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# The Interpersonal-Psychological Theory of Suicidal Behavior: Current Status and Future Directions



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The interpersonal-psychological theory of suicidal behavior (Joiner, 2005) holds that an individual will die by suicide if he or she has both the desire for suicide and capability to act on that desire. According to the theory, suicidal desire results from the convergence of two interpersonal states: perceived burdensomeness and thwarted belongingness. However, desire alone is not sufficient to result in death by suicide—a third component must be present: the acquired capability for suicide, which develops from repeated exposure and habituation to painful and provocative events. The purpose of this article is to discuss four viable and timely directions for future research, given the current status of the theory. © 2009 Wiley Periodicals, Inc. *J Clin Psychol* 65: 1291–1299, 2009.

Keywords: interpersonal-psychological theory; suicide; suicidal capability; belongingness; burdensomeness

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## Introduction

Approximately one million people per year die by suicide worldwide (World Health Organization [WHO], 2006). In the United States alone, over 32,600 individuals died by suicide in 2005—the equivalent of 89 deaths per day or one death every 16 minutes (CDC, 2005). The number of individuals who attempt suicide is even greater still—at least 10 times greater than the number of deaths by suicide (WHO, 2006).

To date, several theories of suicide have been proposed to explain the nature of the processes underlying suicide, and the field has made some significant strides in our understanding of suicide as a result. For the purposes of this article, we will focus on the interpersonal-psychological theory of suicidal behavior (Joiner, 2005). Broadly described, the interpersonal-psychological theory holds that an individual will engage in serious suicidal behavior if he or she has both the desire to die and the capability to act on that desire. Although the proposition may seem somewhat obvious at first, it is a powerful one in that it underscores the critical difference

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between suicidal ideation and suicidal behavior—a distinction that many other theories of suicide fail to account for. Indeed, the theory not only addresses the question of who *wants* to die by suicide but speaks to the question of who *can* die by suicide as well.

Presently, the interpersonal-psychological theory has stood up to 20 direct empirical tests, the results of which have generally substantiated the theory's main predictions. The advances made to date have prompted new questions and opened the door to future advances of the interpersonal-psychological theory. This article is intended to be a discussion of the current status of the theory as well as the future directions—topics that, we believe, would be timely, interesting, and critically important areas to examine.

### Current Status of the Interpersonal-Psychological Theory of Suicidal Behavior

According to the interpersonal-psychological theory, the desire for death by suicide results from the confluence of two interpersonal states: perceived burdensomeness and thwarted belongingness. Perceived burdensomeness refers to the potentially dangerous misperception that the self is so incompetent that one's existence is a burden on friends, family members, and/or society. The feeling of being a burden on others may lead to the potentially dangerous belief that one's death is worth more than one's life. Relatedly, feeling alienated from friends, family, or other valued social circles—thwarted belongingness—also is a risk factor for developing the desire for suicide. Although both states independently are associated with elevated risk for developing the desire for suicide, risk is greatest when both states are experienced concurrently.

As predicted by the theory, several studies have found a significant positive correlation between suicidal ideation and feelings of thwarted belongingness and perceived burdensomeness independently. With respect to perceived burdensomeness, the relationship has been found in a variety of samples, including undergraduates, individuals who attempted or died by suicide, methadone outpatients, and psychotherapy outpatients (Van Orden, Witte, Gordon, Bender, & Joiner, 2008a; Van Orden, Lynam, Hollar, & Joiner, 2006; Conner, Britton, Sworts, & Joiner, 2007; Joiner et al., 2002). Evidence for the positive association between the desire for suicide and thwarted belongingness has also been found in a diverse range of samples, including undergraduates, adults who attempted or died by suicide, and methadone outpatients (Van Orden et al., 2008a; Van Orden et al., 2007; Conner et al., 2007; Van Orden, Witte, James, et al., 2008b; Joiner et al., 2002). Further support can be taken from indirect evidence. For instance, Joiner, Hollar, and Van Orden (2007) found that “pulling together” during positive collective experiences (i.e., sporting events) was associated with lower suicide rates. Pulling together during times of crisis has also been associated with lower suicide rates; for instance, the number of deaths by suicide in the United States was unusually low on September 11, 2001.

Although perceived burdensomeness and thwarted belongingness are independently associated with suicidal desire, the interpersonal-psychological theory goes further to suggest that the interaction of the two states is particularly pernicious. It would follow, then, that the statistical interaction of perceived burdensomeness and thwarted belongingness should be associated with suicidal ideation, predictive of suicidal ideation severity, and able to account for level of suicidal ideation over and above either construct alone. To date, there have been two direct tests evaluating this

prediction. One study, conducted by Van Orden and colleagues (2008a,b), examined the effects of the interaction of perceived burdensomeness and thwarted belongingness on suicidal ideation in a diverse sample of undergraduates. Results were in line with the theory: Individuals who reported high levels of both perceived burdensomeness and thwarted belongingness were found to have the highest levels of suicidal ideation, even after controlling for age, gender, and level of depression. The prediction was further corroborated in a study examining the association between perceived family support (belongingness), feelings of mattering (burdensomeness), and suicidal desire in a heterogeneous community sample of young adults (Van Orden & Joiner, 2009). Findings indicated that desire was most severe in individuals who reported both low family support and low feelings of mattering—a relationship that held even after controlling for 6-month and lifetime histories of depression.

Suicidal ideation alone, however, is not sufficient to lead an individual to die by suicide, according to the theory. To be sure, not every individual who desires suicide will act on that desire. Joiner (2005) suggests that by nature, humans are intrinsically driven by powerful instincts for self-preservation. Engaging in suicidal behavior requires that an individual overcome these inherent drives, which is presumably not an easy undertaking. Thus, the theory holds that an individual must have the capacity to do so. Primarily, the ability to engage in lethal self-injury is acquired through repeated exposure and attendant habituation to painful and provocative experiences.

The premise of this proposition rests on the principles of Solomon's opponent process theory (1980), which proposes that with repeated exposure to an affective stimulus, the reaction to that stimulus shifts over time such that the original response is weakened and the opposing response is strengthened (Solomon). Placed in the context of the interpersonal-psychological theory, Joiner (2005) argues that the capability for death by suicide is acquired via repeated exposure—and attendant habituation—to painful and provocative experiences, which results in higher levels of pain tolerance and a sense of fearlessness about death. The acquired capability is conceptualized as a continuous construct, accumulating over time with repeated exposure to salient experiences and influenced by the nature of those experiences, such that the more painful or provocative an experience is, the greater risk it will confer.

Given the rationale behind the concept of the acquired capability, the theory would predict that the most direct and potent means of acquiring the capability for suicide is by having attempted suicide in the past. This proposition has been supported in the literature time and again (Brown, Beck, Steer, & Grisham, 2000). Furthermore, in a direct test of the acquired capability concept, using a scale designed to directly tap the construct, Van Orden and colleagues (2008a) found, in a sample of clinical outpatients, that past suicide attempts significantly predicted levels of acquired capability.

In addition to past suicide attempts serving as a vehicle of increasing the likelihood of engaging in future self-injury, the theory holds that there are other viable pathways of acquiring the capability to engage in lethal self-injury. For example, Nock, Joiner, Gordon, Lloyd-Richardson, and Prinstein (2006) reported that adolescents who reported engaging in multiple methods of and having a longer history of non-suicidal self-injury (NSSI) were found to have the highest rates of past suicide attempts. Also, individuals who had the longest history of NSSI and reported the least pain during NSSI were approximately two times more likely than others to have attempted suicide in the past. Even indirect exposure to painful and provocative

experiences, such as witnessing others' pain and injury, is hypothesized to increase the acquired capability for suicide. The fact that physicians have elevated rates of suicide can be taken as indirect evidence for this proposition (Hawton, Clements, Sakarovitch, Simkin, & Deeks, 2001).

Crucially, although each of the key factors is necessary for death by suicide, no single factor is sufficient. Rather, the theory proposes that it is only the convergence of all three factors—perceived burdensomeness, thwarted belongingness, and the acquired capability to engage in lethal self-injury—that is sufficient to result in serious suicidal behavior. This is consistent with the relative rarity of death by suicide—only a very small group of individuals will experience all three necessary conditions concurrently. Recently, Joiner and colleagues (2009) conducted the only empirical test of the theory's proposed three-way interaction. Results indicated that individuals who reported the highest levels of perceived burdensomeness and lowest levels of belongingness were much more likely to attempt suicide, particularly if they had a history of past suicide attempts, which was taken as a proxy measure of the acquired capability to enact lethal self-injury. The relationship held even after taking into account levels of depression, hopelessness, and borderline personality disorder features, all of which have been documented as powerful risk factors for suicide attempts.

#### Future Directions of the Interpersonal-Psychological Theory

The recent advances of the interpersonal-psychological theory give rise to new questions and, hopefully, future directions for advancing the model. Our discussion below will focus primarily on four viable avenues of future research, in particular: (a) specifying the conceptualization of the three primary constructs of the model; (b) defining the parameters of the constructs that will ultimately confer most risk; (c) examining potential interrelations among the constructs that have yet to be explored, and (d) investigating the neurobiological correlates of the theory. Certainly, future directions are not limited to these four areas; however, given the current status of the interpersonal-psychological theory, we believe that future examinations of these topics would be timely, interesting, and critically important for advancing our understanding of the processes underlying death by suicide.

#### *Specifying Constructs*

According to the theory, perceived burdensomeness and thwarted belongingness are proximal, causal risk factors for suicidal desire. Although both interpersonal states are thought to increase the risk of suicidal ideation independently of each other, their interaction is most pernicious. Given this description, then, it is clear that the two constructs are conceptualized to be distinct and differentiable, at least within the theory's framework. Nevertheless, perceived burdensomeness and thwarted belongingness are difficult to disentangle—perhaps, in part, because the presence of one construct may seem to logically predicate the presence of the other. Indeed, it certainly would not be unusual for feelings of social exclusion or alienation to foster feelings of being a burden on others; similarly, feeling like one is a burden on others—that one's death would be worth more than one's life—may surely prompt feelings of social alienation or exclusion. In spite of the constructs' seemingly interrelated nature, the theory holds them to be distinct, differentiable, and uniquely contributing to the development of suicidal desire. Future research should examine

potential underlying facets of the constructs, which may sharpen the distinction proposed between perceived burdensomeness and thwarted belongingness. For example, a recent, extensive exploration of the construct of perceived burdensomeness revealed that it may be composed of two facets: one reflecting general feelings of being a liability and the other involving the specific view that others would be better off if one were dead (Van Orden & Joiner, 2009). The latter facet may be the more pernicious aspect of perceived burdensomeness.

Another area of interest would be to determine whether parameters related to hopelessness should be incorporated into the model. In particular, it would be important to specify whether perceived burdensomeness and thwarted belongingness must be perceived as stable and irremediable to ultimately lead to the desire for suicide. Hopelessness stands as one of the most powerful predictors of suicidal ideation and death by suicide (Beck, Brown, Berchick, Stewart, & Steer, 2006). Including hopelessness-related parameters such as stability and irremediability into the proposed model may significantly increase the specificity of the model's predictions. Further, it would lead to several other critical questions, for instance: Is it necessary that both constructs are viewed as permanent and unchanging? If only one state is considered stable and irreversible, then is it sufficient to result in desire for suicide or can the other construct serve as a protective factor? Addressing these queries would have significant implications for our understanding of suicide. Moreover, incorporating the parameters of permanence and irremediability in the model may provide a touchstone for clinicians to gauge the severity of an individual's suicidal desire. Lastly, they would also suggest a focus for possible prevention efforts, particularly if fostering one state (e.g., belongingness) were to be found to act as a buffer against eventual suicidal behavior.

In addition to the components contributing to suicidal desire, the interpersonal-psychological theory also assumes that the acquired capability to engage in lethal self-injury is a critical component of suicidal risk. Conceptually, the description of the acquired capability suggests that it comprises two main components: elevated levels of pain tolerance and an attenuated fear of death. Thus far, however, no formal investigation has been conducted examining whether both components are essential for developing the ability to engage in suicidal behavior. The question remains, then, whether either component alone can be sufficient to increase the risk of engaging in suicidal behavior or whether a combination of both is necessary. Alternatively, it may be the case that perhaps an overarching sense of fearlessness is what is at play in terms of developing the ability to engage in serious suicidal behavior.

Future research examining the possible pathways that increase the capability for suicide would also be important. The theory proposes that the capability develops as a function of experience, particularly, experience with painful and provocative events. As such, it would be useful to know which painful and provocative behaviors confer the most risk. For instance, are experiences that involve self-inflicted pain more salient than other pain-inducing experiences? Alternatively, is experiencing self-inflicted pain necessary or are increased levels of pain tolerance sufficient, regardless of the nature of the experiences that led to increased tolerance?

Relatedly, is the capability for suicide developed only through experience? It may also be possible that the capability to engage in self-injurious behavior fits a diathesis-stress type model. That is, perhaps some individuals have an underlying vulnerability that makes them more susceptible to engage in behaviors that would increase the ability to engage in lethal self-injury. Identifying potentially latent

vulnerability factors that increase the capacity to engage in suicidal behavior would be useful in determining targets for preventive efforts.

### *Defining Parameters*

The theory's linchpin hypothesis predicts that the greatest risk for death by suicide emerges as a result of the three-way interaction between thwarted belongingness, perceived burdensomeness, and the acquired capability to engage in lethal self-injury. Recently, Joiner and colleagues (2009) empirically tested the proposed three-way interaction and found evidence consistent with the theory's prediction. In light of the evidence supporting all three constructs as proximal, causal risk factors for suicide, particularly, when present concurrently, we suggest that further investigations examining the necessary parameters for each construct would be particularly timely. More specifically, future studies are needed to identify the necessary duration, intensity, and frequency for each construct that will confer the greatest risk for suicide.

Alternatively, instead of specifying precise cut points for each component of the theory, it may be possible that the theory best fits a "titration model," wherein the levels of each construct are allowed to vary. For instance, perhaps individuals with very high levels of acquired capability require lower levels of suicidal desire to act on suicidal impulses; conversely, individuals with very high levels of suicidal desire, stemming from very high perceived burdensomeness and very low levels of belonging, may require lower levels of acquired capability to trigger action on their desire for death by suicide.

### *Examining Possible Interrelations Between the Constructs*

Another promising line of future research would be to examine the potential interrelations between the three key constructs of the theory. As it stands, the theory holds that perceived burdensomeness and thwarted belongingness contribute to the desire for suicide, not to the capability for acting on that desire. Interestingly, though, some evidence from investigations conducted by our lab group suggests that there may be a potentially interesting and meaningful interplay between the three factors. For instance, in a study by Joiner and colleagues (2002), the level of perceived burdensomeness expressed in suicide notes was significantly positively correlated with death by suicide. It was also a significant predictor of the lethality of the method of suicide used, such that higher levels of burdensomeness predicted more lethal methods. These results provide preliminary support that feelings of burdensomeness may contribute to acquiring the capability for suicide. Given these findings, the question arises as to whether intense emotional pain—specifically, from perceived burdensomeness and thwarted belongingness—could increase pain tolerance and, subsequently, the capability to engage in lethal self-injury.

Over the past few years, an interesting line of research has emerged that provided some evidence to suggest that physical and emotional pain have related, or possibly even shared, neurobiological underpinnings. In a landmark study conducted by Eisenberger, Lieberman, and Williams (2003), social exclusion was associated with increased activity in the anterior cingulate cortex and right ventral prefrontal cortex. Interestingly, the authors noticed that the same regions are also implicated in physical pain perception—ultimately concluding that emotional pain and physical pain have common neurobiological substrates. Furthermore, in a review of the

literature on physical pain and social exclusion, MacDonald and Leary (2005) concluded that both physical and social pain function via common mechanisms.

Given the evidence in support of the commonalities of emotional and physical pain, a potentially promising line of research would be to examine whether the experience of emotional pain could enhance the acquired capability. Findings from a study conducted by DeWall and Baumeister (2006) provide some preliminary (albeit indirect) evidence for the proposition that emotional pain may affect physical pain perception. Findings from the DeWall and Baumeister (2006) study speak to the likelihood that emotional and physical pain may be interrelated, such that emotionally painful experiences—social exclusion, in particular—may increase pain tolerance and threshold level.

### *Neurobiological Correlates*

Over the past several years, the field has made significant strides in the study of the neurobiological correlates of suicidality. Empirical investigations examining the potential neurobiological substrates of the three main constructs of the theory would be useful. Previously, we alluded to the possibility that the acquired capability may fit a diathesis-stress type of conceptualization, wherein individuals may have an underlying predisposition for engaging in behaviors that would increase the likelihood of experiencing painful and provocative events. Similarly, certain individuals may be inherently predisposed to experience feelings of thwarted belongingness and perceived burdensomeness. Neurobiological investigations, then, may be particularly useful for identifying more distal risk factors that may be associated with increased risk of developing the desire for suicide as well as acquiring the capability to engage in serious suicidal behavior. Identifying distal risk factors would likely increase the specificity with which predictions could be made about which individuals may be at risk for death by suicide.

One line of research that has recently become of interest in our lab is association of the acquired capability and prenatal testosterone exposure. An advantage to studying prenatal testosterone exposure is that measurements are easily obtained: the ratio of the lengths of the second and fourth fingers (2D:4D) has been found to be a marker for testosterone exposure in utero (Manning, Bundred, Newton, & Flanigan, 2003). Males with higher levels of testosterone are more likely to engage in risky behaviors (Fink, Neave, Laughton, & Manning, 2006). Moreover, higher prenatal testosterone exposure, as measured by digit ratios, is correlated with higher levels of aggression in men (Bailey & Hurd, 2005). According to the interpersonal-psychological theory, both elevated levels of aggression as well as frequently engaging in risky behaviors would increase levels of acquired capability. The results from initial investigations, conducted by members of our lab, indicate a significant and positive correlation between 2D:4D digit ratios and scores on the Acquired Capability for Suicide Scale, suggesting that higher prenatal testosterone exposure is associated with higher levels of acquired capability (Witte, Smith, & Joiner, 2009). These results—although preliminary and in need of replication—suggest that prenatal testosterone exposure may be an innate biological risk marker of acquiring the capacity to engage in serious suicidal behavior.

Several other neurobiological markers are also of note. Serotonergic parameters have consistently been found to be associated with clinical risk factors for suicidal ideation and serious suicidal behaviors, such as impulsivity, aggression, and hopelessness (Carballo, Akmanonu, & Oquendo, 2008). Deficiencies in the serotonergic system have

also been linked to self-directed aggressive behaviors (Mann, 2003). Similarly, decreased levels of norepinephrine are correlated with increased aggressive behaviors (Mann, 2003), which may prove to be an important precursor to engaging in behaviors that increase the acquired capability for lethal self-injury. These findings suggest that the serotonin and norepinephrine systems may have important roles within the framework of the theory.

### Closing Remarks

To date, the interpersonal-psychological theory of suicide (Joiner, 2005) has withstood significant scientific scrutiny: In addition to indirect lines of evidence consistent with the theory, it has been tested in numerous direct empirical investigations. In this article, we have discussed the current status of theory and presented several questions that have arisen as a result of the information we have obtained thus far. From this, we suggest four main avenues of future research. To be sure, future directions are certainly not limited to the four main avenues we have presented in this article. However, given the evidence to date, we believe the four areas detailed above would be timely and interesting advancements for the theory and, as a result, our understanding of the mechanisms that underlie death by suicide.

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