



Artículo de Investigación

Effects of Workplace Bullying on Suicide Behavior Using the Integrated Motivational-Volitional Model of Suicide Behavior

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Información Artículo	ABSTRACT
<p>Recibido: 30-VI-2024 Aceptado: 4-IX-2024</p> <p>Keywords:</p> <p>Workplace Bullying, Suicide Behavior, Defeat, Entrapment, Rumination, Acquired Capability for Suicide</p>	<p>This study explored the relationship between workplace bullying (WB) and suicidal behavior among Puerto Rican employees using the Integrated Motivational-Volitional (IMV) model. WB and suicidal behavior are significant public health concerns, but limited research has examined the connection between WB and suicidal attempts, particularly in Puerto Rico. The study involved 931 employees from various organizations, utilizing partial least squares structural equation modeling (PLS-SEM) to analyze the data. The results revealed that WB is significantly associated with suicidal ideation, suicidal attempts, and feelings of defeat. Defeat was linked to entrapment, which in turn was related to work-related suicidal ideation (WRSI), though WRSI did not mediate the relationship between entrapment and suicidal attempts. Additionally, rumination moderated the relationship between defeat and entrapment. These findings suggest that WB plays a role in suicidal behavior and identify defeat and entrapment as potential pathways for intervention. The study highlights the importance of further research into WB's impact on suicidal behavior to better understand the mechanisms involved and develop targeted interventions.</p>
	<h3>Efectos del Bullying en el Trabajo en la Conducta Suicida Usando el Modelo Integrado Motivacional-Volátil de la Conducta Suicida</h3>
	RESUMEN
<p>Palabras Clave:</p> <p>Bullying en el Trabajo, Conducta Suicida, Fracaso, Atrapamiento, Rumiación, Capacidad Adquirida para el Suicidio</p>	<p>Este estudio exploró la relación entre el bullying en el trabajo (BT) y la conducta suicida en una muestra de personas empleadas en Puerto Rico utilizando el modelo Motivacional-Volitivo Integrado (MVI). El BT y la conducta suicida son preocupaciones de salud pública importantes, pero la investigación limitada ha examinado la conexión entre el BT y los intentos de suicidio, particularmente en Puerto Rico. El estudio involucró a 931 empleados de varias organizaciones, utilizando modelos de ecuaciones estructurales de mínimos cuadrados parciales (PLS-SEM) para analizar los datos. Los resultados revelaron que el BT está significativamente asociado con la ideación suicida, los intentos de suicidio y los sentimientos de derrota. La derrota se relacionó con el atrapamiento, que a su vez se relacionó con la ideación suicida relacionada con el trabajo (ISRT), aunque la ISRT no medió la relación entre el atrapamiento y los intentos de suicidio. Además, la rumia moderó la relación entre la derrota y el atrapamiento. Estos hallazgos sugieren que el BT desempeña un papel en la conducta suicida e identifican la derrota y el atrapamiento como posibles vías de intervención. El estudio destaca la importancia de realizar más investigaciones sobre el impacto del WB en la conducta suicida para comprender mejor los mecanismos implicados y desarrollar intervenciones específicas.</p>
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Introduction

According to Javid et al. (2023), workplace bullying (WB) has become a major concern for employers, occupational psychologists, and human resource professionals because it has a negative impact on employees' well-being and productivity. WB is a psychological, social, and organizational problem that affects workers. WB happens when people are subjected to unfavorable behaviors on a regular basis for a prolonged amount of time in circumstances where they have little to no chance to protect themselves (Einarsen et al., 2020). Prevalence studies show that WB is common (e.g., Nielsen et al., 2010), which found that 14.6% of workers had experienced workplace bullying. More recently and according to data provided by the Workplace Bullying Institute (WBI; 2021), 13% of American workers report having experienced WB. Different studies (e.g., Arroyo, 2003; Rodríguez & Martínez, 2003; Rosario-Hernández et al., 2009) in Puerto Rico have reported prevalence between 7.2% and 32%. Moreover, in a research on the prevalence of bullying in Puerto Rican workplaces, the Workplace Bullying Alliance (2015) indicated that 51.8% of respondents said they had experienced bullying. This is an alarming prevalence of exposure of WB in Puerto Rico when compared to those in the U.S. Probably this is one of the reasons that Puerto Rico is the only jurisdiction in the U.S. that have the only legislation related to WB (*Ley para Prohibir y Prevenir el Acoso Laboral en Puerto Rico*, 2020).

The direct effects of WB on workers' health are well-researched; these include elevated stress levels (e.g., Rosario-Hernández & Rovira-Millán, 2011), anxiety symptoms (e.g., Einarsen & Mikkelsen, 2003; Rosario-Hernández & Rovira-Millán, 2011), depressive symptoms (e.g., González de Rivera & Rodríguez-Abuín, 2006; Niedhamer et al., 2006; Rosado Vázquez, 2005; Rosario-Hernández & Rovira-Millán, 2011), posttraumatic stress disorders (e.g., Rosario-Hernández et al., 2009; Tehrani, 2012), and sleep issues (e.g., Rosario-Hernández et al., 2018), among others. Meanwhile, research is beginning to show that WB may have an impact on suicide behavior (e.g., Crowell-Williamson et al., 2019; Hom et al., 2017; Rosario-Hernández et al., 2019; Soares et al., 2012). Even though WB and suicide conduct are

public health concerns, there doesn't appear to be much empirical study examining the type, severity, and direction of this association. Leach et al. (2017) note that despite the apparent high prevalence of WB indicating that the impact of exposure to WB on suicidal behavior remains relatively unexamined. Furthermore, no studies in Puerto Rico have looked at suicidal attempts, merely the connection between WB and suicidal ideation (Rosario-Hernández et al., 2019). Thus, the aim of this cross-sectional study was to investigate, with a sample of Puerto Rican employees, the relationship between exposure to WB and suicidal behavior using the Integrated Motivational-Volitional (IMV) model of suicidal behavior (O'Connor, 2011; see Figure 1).

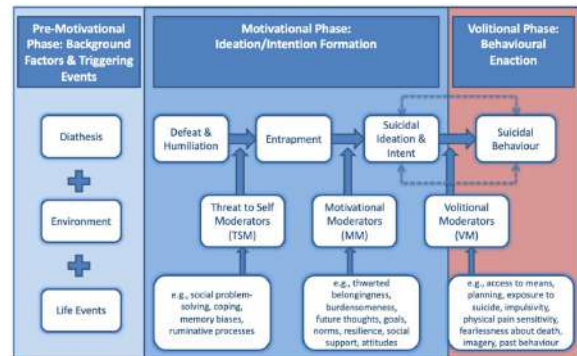


Figure 1. The Integrated Motivational-Volitional (IMV) Model of Suicidal Behavior (O'Connor, 2011; O'Connor & Kirtley, 2018). Reproduced with permission. Copyrights © 2011, 2018, John Wiley and Sons.

Theoretical Framework and Hypotheses by Phase

An attempt is made to explain the origins of suicidal ideation and behavior using the three-phase IMV model (see Figure 2 with the proposed research model). According to the IMV model of suicidal behavior (O'Connor, 2011; O'Connor & Kirtley, 2018), suicide is viewed as a behavior that goes through pre-motivational, motivational, and volitional phases before becoming a mental disorder. Background variables and triggering events are included in the pre-motivational phase. In the current study, exposure to workplace bullying is regarded as a triggering event. This pre-motivational stage is crucial because it highlights how the interacting diathesis-environment-life events triad, which jeopardizes this stage of the model, affects the IVM model. Put another way, biological and genetic factors interact to cause suicide thoughts and behavior, resulting in a vulnerability that is triggered or made worse by stress, such as being bullied at work.

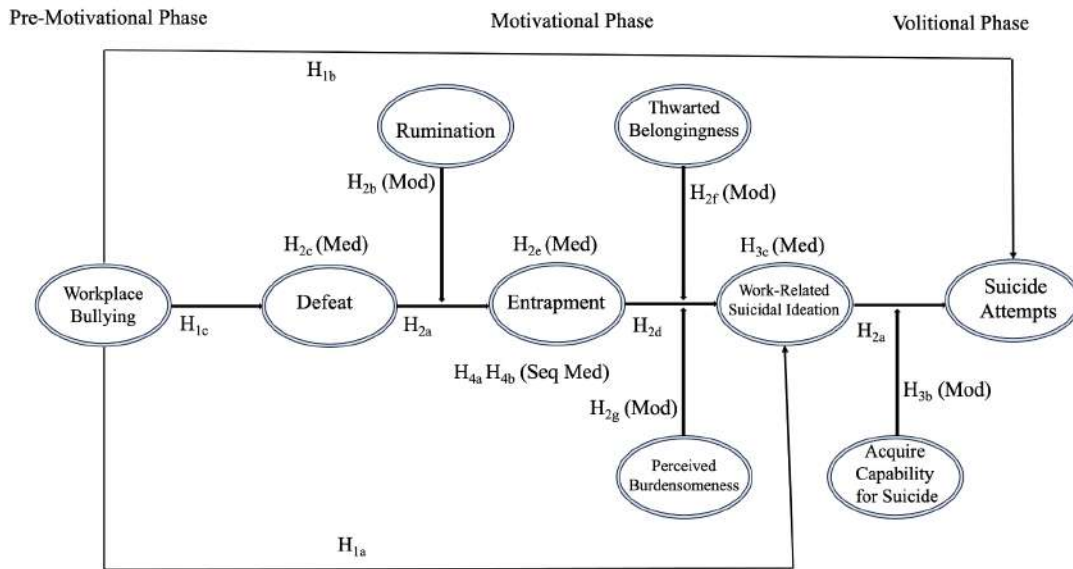


Figure 2. Research model proposed without control variables.

However, suicidal ideation and intention formulation are part of the motivational phase. Suicidal thoughts may arise from the transition from conceptions of defeat to sentiments of entrapment, which can be brought on by feelings of entrapment and threat to self-moderators, such as rumination (O'Connor, 2011; O'Connor & Kirtley, 2018). Also, suicidal ideation is more likely to surface when motivational moderators, such as thwarted belongingness and burdensomeness, are present and the person feels both defeated and entrapped.

The volitional phase, on the other hand, outlines the circumstances surrounding suicide attempts. According to the IMV model, a set of variables known as volitional moderators, such as suicide capability, determine the circumstances and settings in which an individual is more likely to engage in suicidal behavior. According to O'Connor (2011) and O'Connor & Kirtley (2018), a volitional moderator is anything that increases or decreases the likelihood that a person would carry out a suicide attempt, for example, suicidal capability, by bridging the gap between suicidal ideation and behavior. In other words, volitional moderators may increase the likelihood of attempting suicide since they are associated with the process of turning thought or intention development into action.

In the following sections, the hypotheses of this research are presented. They are presented following the three phases of the IMV suicidal behavior model and include direct, indirect (mediation) and moderation effects that each of the phases could have.

Pre-Motivational Phase

The pre-motivational phase, which occurs prior to the onset of ideation formation, is characterized by background elements (e.g., deprivation & vulnerabilities) and life events (e.g., workplace bullying). These background elements together provide the broader biosocial backdrop for suicide. In other words, the pre-motivational phase defines the broader context within which suicidal thoughts or behaviors may arise. Recent research has explored WB as another potential factor within the pre-motivational phase of the IMV (e.g., Rosario-Hernández et al., 2019). Given that WB is a life event, it is the pre-motivational stage factor that we want to examine in terms of the effect it has on suicidal behavior in both suicidal ideation and attempt. Thus, when victims of bullying were initially consulted, the link between exposure to WB and suicidal behavior was first identified as anecdotal evidence. It was also common to detect suicide thinking and attempts among bullying victims (Leymann, 1990; Leymann &

Gustafsson, 1996). However, it took some time to start looking at the connection between WB exposure and suicidal thoughts and actions. Yildirim and Yildirim (2007) conducted one of the first studies with Turkish nursing staff and found that 10% of participants had suicidal thoughts out of the 87% who had been bullied at work. Also, Yildirim et al. (2007) found that 91% reported being exposed to workplace bullying and 10% thought about suicide. In Puerto Rico, Rosario-Hernández et al. (2019) found a positive and significant relationship ($b = .282$) between exposure to workplace bullying and suicidal ideation with a sample of 898 employees. Thus, we propose the following hypothesis:

H_{1a}: WB is positively related to suicidal ideation.

Regarding to WB and suicidal attempt, Conway et al. (2022) found that employees in Denmark who were subjected to WB at the beginning of their employment had a statistically significant increased risk of attempting suicide when compared to those who were not. Meantime in China with a sample of 1,901 nursing professionals, Lu et al. (2023) also found that nurses who experienced WB had a significant higher risk of suicide attempts than those who had not experienced WB. Therefore, we propose the following hypothesis:

H_{1b}: WB is positively related to suicidal attempt.

According to some authors (e.g., Cleary et al., 2009; Leymann, 1996), people victim of WB is frequently subjected to repeated isolation, intimidation, belittling, gossip, unjust treatment, and/or denial of organizational resources by their peers, superiors, or subordinates. This exposure to WB acts in such way on this victims that they feel as a failure. Thus, WB has been considered as a life event in a previous research (Rosario-Hernández et al., 2019) using the IMV model of suicidal behavior as theoretical framework in their study with a sample of 898 employees and found a positive and significant relationship between WB and feelings of defeat ($r = .43$). We argue that exposure to WB leads its victims to feelings of being a failure and/or defeat, as such, propose the following hypothesis:

H_{1c}: WB is positively related to feelings of defeat.

Motivational Phase

According to O'Connor (2011) & O'Connor and

Kirtley (2018), the IMV model of suicide behavior suggests that feelings of entrapment brought on by humiliation or defeat serve as the foundation for the emergence of suicidal ideation. Feelings of entrapment arise when the urge to flee a defeating and/or humiliating circumstance is frustrated. Suicidal thoughts are more likely to occur when there is little possibility of rescue, such as when optimism about the future is lacking (Williams et al., 2005). There are studies (e.g., Höller et al., 2021; Rosario-Hernández et al., 2019) than have similar results in which they found a positive and significant relationship between feelings of defeat and entrapment. Therefore, we propose the following hypothesis:

H_{2a}: Feelings of defeat is positively related to feelings of entrapment.

The connection between ideas of defeat and entrapment may be conditioned by rumination (O'Connor & Williams, 2014). The relevance of underestimating the impact of ruminative processes as a threat to self-moderator on the link between the crucial constructs of defeat and entrapment is clearly posited by the IMV model of suicidal behavior. According to O'Connor (2011) and O'Connor and Kirtley (2018), ruminative processes increase the possibility that feelings of defeat worsen to the point where a person feels trapped and unable to deal with life's circumstances, as WB. In this way, Tucker et al. (2016) found that rumination moderated the relationship between defeat and entrapment in such way that exacerbated the effect that feelings of defeat had on entrapment in a sample of 174 participants who were selectively sampled for the experience of recent suicide ideation. We propose the following hypothesis:

H_{2b}: Rumination moderates the relationship between feelings of defeat and entrapment, such that high rumination will strengthen the relationship.

According to Cleary et al. (2009) and Leymann (1996), WB includes behaviors like stalking, defamatory or humiliating posts on social media, harm to one's professional reputation and career assignment, and social exclusion and isolation. The public humiliation and belittling that WB victims endure causes them to feel defeated and ultimately trapped. Thus, and according to the IMV model of suicide conduct, we contend that exposure to WB has such a

profound effect on victims that it causes them to feel like failures. As a result, the victims feel trapped in a predicament from which there does not seem to be a way out. In this way, we propose the following hypothesis:

H_{2c}: Defeat mediates the relationship between WB and feelings of entrapment.

Within the framework of the IMV of suicide behavior, entrapment plays a central role in the development of suicide ideation. Shelef et al. (2016) point out that entrapment is an important predictor of suicide ideation. Furthermore, many studies have supported the essential role of feelings of entrapment in the manifestation of suicidal ideations (e.g., Johnson et al., 2008; Li et al., 2020; O'Connor & Portzky, 2018; Rassmussen et al., 2010; Siddaway et al., 2015; Wetherall et al., 2019). For example, in a cross-sectional study including over 11,000 South Korean students, Park et al. (2010) identified entrapment as a risk factor for suicide ideation that was even more potent than relatively strong risk variables like depression. Therefore, we propose the following hypothesis:

H_{2d}: Feelings of entrapment is positively related to suicidal ideation.

Meanwhile, some research (e.g., Joiner, 2005; Van Orden et al., 2010) contends that feelings of burdensomeness (e.g., perceived liability to others & self-hatred) and thwarted belongingness (e.g., loneliness & lack of reciprocal care) are precursors to suicidal thoughts. Brailovskaia et al. (2020) propose that bullying may elevate the risk of suicide by intensifying feelings of burdensomeness and thwarted belongingness. Suicidal ideation has been linked to signs of thwarted belongingness and perceived burdensomeness (Chu et al., 2017). The IMV model of suicidal behavior suggests that the presence/absence of motivational moderators, such as thwarted belongingness and perceived burdensomeness, increases/decreases the likelihood that entrapment is translated into suicidal ideation (O'Connor, 2011; O'Connor & Kirtley, 2018). In such a way, we propose the following hypotheses:

H_{2e}: Thwarted belongingness moderates the relationship between feelings of entrapment and suicidal ideation, such that thwarted belongingness will strengthen the relationship.

H_{2f}: Perceived burdensomeness moderates the relationship between feelings of entrapment and suicidal ideation, such that perceived burdensomeness will strengthen the relationship.

Conversely, the IMV model of suicidal behavior posits that feeling of defeat can lead to feelings of entrapment, which can lead to suicidal ideation (O'Connor, 2011; O'Connor & Kirtley, 2018). Entrapment may mediate the relationship between defeat and suicidal ideation. As defeat contributes to entrapment, the individual's sense of hopelessness and perceived lack of alternatives intensifies, increasing the risk of developing suicidal thoughts. Thus, with a sample of 93 university students who reported some degree of suicidal ideation, Taylor et al. (2010) tested the mediational pathway whereby negative appraisals were associated with increased suicidality through heightened feelings of entrapment. They discovered that entrapment fully mediated the effect of appraisals of social support and problem-solving ability upon suicidality. Another study by Taylor et al. (2010) examined whether 78 patients with schizophrenia spectrum disorders' feelings of entrapment mediated the association between the degree of positive symptoms and suicidal thoughts. Taylor et al. found that the association between the intensity of positive symptoms and suicidal thoughts was mediated by feelings of entrapment. Therefore, we propose the following hypothesis:

H_{2g}: Entrapment mediates the relationship between feelings of defeat and suicidal ideation.

Volitional Phase

The volitional phase addresses the transition of suicidal ideation to suicidal behavior (O'Connor, 2011; O'Connor & Kirtley, 2018). The IMV model proposes that suicidal ideation and intention formation lead to suicidal behavior. For example, Dhingra et al. (2016) found that suicidal ideation was related to suicidal attempt ($b = .30$) with a sample of 1,809 university students from the United Kingdom. Therefore, we propose the following hypothesis:

H_{3a}: Suicidal ideation is positively related to suicidal attempt.

According to O'Connor (2011) and O'Connor and Kirtley (2018), most suicide risk models are unable to

distinguish between variables that are directly linked to ideation and variables that are linked to ideation to action. In this sense, the IMV model is clear in that it suggests that a set of variables known as volitional moderators define the circumstances and settings in which a person is more likely to engage in suicidal behavior. Any factor that increases or decreases the likelihood that a person would act on their suicidal ideation is referred to as a volitional moderator. This is the gap between suicidal ideation and action. The Theory of Planned Behavior (TPB; Ajzen, 1991) is the source of this behavioral enactment phase, which aligns with both Joiner's Interpersonal-Psychological model of suicide behavior and William's arrested flight model (Joiner, 2005) and the IMV model have integrated them as part of its framework. This is significant because, according to O'Connor et al. (2016), many persons who experience suicidal ideation do not actually act suicidally, and it is difficult to anticipate which of those who contemplate suicide will actually act suicidally. O'Connor et al. emphasize that the important point here is that factors associated with suicidal ideation formation are distinct from those factors concerned with behavioral enactment. The ability to carry out lethal self-injury and act on suicidal ideation is known as the acquired capability for suicide, which is a volitional moderator that is believed to rise with exposure and habituation to self-injury (Joiner, 2005; Van Orden et al., 2008). To put it briefly, greater capability raises the risk that suicide ideation and formation will materialize into behavior. Thus, we propose the following hypothesis:

H_{3b}: Acquired capability for suicide moderates the relationship between suicidal ideation and suicidal attempt, such that high acquired capability for suicide will strengthen the relationship.

Meanwhile, within the IMV Model (O'Connor, 2011; O'Connor & Kirtley (2018)), entrapment is expected to contribute to both suicidal ideation and attempts. Suicidal ideation is theorized to mediate the relationship between entrapment and attempts, reflecting the progression from the motivational to the volitional phase in the development of suicidal

behavior. This conceptualization helps guide research and intervention efforts to understand and address the complexities of suicidal processes. We propose the following hypothesis:

H_{3c}: Work-related suicidal ideation mediates the relationship between feelings of entrapment and suicidal attempt.

Finally, WB may contribute to the development of suicidal behavior through a series of psychological processes. The sequential mediation model proposes that the impact of WB on suicidal behavior is mediated by feelings of defeat, entrapment, and suicidal ideation, following the stages outlined in the IMV Model (O'Connor, 2011; O'Connor and Kirtley, 2018)). Since the IMV model of suicidal behavior is a three-phase framework in which the variables are interconnected between each phase, we propose to examine two sequential mediations: (1) from WB → defeat → entrapment → suicidal ideation, and (2) from WB → defeat → entrapment → suicidal ideation → suicidal attempt. Therefore, to test these sequential mediation paths, we propose the following hypotheses:

H_{4a}: WB influences suicidal ideation sequentially through the mediating effect of feelings defeat and feelings of entrapment.

H_{4b}: WB influence suicidal attempt sequentially through the mediating effect of feelings defeat, feelings of entrapment, and suicidal ideation.

Method

Participants

A total of 931 of employed individuals from different organizations in Puerto Rico participated in the current study. They were selected based on their availability and voluntariness, anonymity and the right to abandon the investigation were guaranteed when they considered it necessary. Table 1 shows the description of the sample's sociodemographic characteristics. For example, 7.52% (89) of the current sample of workers had attempted to die by suicide at least once.

Table 1

Sociodemographic characteristics of the sample

Variable	<i>f</i>	%	Variable	<i>f</i>	%
Gender			Time Working		
Male	328	35.2	1 Month – 5 years	415	44.6
Female	557	59.8	6-10 years	133	14.3
Age (in years)			11-15 years	104	11.2
21-30	427	45.9	16-20 years	62	6.7
31-50	363	39.0	21-25 years	64	6.9
≥ 51	141	15.1	26-30 years	57	6.1
Marital Status			≥ 31years	57	6.1
Single	416	44.7	Position Type		
Married	310	33.3	Managerial	144	15.5
Widower	21	2.3	Non-Managerial	730	78.4
Divorced	63	6.8	Employment Type		
Living Together	110	11.8	Tenure	534	57.4
Annual Income (in US-\$ thousands)			Temporary	350	37.6
\$0-20	389	41.8	Organization Type		
\$21-30	203	21.8	Public	200	21.5
\$31-40	90	9.7	Private	569	61.1
\$41-50	38	4.1	Have you ever attempted suicide?		
\$51-60	18	1.9	Never	837	89.9
≥ \$61	50	5.4	Once	70	7.5
			Twice	12	0.013
	Mean	SD	Three Times	5	0.005
Education	15.76	2.50	Four Times or More	2	0.002

Note. *n* = 931; SD = Standard Deviation.

Measures

We created a background questionnaire to gather information about the research participants. In this background questionnaire we asked the participants to provide information about their gender, age, tenure, marital status, among others, to enable us to describe the subjects of the study.

WB was measured by using the Negative Act Questionnaire (NAQ;) developed by Einarsen et al. (1994) and translated into Spanish by Moreno Jiménez et al (2007). This is a reduced 14-item version of the NAQ that only has two factors, which are personal bullying and work-related bullying. This scale reflects typical bullying behaviors, and the participants should respond to what degree they have suffered such behaviors during the last six months on a five-point

Likert rating scale, ranging from 1 (never) to 5 (daily). The scale has shown good reliability and validity in previous studies (Moreno Jiménez et al., 2007; Rosario-Hernández et al., 2019). For the current study, we used the eight-item of the Work-Related Bullying subscale. An item example is “Being humiliated or ridiculed in connection with your work.”

We use the Defeat Scale to measure feelings of defeat (Rovira-Millán et al., 2023). This is a five-item instrument in a Likert-agreement response format ranging from 1 (Totally Disagree) to 6 (Totally Agree), which pretend to measure general feelings of defeat. Factor analyses suggest that the Defeat Scale have a unidimensional internal structure and its reliability using Cronbach’s alpha and McDonald’s omega were $\alpha = .865$ and $\omega = .866$, respectively. An

item example is “I feel defeated by life.”

We used the Entrapment Scale (Rovira-Millán et al., 2023) to measure feelings of being trapped and no possibilities to get out of a situation. This is a six-item instrument *in* a Likert-agreement response format ranging from 1 (Totally Disagree) to 6 (Totally Agree), which pretend to measure general feelings of entrapment. Factor analyses suggest that the Entrapment Scale have a unidimensional internal structure and its reliability using Cronbach’s alpha and McDonald’s omega were both equal to .902. an item example is “I can see no way out of my current situation.”

We used the affective rumination subscale of Work-Related Rumination Scale-Spanish version (WRRS-SV; Cropley et al., 2012; Rosario-Hernández et al., 2021) to measure rumination, which is one of the threat to self-moderators of the IMV model of suicide behavior (O’Connor et al., 2011). The WRRS-SV is an eleven-item scale that is answered in a 5-point Likert scale (1 = very seldom or never, 2 = seldom, 3 = sometimes, 4 = often, 5 = very often or always). In terms of the validity of the WRRS-SV, Rosario-Hernández et al. (2021) reported a three-factor structure (affective rumination, problem-solving pondering, & detachment) and obtained reliability coefficients that fluctuated between .74 and .87 using Cronbach’s alpha and McDonald’s omega with a sample of employees in Puerto Rico. For the current study, we used the four items of the affective rumination subscale. An item example is “Are you irritated by work issues when not at work?”

To measure perceived burdensomeness and thwarted belongingness that are motivational moderators in the IMV model of suicide behavior, we used the Interpersonal Needs Questionnaire (INQ; Van Orden et al., 2012), but the Spanish version translated and validated by Silva et al. (2018). The INQ is a 15-item measure used to assess perceived burdensomeness and thwarted belongingness. Participants rate the degree to which each item is true for them recently on a 7-point Likert scale (1- Not at all true for me to 7- Very true for me). The first six items measure perceived burdensomeness (e.g., “These days the people in my life would be better off if I were gone”); all items are positively worded. The

next nine items measure thwarted belongingness (e.g., “These days, other people care about me” [reversed]); items 7, 8, 10, 13, 14, and 15 are negatively worded and reversed scored. Scores are totaled such that higher numbers reflect higher levels of thwarted belongingness and perceived burdensomeness. The 15-item INQ has been found to have good reliability and concurrent and discriminant validity in English-speaking samples (Van Orden et al., 2012). Perceived burdensomeness obtained a Cronbach alphas of .96 and thwarted belongingness .78 (Silva et al., 2018).

We used the Acquired Capability for Suicide Scale-Fearlessness About Death (ACSS-FAD; Ribeiro et al., 2014). The ACSS-FAD is a self-report instrument designed to assess levels of the acquired capability for suicide, which is a volitional moderator in the IMV model of suicidal behavior. The content of the items was rationally derived based on the interpersonal theory’s original description of the construct of acquired capability (Joiner, 2005). Participants rate the degree to which each item is more likely as them on a 4-point Likert scale (0- Not at all like me to 4- Very much like me). In terms of the validity of the ACS-FAD, Ribeiro et al. (2014) reported that the ACS-FAD obtained acceptable fit indices for one-factor structure. Meanwhile, the reliability reported by Ribeiro and collaborators fluctuated between .77 and .83 using Cronbach’s alpha. An item example is “The fact that I am going to die does not affect me.”

To measure suicidal ideation, we used the Work-Related Suicidal Ideation Scale (WRSIS; Rovira-Millán et al., 2023). The WRSIS is nine-item assessment instrument, which intent to measures suicidal ideation that is related to work issues. This instrument is in a Likert-frequency response format ranging from 1 (Never) to 6 (Always). Factor analyses suggest that the WRSIS have a unidimensional internal structure and its reliability using Cronbach’s alpha and McDonald’s omega were both equal to .976. An item example is “I think suicide is a possible solution to the problems with which I am facing in my work.”

To measure suicide attempt, we asked participants in the sociodemographic sheet, have you ever attempted to kill yourself? Responses were as follow:

0 = never, 1 = once, 2 = twice, 3 = three, and 4 = four or more times.

Procedures

The Institutional Review Board (IRB) of Ponce Health Sciences University approved the realization of this research (Protocol #180313-ER). Participants were contacted from different organizations and were invited to participate in the study. All those who agreed to participate in the study were explained the purpose of the research. They were given the consent form, background data sheet, and the study questionnaires. The questionnaires were administered individually as well as in groups by the researchers at the different organizations contacted.

Data Analysis

For data analysis, partial least squares structural equation modeling (PLS-SEM) was used following the two-step procedure suggested by the literature (Hair et al., 2017). First, confirmatory factor analysis aimed to assess the measuring model; and secondly, evaluation of the structural model. It is important to mention the three reasons for its use in the present study, as Chin (2010) points out, first, that PLS-SEM has a soft distributional assumption and given that the Shapiro-Wilks tests was significant suggesting that scores were not distributed normally. Second, the exploratory nature of the current study (Hair et al., 2011; Henseler et al., 2009; Henseler & Sarstedt, 2013), which pretend to build and extent an existing theory such as the IMV model of suicidal behavior, which is in the early stage as a theoretical development. Third, the high model complexity of the study justifies the use of PLS-SEM due to the numerous mediator and moderator variables in the tested model (Hair, et al., 2011; Henseler, et al., 2009; Henseler & Sarstedt, 2013).

Meanwhile, we used gender and age as control variables as some of the literature recommend when working with suicidal behavior (e.g., Carleton et al., 2022; Sher, 2022). In terms of the variable gender, it was assigned “0” for male and “1” for female. Regarding the variable age, we created a dummy variable in which the reference group was “21 to 30” and then compared to the groups of “31-50” and to those 51 years or older.

Results

The research model of figure 2 was analyzed using Smart-PLS 4.0, a PLS-SEM tool (Ringle et al., 2024). It assesses the psychometric properties of the measurement model and estimates the parameters of the structural model. This tool enables the simultaneous analysis of up to 200 indicator variables, allowing the examination of multiple mediator variables simultaneously among latent predictor variables indicators.

The Measurement Model

As shown in Table 2, the data indicates that the measures are robust in terms of their internal consistency reliability as indexed by Cronbach’s alpha and composite reliability. All the Cronbach’s alphas and the composite reliabilities of the different measures range from .735 to .935, which exceed the recommended threshold value of .70 (Hair et al., 2017). In terms of the validity, all outer loadings reached the threshold of .70, except two items from the Work-Related Bullying subscale of the NAQ-R, one item of the Perceived Burdensomeness and Thwarted Belongingness subscales of the INQ, one item of the ACS, one item of the Entrapment Scale, and one item of the WRSI Scale as indicated by Hair et al. (2017). In addition, consistent with the guidelines of Fornell and Larcker (1981), the average variance extracted (AVE) for each measure exceeds .50, which is an indication of the convergent validity of the measures. Moreover, the elements in the matrix diagonals, representing the square roots of the AVE, are greater in all cases than the off-diagonal elements in their corresponding row and column below the diagonal, supporting the discriminant validity of the scales (see Table 3). In addition, Henseler et al. (2015) propose assessing the heterotrait-monotrait ratio (HTMT) of the correlations to also examine discriminant validity. The HTMT approach is an estimate of what the true correlation between two constructs would be, if they were perfectly measure. A correlation between to constructs close to one indicates a lack of discriminant validity. Therefore, Henseler et al. suggest a threshold value of .90 if the path model includes constructs that are conceptually very similar. In other words, a HTMT above .90 suggest a lack of discriminant validity. Correlations between constructs appear above the diagonal on Table 3, all correlations are below the

threshold of .90, suggesting the discriminant validity

of the measures.

Table 2

Measurement model results

Scale	Item	λ	AVE	Reliability		Scale	Item	λ	AVE	Reliability	
				α	CR					α	CR
WB	naq2	.665	.511	.762	.839	Def	def2	.710	.588	.824	.877
	naq9	.696					def3	.742			
	naq10	.773					def4	.810			
	naq11	.723					def5	.790			
	naq12	.712					def6	.779			
Rum	wrr1	.825	.642	.735	.843	Ent	ent1	.871	.680	.905	.927
	wrr9	.796					ent2	.841			
	wrr15	.782					ent3	.888			
PB	inq1	.837	.533	.813	.867	WRSI	wrsi6	.823	.658	.935	.945
	inq2	.834					wrsi7	.845			
	inq3	.775					wrsi8	.833			
	inq4	.757					wrsi9	.861			
	inq5	.704					wrsi10	.797			
	inq6	.365					wrsi11	.857			
TB	inq7	.634	.618	.876	.906	wrsi12	.678				
	inq8	.769				wrsi14	.819				
	inq10	.746				wrsi15	.774				
	inq13	.855									
	inq14	.873									
ACS	acs4	.619	.681	.788	.862						
	acs6	.899									
	acs7	.924									

Note. n = 931; AVE = Average Variance Extracted, CR = Composite Reliability, WRB = Work-Related Bullying, Rum = Rumination, PB = Perceived Burdensomeness, TB = Thwarted Belongingness, ACS = Acquired Capability for Suicide, Def = Defeat, Ent = Entrapment, WRSI = Work-Related Suicidal Ideation.

The Structural Model

After the measurements were tested for validity, the structural model as provided in Figure 1, which represent the relations among the constructs assumed in the theoretical model or latent variables, was tested (see table 4). In order to examine the structural model and as recommended by Hair et al. (2017), first, we checked the structural model for collinearity issues by examining the variance inflation factor (VIF) value of all sets of predictor constructs in the structural model. They fluctuated between 1.006 and 2.521, all VIF values are clearly below the threshold of 5; therefore, collinearity among predictor constructs is not a critical

issue in the structural model (see table 4). Also, table 5 shows the R² values of defeat (.104), entrapment (.472), work-related suicidal ideation (.238), and suicidal attempt (.064) explaining 10.4%, 47.2%, 23.8%, and 6.4% of the variance, respectively. Falk and Miller (1992) suggest a value of .10 for an R² as minimum satisfactory level, all endogenous latent variables possess the threshold level of R-squared values. Also, all Q² values of defeat, entrapment, work-related suicidal ideation, and suicidal attempt were above zero (.092, .121, .080, & .007, respectively), providing support of the model's predictive relevance regarding the endogenous latent variables. The effect sizes (f²) of the exogenous

variables fluctuated from .001 to .594, which only WB, defeat, entrapment, and work-related suicidal ideation exceeded the minimum threshold of .02 (Chin et al., 2003). While effect sizes of the moderation

effects fluctuated from .000 to .024 and only the interaction between defeat and rumination, and entrapment and perceived burdensomeness reached the threshold of .005 (Kenny, 2018).

Table 3

Correlation matrix of latent constructs using Fornell-Larcker criterion and heterotrait-monotrait correlation proportion (HTMT) to establish discriminant validity

Latent Construct	WB	Rum	PB	TB	ACS	Def	Ent	WRSI
WB	(.716)	.392	.362	.185	.082	.369	.479	.308
Rum	.305	(.801)	.251	.150	.198	.251	.241	.096
PB	.291	.142	(.730)	.215	.137	.568	.513	.408
TB	.165	.089	.162	(.786)	.232	.230	.220	.131
ACS	-.025	-.151	.05	-.185	(.826)	.048	.045	.031
Def	.296	.207	.476	.209	-.007	(.767)	.779	.385
Ent	.402	.205	.444	.213	-.029	.677	(.825)	.403
WRSI	.272	.080	.386	.129	.002	.364	.394	(.811)

Note. Elements in the correlation matrix diagonals within parenthesis represent the square roots of the AVE; elements below the diagonals represent the correlation between latent constructs; elements above the diagonals represent the HTMT's criteria correlations.

Before presenting the results of the direct effects, it is important to mention that the only control variable statistically significant was gender on suicidal attempt (beta = .113, p=.035, 95% CI [.007-.213]). Thus, Table 5 shows the beta values of all path coefficients of the direct effects. WB had positive and significant relationship with suicidal ideation, suicidal attempt,

and defeat (.097, .110, & .258, respectively). Meanwhile, defeat had a positive and significant relationship with entrapment, and entrapment with WRSI (.622 & .211, respectively). Meantime, WRSI had a positive and significant relationship with suicidal attempt (.178).

Table 4

Structural model results

Latent Variable	R ²	R ² Adj	Effect Size (f ²)				Q ²	VIF
			Def	Ent	WRSI	SA		
WB			.067					1.102
Rum				.007				1.046
PB					.006			2.395
TB					.001			1.075
ACS						.004		1.022
Def*Rum				.018				1.193
Ent*PB					.024			2.521
Ent*TB					.000			1.539
WRSI*ACS						.001		1.006
Def	.104	.102		.594			.092	1.233
Ent	.472	.471			.032		.121	1.826
WRSI	.238	.231				.031	.080	1.086
SA	.064	.057					.007	

Note. WB = Work-Related Bullying, PB = Perceived Burdensomeness, TB = Thwarted Belongingness, ACS = Acquired Capability for Suicide, Def = Defeat, Ent = Entrapment, WRSI = Work-Related Suicidal Ideation, SA = Suicidal Attempt.

Regarding the indirect effects, Table 6 shows that defeat mediated the relationship between WB and entrapment; meanwhile, entrapment mediated the relationship between defeat and WRSI. Nevertheless, WRSI did not mediate the relationship between entrapment and suicidal attempt. In terms of our sequential mediation analyses, we examined, first, a pathway where WB leads to defeat, which in turn leads to entrapment, and eventually to suicidal ideation. Then we examined the same pathway but adding at the end of that pathway suicidal attempt. As it can be seen in Table 6, the first pathway mechanism from WB to suicidal ideation had a significant indirect effect of .034 that suggests that WB influences suicidal ideation through the intermediate variables of defeat and entrapment. However, the second pathway from WB to suicidal attempt was not significant.

Finally, the only moderation effect significant was rumination in the relationship between defeat and

entrapment (see Table 7). Simple slopes were plotted for values of high and low rumination, as shown in Figure 2. Post hoc analyses were conducted to determine whether the slope of each regression line differed significantly from zero. Results of post hoc probing revealed that the simple slopes for low rumination (beta = .598, 95% CI [.441, .747], t = 6.433, p < .001), at the mean rumination (beta = .727, 95% CI [.612, .831], t = 10.766, p < .001), and high rumination (beta = .855, 95% CI [.731, .962], t = 12.179, p < .001) were all significantly different from zero. Thus, feelings of defeat were more strongly related to feelings of entrapment under high levels of rumination. Moreover, it is worthy to mention the effect size of rumination is medium (Kenny, 2018). As mentioned above, all other moderation effects were not significant; however, it is important to mention that Kenny considers the size of the moderation effect of perceived burdensomeness can be considered medium and close to large.

Table 5

Direct effects results

Hypothesis by Phase	beta	se	t-value	p-value (One-tail)	CIBC		Conclusion
					5.00%	95.00%	
Pre-Motivational							
H _{1a} : WB→WRSI	.097*	.052	1.864	.031	.007	.177	Supported
H _{1b} : WB→SA	.110*	.047	2.346	.010	.039	.193	Supported
H _{1c} : WB→Def	.258*	.048	5.330	<.000	.177	.335	Supported
Motivational							
H _{2a} : Def→Ent	.622*	.045	13.860	<.000	.538	.688	Supported
H _{2d} : Ent→WRSI	.211*	.055	3.825	<.000	.127	.310	Supported
Volitional							
H _{3a} : WRSI→SA	.178*	.089	1.998	.023	.049	.329	Supported

Note. *p < .05, se = Standard Error, CIBC = Confidence Interval Bias Corrected.

Table 6

Indirect effects, hypothesis results, conclusion, and type of mediation

Hypothesis/Phase	IE	TE	t-value	p-value (Two-tail)	CIBC		Conclusion	Type of Mediation
					2.50%	97.50%		
Pre-Motivational/ Motivational								
H _{2c} : WB→Def→Ent	.138	.245	4.06	.000	.076	.205	Supported	Complementary
H _{2g} : Def→Ent→WRSI	.096	.185	3.17	.002	.040	.160	Supported	Complementary
Volitional								
H _{3c} : Ent→WRSI→SA	.031	.153	1.533	.066	.002	.066	Not Supported	No Mediation
Sequential Mediations								
Pre-Motivational/ Motivational								
H _{4a} : WB→Def→Ent→WRSI	.034	.131	2.816	0.005	0.016	0.066	Supported	Complementary
Pre-Motivational /Motivational/ Volitional								
H _{4b} : WB→Def→Ent→WRSI→SA	.006	.133	1.424	0.154	0.001	0.019	Not Supported	No Mediation

Note. IE = Indirect Effect, TE = Total Effect, CIBC = Confidence Interval Bias Corrected.

Table 7

Moderation effects

Hypothesis/Phase	beta	se	t-value	p-value (One-tail)	CIBC		Conclusion
					5.00%	95.00%	
Motivational							
H2b: Def*Rum→Ent	.083*	.041	2.034	.021	.017	.150	Supported
H2c: Ent*PB→WRSI	.075	.051	1.466	.071	-.001	.158	Not Supported
H2r: Ent*TB→WRSI	-.017	.071	0.241	.405	-.120	.105	Not Supported
Volitional							
H3b: WRSI*ACS→SA	-.036	.109	0.331	.370	-.228	.114	Not Supported

Note. *p < .05; CIBC = Confidence Interval Bias Corrected.

Discussion

The aim of the current cross-sectional study was to investigate the relationship between exposure to WB and suicidal behavior using the Integrated Motivational-Volitional (IMV) model of suicide behavior (O'Connor, 2011; O'Connor & Kirtley,

it has been found that WB has been related to suicidal ideations (e.g., Rosario-Hernández et al., 2019; Yildirim & Yildirim, 2007; Yildirim et al., 2007). Moreover, WB was also related to suicidal attempt, which is also consonant with some of the literature (e.g., Conway et al., 2022; Lu et al., 2023). Because of this, WB seems to be a significant risk factor for suicide behavior. Additionally, Rosario-Hernández et al. (2019) have suggested that WB has such an impact on victims that, although thoughts of suicide may have appeared as a coping mechanism for this harmful social stressor at work, it now appears to be a significant risk on trying to take one's own life. In terms of the relationship between WB and feelings of defeat (H1c), as part of the pre-motivational phase, our results shown that there was a positive and significant relationship. This result is similar of results from some of the literature (e.g., Rosario-Hernández et al., 2019), who reported that WB is related to feelings of defeat. Because of this, WB victims typically feel defeated because they are continuously the targets of intimidation, humiliation, gossip, unfair treatment, and denial of organizational resources by peers, superiors, or subordinates (Cleary et al., 2009; Leymann, 1996).

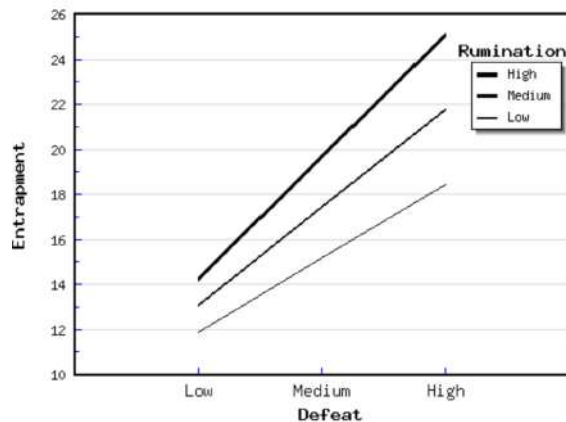


Figure 3. Moderation effect of rumination on the relationship between defeat and entrapment.

2018) with a sample of employees in Puerto Rico. The results align with the initial set of direct effect hypotheses, which postulated that WB was a small but significant positive correlation with suicidal behavior, specifically with suicidal ideation (H1a) and suicidal attempt (H1b). This is in line with the literature where

Regarding the hypotheses of direct effects of the motivational phase, our findings suggest that feelings of defeat significantly increase feelings of entrapment

(H_{2a}) and feelings of entrapment increase work-related suicidal ideation (H_{2b}). These results are consonant with some of the literature (Höller et al., 2021; Rosario-Hernández et al., 2019), who found a strong association between feelings of defeat and entrapment. Meanwhile, feelings of entrapment increase suicidal ideation, which is similar with results of some longitudinal studies (e.g., van Ballegooijen et al., 2022) and cross-sectional studies (e.g., Rosario-Hernández et al., 2019) and the IMV model of suicide behavior (O'Connor, 2011; O'Connor & Kirtley, 2018). These results highlight the importance of addressing feelings of defeat and entrapment to potentially reduce work-related suicidal ideation. The alignment with the IMV model and existing literature reinforces the validity of the findings and suggests that interventions targeting these feelings could be effective in preventing work-related suicidal ideation. These findings emphasize the significance of treating defeat and entrapment feelings to possibly lower suicide thoughts related to work. These results support the IMV model and extant research (e.g., O'Connor, 2011; O'Connor & Kirtley, 2018; Rosario-Hernández et al., 2019; van Ballegooijen et al., 2022), which also raises the possibility that treatments aimed at addressing these emotions may be successful in reducing the risk of work-related suicide ideation.

Meanwhile, the direct effect of work-related suicidal ideation on suicide attempt (H_{3a}) was significant; therefore, our result suggests that work-related suicidal ideation significantly increases the risk of suicide attempts, a finding supported by previous research (e.g., Dhingra et al., 2016) and the IMV model (O'Connor, 2011; O'Connor & Kirtley, 2018). This highlights the critical need for effective mental health strategies and interventions in the workplace to address and reduce the risk of suicide among employees.

Regarding the indirect effects, two of the three mediations implied in the IMV model of suicide behavior were significant. In this way, defeat mediated the relationship between WB and entrapment (H_{2c}), and entrapment mediated the relationship between defeat and work-related suicidal ideation (H_{2g}), which are consonant with the IMV model (O'Connor, 2011; O'Connor & Kirtley, 2018) and some of the literature (e.g., Rosario-Hernández et al., 2019; Taylor et al., 2010). These results provide support to the IMV

model, which postulates that triggering events, such as WB, leads to feelings of defeat and then to feelings of entrapment, which connect the pre-motivational and motivational phases. While in the motivational phase, feelings of defeat lead to feelings of entrapment and, consequently, to the development of suicidal ideation. On the other hand, work-related suicidal ideation did not mediate the relationship between entrapment and suicidal attempt, which contrast with the IMV model (O'Connor, 2011; O'Connor & Kirtley, 2018). Suicidal ideation may be avoided in favor of a direct route from feelings of entrapment to suicide attempts. This implies that there may be no need for protracted suicidal thoughts to precede a suicide attempt due to the extreme distress and hopelessness that come with being trapped. Convergent findings have suggested that entrapment was associated with a higher probability of suicide in both clinical and non-clinical samples (Taylor et al., 2011). Another possible explanation is that there are two different types of entrapment, including internal and exterior entrapment. It's possible that the study did not effectively differentiate between these kinds, which could have an impact on how they connect to suicide thoughts and attempts. For example, Höller et al. (2021) found that only internal entrapment was relevance when experiencing suicidal ideation. In terms of the two sequential mediations: (H_{4a}) WB→Def→Ent→WRSI and (H_{4b}) WB→Def→Ent→WRSI→SA; only the first one was significant. The significance of this indirect effect suggests that the pathway proposed is a plausible mechanism through which WB can lead to increased suicidal ideation and support the IMV model (O'Connor, 2011). This results highlights the importance of addressing feelings of defeat and entrapment as potential targets for interventions aimed at reducing the impact of WB on suicidal ideation as some literature have suggested previously (Höller et al., 2021; Rosario-Hernández et al., 2019). On the contrary, the other sequential mediation path was not significant (from WB to Suicide attempt). The significant path from WB to defeat to entrapment to suicidal ideation suggests that WB is a strong predictor of suicidal thoughts through feelings of defeat and entrapment. However, the non-significant path from ideation to attempt indicates that additional factors and interventions play a crucial role in preventing the progression from suicidal thoughts to actions (e.g., Sufrate-Sorzano et al., 2023). This

highlights the complexity of the volitional phase and the importance of timely intervention and support systems in mitigating the risk of suicide attempts (O'Connor & Kirtley, 2018).

In terms of moderators, the IMV model describe rumination as a “threat to self-moderator” (O'Connor & Kirtley, 2018) and therefore, moderated the transition from defeat to entrapment (H_{2b}) in the motivational phase. This results are consonant with some of the literature using a sample of prisoners (Scowcroft et al., 2019) and a non-clinical sample of men (Bannister, 2018) in which also the association between defeat and entrapment was stronger among individuals scoring higher in rumination. As part of the motivational moderators, which are supposed to influence the relationship between entrapment and suicidal ideation, the IMV model proposes thwarted belongingness (H_{2e}) and perceived burdensomeness (H_{2f}) and none of them moderated significantly this relationship in the current study. These results are opposed to the IMV model but are like other studies in which these moderators were not significant (e.g., Forkmann & Teismann, 2017; Wetherall et al., 2021). According to a systematic review performed by Souza et al. (2024), thwarted belongingness alone generally was not found to influence or buffer the relationship between entrapment and suicidal ideation, but is not necessarily the case for perceived burdensomeness, which studies revised tend support its effects on this relationship. Lastly, contrary to what the IMV model of suicide behavior suggested, acquired capability for suicide (H_{3b}) did not moderate the link between work-related suicidal ideation and suicide attempt in the volitional phase. This finding is in line with two studies (Li et al., 2029; Ribeiro et al., 2021) that looked at the moderating role of acquired capability for suicide in the relationship between suicidal ideation and suicidal attempt. These studies also found no significant moderating effects and did not support the IMV model of suicide behavior.

Theoretical and Practical Implications

In terms of the theoretical implications, our findings support the IMV model (O'Connor, 2011; O'Connor & Kirtley, 2018) as does some of the literature (Conway et al., 2022; Lu et al., 2023; Rosario-Hernández et al., 2019) by showing that WB is significantly correlated with suicidal ideation and

attempts. This aligns with the model's premise that certain stressors can lead to suicidal behavior, reinforcing its theoretical framework. Also, the significant relationships between WB and feelings of defeat, and between defeat and entrapment, highlight the importance of these constructs in the pre-motivational and motivational phases of the IMV model. This underscores their centrality in the development of suicidal ideation and behavior as the IMV model proposes (O'Connor, 2011; O'Connor & Kirtley, 2018). Meanwhile, the findings that defeat mediates the relationship between WB and entrapment, and that entrapment mediates the relationship between defeat and work-related suicidal ideation, provide support for the IMV model's proposed mediational pathways. This suggests that addressing feelings of defeat and entrapment could be crucial in preventing suicidal ideation as other literature have suggested previously (e.g., Rosario-Hernández et al., 2019; Taylor et al., 2010; Teismann & Forkmann, 2015). The lack of significant moderation by thwarted belongingness and perceived burdensomeness, as well as acquired capability for suicide, challenges some aspects of the IMV model. These results align with the systematic review carried out by Souza et al. (2024), who suggest that these factors might not always play a moderating role or that their influence may depend on other contextual or individual variables not captured in the current study. The direct effect of entrapment on suicide attempts, bypassing suicidal ideation, suggests that the extreme distress associated with entrapment can lead directly to suicidal behavior; however, it is important to indicate the perceived burdensomeness as moderator although did not moderate significantly the relationship between entrapment and suicidal ideation, its effect size was close to be a large one. Nevertheless, this highlights a potential area for refining the IMV model to account for direct pathways in certain contexts.

Regarding practical implications, the significant relationship between WB and suicidal behavior indicates a need for effective workplace interventions to address bullying. This could involve policies to prevent bullying, support for victims, and creating a positive work environment to reduce the risk of suicidal ideation and attempts as recommended by some of the literature (e.g., Nielsen et al., 2015).

Psychotherapy may be beneficial for those with mental health issues. For example, an in-patient cognitive-behavioral psychotherapy strategy designed especially for treating those who have experienced workplace bullying has been shown to be beneficial in terms of improving mental health (Schwickerath & Zapf, 2020). O'Connor and Kirtley (2018) indicate that the IMV model intervention and suicide prevention efforts should be adapted to the person's current phase of the model. It seems obvious that therapies that lessen the chance that suicidal ideation would surface could be helpful if a person is distraught and feels confined but is not suicidal. In order to do this, it is important to emphasize the targeted factors found in the model's motivating phase. For instance, entrapment is a crucial therapy target since it has been shown to be a potentially modifiable predictor of suicide attempts over time (O'Connor et al., 2013); therefore, along with depression and suicidal thoughts, it would also make sense to include the assessment of entrapment in standard therapeutic therapy. Moreover, the findings (e.g., Conway et al., 2022) suggest the importance of early identification of employees experiencing WB and subsequent feelings of defeat and entrapment. Providing timely support and resources, such as counseling and stress management programs, could help mitigate the risk of progressing to suicidal ideation and attempts. Meanwhile, training programs for managers and HR personnel to recognize signs of WB, defeat, and entrapment, and to respond appropriately, could help in creating a supportive work environment and reducing the incidence of suicidal behavior. Moreover, as Mortali and Moutier (2019) point out, putting policies and procedures in place ahead of time ensures that workplaces are better equipped to respond to suicide. These measures include the development and implementation of comprehensive workplace policies that address bullying, offer mental health support, and foster employee well-being (Rayner & Lewis, 2020). Finally, we stand and concur with some of the literature (e.g., Duffy, 2009) that organizations will benefit greatly from creating and putting into place training programs and alternative dispute resolution systems for the purpose of preventing and resolving WB.

Limitations and Recommendations

The current study has several shortcomings that must be kept in mind when interpreting the results. First, the fact that we used self-reports to measure all the variables, which may increase the risk of common method variance (CMV; Podsakoff et al., 2003). Nevertheless, we used the collinearity variance inflation factor (VIF) criterion to test for CMV in accordance with Kock's (2015) recommendations. All variables came in below the 3.3 threshold, indicating that this was not an issue in the current investigation. Second, we are unable to draw conclusions about causal links due to the cross-sectional nature of our study. Using a longitudinal strategy will provide further insight into the long-term effects of WB on suicidal behavior. As a limitation of the great majority of the studies that have used the model, Souza et al. (2024) have noted that only two studies have simultaneously examined all phases of the IMV model of suicidal behavior (Lekkas et al., 2023; Russell et al., 2020). It is crucial to note, however, that the current study examined simultaneously all phases of the IMV model. Also, the data from the study's findings, particularly in the case of the Puerto Rican sample, helps us understand how WB affects suicidal behavior. Lastly, it is critical to remember that, in addition to WB, a variety of social and psychological issues related to both the workplace and non-work environment might affect suicidal behavior. Therefore, these other factors (e.g., family and personal conflicts, organizational constraints, job demands, etc.) should be considered in future research to better understand WB and its effect on suicidal behavior, given the high prevalence of WB in Puerto Rico (WBA, 2015) and its apparent impact on suicidal behavior. The study highlights the need for further research to explore the complex relationships and potential moderators in the IMV model. Longitudinal studies and diverse samples could help in understanding the variability in these relationships and refining the model.

Conclusion

This study reinforces the IMV model's applicability in understanding the relationship between WB and suicidal behavior. It highlights the critical need for workplace interventions targeting feelings of defeat and entrapment to mitigate the risk of suicidal behavior. The findings also suggest the complexity of

the pathways leading to suicide attempts, underscoring the importance of comprehensive and timely interventions to support employees experiencing WB.

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