox, 2008; Resick et al., 2002), and has demonstrated to be just as effective when delivered via video-teleconferencing as face-to-face delivery of CPT to rural veterans with PTSD (Morland, Hynes, Mackintosh, Resick, & Chard, 2011). Through Socratic questioning Sean learned how to challenge and modify cognitive stuck points related to self-blame, shame, and hindsight bias, developing a more accurate and balanced interpretation of the traumatic events. In addition to trauma-related cognitions, thoughts related to his sense of hopelessness were addressed at this time. Sean identified and examined thoughts related to his endorsement of a "Just World" and Protestant Work Ethic, and also examine how current thoughts are in line with his religious beliefs and values. By asking these questions, Sean's negative thoughts were cognitively restructured so that he was better able to regulate his mood. Also during this phase of treatment,

Sean learned cognitive techniques—coping self-statements, developing alternative explanations (A-B-C-D), addressing cognitive distortions, and decatastrophizing—as a set of tools to address the maladaptive cognitions that contributed to his psychological distress (Beck & Weishaar, 1989).

The final stage of treatment implemented behavioral interventions that targeted avoidance-anxiety relationships. This included formulation of avoidance-anxiety relationships and providing rationale for behavioral experiments, followed by the development of a hierarchy of behavioral experiments explicitly linked to Sean's cognitions that were tested; exposure and response prevention were used to decrease avoidant behavior related to trauma and social settings (Foa & Rothbaum, 1998). Behavioral activation (Persons, Davidson, & Tompkins, 2001) was also implemented at this time, with activity scheduling assigned as homework to increase Sean's level of physical activity, which seemed to increase his mood. Encouraging him to participate in more activities outside his house increased his level of social contact as well. Sean's strengths and values were incorporated into scheduled activities to help facilitate social support/resources through connections with local agencies, church, and other community groups. Additional homework included volunteer work at the local wildlife center, and he helped by serving food at the church's weekly dinner. Elements of moral injury, where Sean felt betrayed by societal messages of the Protestant Work Ethic and American Dream, as well as betrayal from his wife and federal government, were addressed using components from Adaptive Disclosure, a treatment specifically designed for military trauma, loss, and moral injury (Litz, Lebowitz, Gray, & Nash, 2016). Specific components for betrayal-based moral injury included an imaginal dialogue Sean had with a younger version of himself (pre-moral injury), where he was able to gain a new perspective on forgiveness and let go of resentment and hate.

Special Treatment Considerations

Challenges and barriers unique to this population—such as access to care, the stigma around mental health treatment, lack of engagement in treatment, and comorbid disorders—may be encountered when working with individuals at risk for DOD. In regards to Sean, long travel distances and commute times, made worse by having to rely on limited public transportation, posed a significant burden. Sean lives in a small, rural community, and has to travel over 100 miles, round trip, to his appointments at the VA, using a county-funded shuttle that only makes one run a day. However, Sean was able to connect to regular mental health appointment by using telemental health services through the VA, limiting this burden. Where available, telehealth services can be used to reduce barriers related to long travel distances and lack of public transportation for those living in rural areas. Studies have demonstrated telemental health services are as effective as mental health treatment received in person and increase access to care (Cuevas, Arredondo, Cabrera, Sulzenbacher, & Meise, 2006; Hilty et al., 2013; Yuen et al., 2015).

Common in small, rural communities is stigma associated with mental health treatment, and fear of public scrutiny due to decreased anonymity (Boydell et al., 2006). This can prevent individuals at risk for DOD from seeking help. Although Sean has limited social contact with those in his community, he nonetheless feared anyone finding out he was "seeing a shrink." He initially harbored thoughts regarding psychotherapy as for the "weak" and that his masculinity would be in jeopardy if he talked about his "feelings." Research indicates there is a strong relationship between social support and health, including psychological functioning (for a review see DiMatteo, 2004); however, the perceived stigma associated with asking for help can be a

significant barrier in seeking support from family and friends (Nadler, 1991). Therefore, telehealth services can help overcome the challenge of decreased privacy in rural areas, and cognitive restructuring may be implemented to challenge and change cognitions related to mental health treatment (for review of common strategies, see Yanos et al., 2015). Sean's cognitions regarding therapy were examined, and Socratic questioning was used to challenge the thoughts related to self-stigma to support treatment engagement (e.g., "If my daughter knew I was in therapy, she would be ashamed of me").

Persons at risk for DOD may not be ready to change maladaptive behaviors (e.g., drug and alcohol use, isolation), or may be ambivalent about beginning therapy. Individuals in rural areas also have limited exposure to therapy and misconceptions about what treatment entails. Motivational Interviewing techniques can be used to increase and maintain engagement in treatment, and psychoeducation on psychotherapy can increase awareness of the treatment process. Sean was unsure about starting outpatient therapy while hospitalized after his suicide attempt. His initial resistance was influenced by limited knowledge of what psychotherapy consisted of and aversion associated with the stigma of therapy. Motivational Interviewing techniques were used to explore Sean's desire, reasons, ability and need for change. Eventually, Sean decided he had "nothing to lose" and agreed to an intake appointment for outpatient mental health following discharge from the psychiatric inpatient unit.

Co-occurring medical/health problems are common in this population, such as chronic pain and heart disease (Case & Deaton, 2017), which may interfere with mental health treatment. Working closely and communicating regularly with other health care providers is recommended; ideally, an interdisciplinary team approach would work best in treating someone at risk for DOD. Sean's treatment team consisted of multiple providers across several health care domains who

could address many of his health care needs concurrently (e.g., pain, mental health, diabetes, high blood pressure, substance use disorder treatment). Sean found this beneficial as he was able to see most of his providers the same day for his appointments.

Sean's identification with a strong moral code and religious tradition, strengths often found in this population, may be used to facilitate treatment. For example, Sean valued perseverance and being industrious; therefore, reconnecting him to these values was beneficial in increasing his motivation towards, and adherence to, treatment. This was positively reinforced in each session, with the clinician pointing out his determination to change. Sean reported feeling a sense of "pride" return after starting to receive praise for his hard work (e.g., homework, behavioral experiments, talking about painful memories). Additionally, exploring Sean's values around community, caring, and industriousness provided the impetus to begin volunteering for a local wildlife program, using his skills in woodworking to help build birdhouses and nesting boxes, which eventually opened the door for the opportunity to teach woodworking classes at the town's community center. Sean felt betrayed, "robbed," of being a father after his wife took his two daughters from him, so being able to pass on his knowledge of woodworking to the youth in his community restored his sense of being a "father" and helped him rediscover a sense of purpose increasing his feelings of self-worth. Sean's religious beliefs also increased facilitation of moral injury work, permitting him to forgive those by whom he felt betrayed. Incorporating his religious beliefs allowed him to find a more balanced perspective on negative thoughts and feelings related to his wife and the government.

Conclusions and Future Directions

The goals of this paper were to review the extant literature on DOD, introduce a clinical case conceptualization based on cognitive-behavioral theory, and provide initial treatment recommendations based on existing evidence-based psychotherapies. DOD represents a significant public health concern due to increasing rates in mortality that have occurred over the past two decades. Clinicians should be aware of the unique demographic and risk profile present among individuals at risk of DOD. Although there has been epidemiological research on this phenomenon, there is little research evaluating the longitudinal course of life stressors and mental health symptoms or on validating specific biopsychosocial mechanisms that may precipitate distress among middle-aged, rural WNHs. In addition, limited information is available regarding the experiences and treatment preferences of individuals at risk of DOD. Future research should further explore these issues through mixed-method strategies to inform targets for intervention and prevention programming.

To facilitate exploration of clinical conceptualizations for this population, we proposed an initial framework based in cognitive-behavioral, moral injury, suicide prevention, and precarious manhood theories that identifies potential drivers for depression, PTSD, suicidality, and substance use symptoms. Clinicians may utilize this preliminary conceptualization to inform identification of specific treatment targets when working with individuals at risk of DOD. Of note, components of this model require further testing to determine the relationships between sociopolitical events, environmental factors, and potential drivers of distress. In particular, it is unclear which constructs (e.g., moral injury, low self-efficacy) may contribute the most to mental health symptoms within this population. Future studies should consider testing specific conceptual models to identify the strength and type of relationships present between proposed constructs and risk for deleterious mental health outcomes.

Based on our initial conceptualization, we outlined preliminary treatment recommendations developed from existing treatments addressing identified psychological constructs associated with increased mental health distress. Clinicians may consider adapting and introducing the identified therapeutic components when treating individuals at risk of DOD. Although we drew from the literature on empirically supported treatments, it is unclear which specific components of such treatments (e.g., behavioral activation, cognitive restructuring, exposure) may be most beneficial for improving symptom distress in light of continuing environmental challenges (e.g., poverty, limited employment opportunities). In addition, it is unknown what adaptations to these treatments may be necessary to fit the culture of rural, NHW, men who are at risk of DOD. As studies show rural areas have a significant shortage of mental health professionals (Thomas, Ellis, Konrad, Holzer, & Morrissey, 2009), alternative strategies for dissemination and implementation of treatments to support individuals at risk of DOD may be needed. For example, greater integration with primary care, use of telehealth, and more active outreach efforts to the community have been identified as potential strategies for improving rural mental health care in light of resource limitations (Smalley et al., 2010). Future research should evaluate which components of existing treatments are efficacious for individuals at risk of DOD and how they can be best adapted to operate within low-resource, rural settings.

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FIGURE 1. Conceptual model of DOD

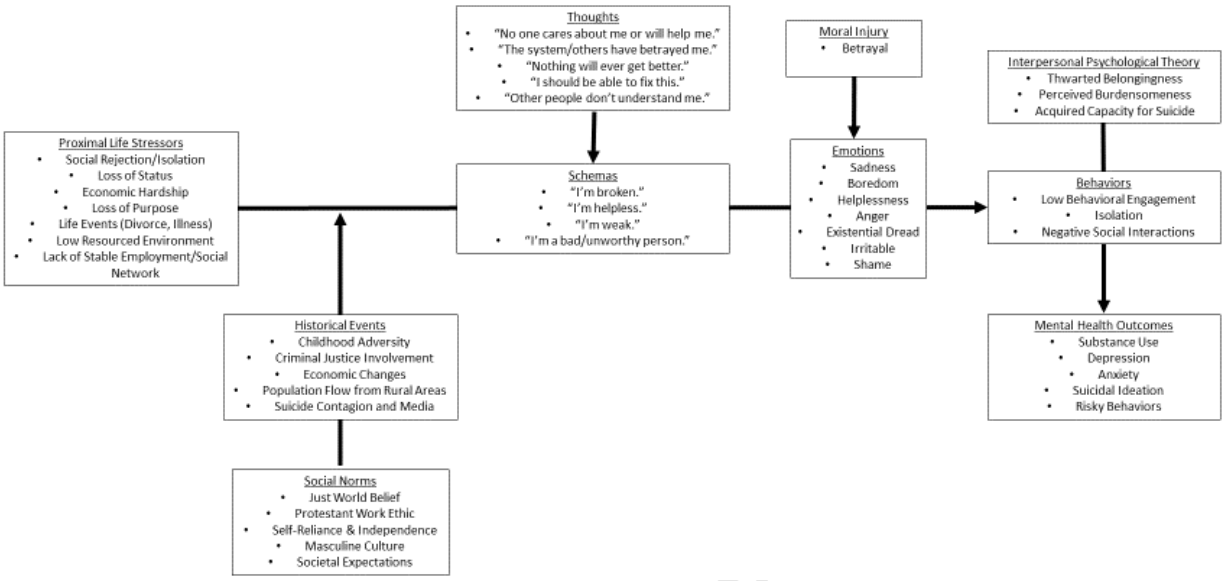

Figure 1. Mechanisms of risk for negative mental health outcomes associated with "deaths of despair."

Highlights

- We describe social and clinical features of "deaths of despair."
- We explore theoretical models of psychopathology to help inform our understanding of mechanisms of risk associated with "deaths of despair."
- We propose an initial conceptual model of "deaths of despair" to identify intervention targets.
- We describe the application of this model to a case example.
- We describe how current cognitive-behavioral interventions may address these mechanisms of "despair."

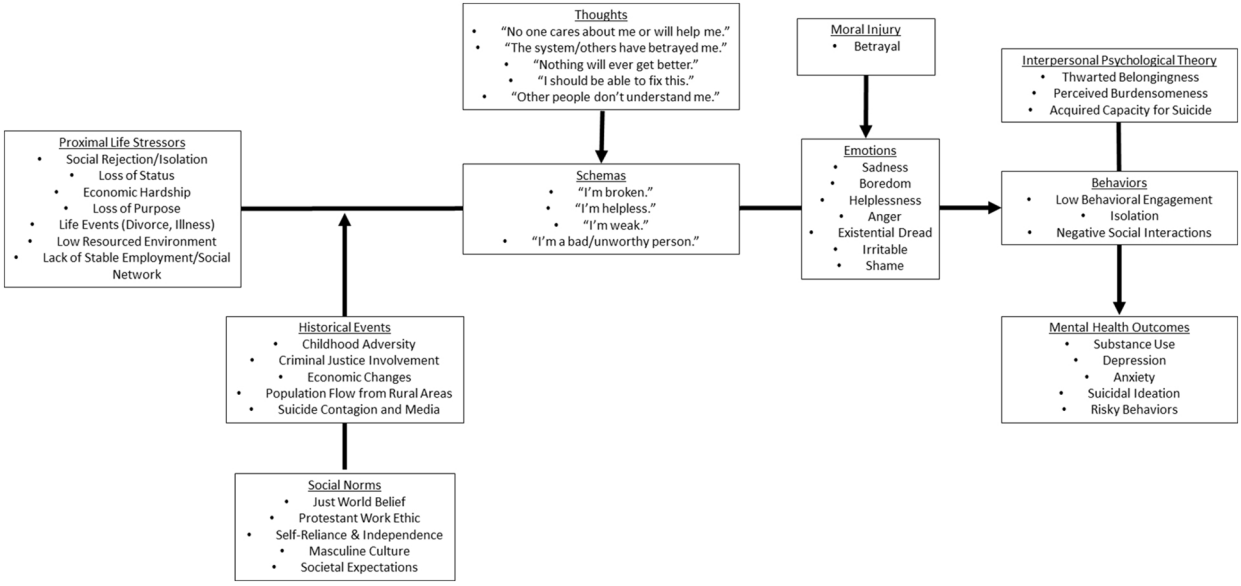
Thoughts
"No one cares about me or will help me."
"The system/others have betrayed me."
"Nothing will ever get better."
"I should be able to fix this."
"Other people don't understand me."
Moral Injury
Betrayal
Interpersonal Psychological Theory
Thwarted Belongingness
Perceived Burdensomeness
Acquired Capacity for Suicide
Proximal Life Stressors
Social Rejection/Isolation
Loss of Status
Economic Hardship
Loss of Purpose
Life Events (Divorce, Illness)
Low Resourced Environment
Lack of Stable Employment/Social Network
Schemas
"I'm broken."
"I'm helpless."
"I'm weak."
"I'm a bad/unworthy person."
Emotions
Sadness
Boredom
Helplessness
Anger
Existential Dread
Irritable
Shame
Behaviors
Low Behavioral Engagement
Isolation
Negative Social Interactions
Historical Events
Childhood Adversity
Criminal Justice Involvement
Economic Changes
Population Flow from Rural Areas
Suicide Contagion and Media
Mental Health Outcomes
Substance Use
Depression
Anxiety
Suicidal Ideation
Risky Behaviors
Social Norms
Just World Belief
Protestant Work Ethic
Self-Reliance & Independence
Masculine Culture
Societal Expectations

Figure 1