

Experiential avoidance in the context of the integrated motivational-volitional model of suicidal behaviour: A moderation study

Abstract

Background: According to the integrated motivational-volitional model of suicide, the perception of defeat and entrapment are the variables involved in the development of suicidal ideation. However, entrapment is not an inevitable consequence of feeling defeated. This transition is moderated by a set of variables relating to the ability to resolve the state of defeat. **Aim:** to study the potential moderating role of experiential avoidance in the relationship between defeat and entrapment in young adults. **Methods:** A sample of 644 participants residing in Spain (51.2% female; $M_{age} = 25.91$, $SD_{age} = 5.14$; *Range:* 18-35 years old), selected by sex, age, and education level quotas, completed an online questionnaire consisting of: Defeat Scale; Entrapment Scale; and Acceptance and Action Questionnaire-II; and other sociodemographic variables. **Results:** Defeat and experiential avoidance had a statistically significant effect on entrapment. The interaction variable (defeat \times experiential avoidance) was also statistically significant and according to a moderating effect. **Limitations:** Due to the cross-sectional design, we cannot establish causal associations between the variables. **Conclusion:** People who suffer a high degree of defeat and experiential avoidance are more likely to progress to a state of entrapment, being more vulnerable to suffering suicidal ideation.

Keywords: experiential avoidance; defeat; entrapment; suicidal ideation

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Suicide is a public health problem that causes approximately 800000 deaths annually worldwide (WHO, 2017). It is one of the leading causes of premature death in adults and the second cause of death among 15–29 years old (WHO, 2017). Suicidal behaviors represent a personal, family and social drama whose incidence, despite reduction-oriented efforts, has been maintained or increased over the last decade (e.g. Swanson, Bonnie, & Appelbaum, 2015). However, in recent decades there have been notable advances, such as the resurgence of new perspectives that promote new ways of understanding and intervening in suicidal behaviour (O'Connor & Portzky, 2018).

Although the traditional perspective has pointed out a broad set of factors (e.g., presence of mental illness) linked to suicidal ideation and behaviors, these factors have not typically shown the expected predictive capacity (e.g., Franklin et al., 2017). Likewise, this perspective tends to conceive suicidal ideation and behaviors as a symptom of a clinical diagnosis. This conception has obviated factors essentially involved in the etiology and maintenance of suicidal ideation and behaviour. Consequently, this limits our understanding of how different risk factors interact, whether those factors are implicated in shaping suicidal ideation or a particular suicidal behaviour (e.g. ideas, communications, acts) or whether, in contrast, they act across all of them (O'Connor & Nock, 2014).

The ideation to action framework (Klosny, May, & Saffer, 2016) includes theoretical development, risk assessment, treatment, and prevention of suicidal ideation and behaviors. Its main feature is the scientific approach to suicide by distinguishing between the factors responsible for the development of suicidal ideation, the factors involved in the progression from ideation to suicidal action, and those that influence

both processes transversely (Klonsky et al., 2016). Therefore, in addition to establishing a structure for future explanatory models of suicidal behaviour and guiding the development of suicide prevention and intervention programs, the approach under this prism provides a better understanding of the relationships between specific risk factors and the distinctive aspects of suicidal behaviour (Khazem & Anestis, 2016).

In light of the ideation to action framework, a set of models have proliferated (i.e. interpersonal theory of suicide, Joiner, 2005; integrated motivational-volitional model of suicidal behaviour, O'Connor, 2011; three-step theory, Klonsky & May, 2015). These models share philosophy and structure, but differ in the key elements involved in the conformation and transit between suicidal behaviors. Thus, in order to synthesize the factors with a differential involvement in the development of suicidal ideation/intention and/or the transition from ideation to suicidal action, O'Connor (2011) developed the integrated motivational-volitional model of suicidal behaviour (IMV). This model articulates the different constructs according to their involvement with suicidal ideation or behaviors through three phases (i.e. pre-motivational phase, motivational phase, and volitional phase). The pre-motivational phase is composed of variables that act by increasing suicidal risk through the influence they exert on the other constructs of the motivational and volitional phase. The elements composing this phase are life events, context, and individual and biological differences (e.g. sexual abuse, economic crisis, perfectionism, or serotonin deficiency). Consequently, the motivational phase details how suicidal ideation/intention arises. According to the IMV, the key elements of the motivational phase are the perception of defeat (i.e. perception of failed struggle, humiliation, or loss of social status) and the perception of entrapment. Consistent with the 'arrested flight' approach (e.g., Williams & Pollock, 2001), when an individual feels defeated or humiliated, a "fight or flight" response is activated from the

provocative stimulus. If the motivation to escape from the adverse condition is blocked (internally or externally) by a lack of individual agency and/or an absence of rescue, the individual feels that there is no possible escape (i.e. entrapment). Therefore, the situation of entrapment would be the ideal condition for the emergence of a thought or intention to end one's own life as the only escape route. Finally, the volitional phase includes those variables involved in the transition from suicidal ideation/intention to suicidal action (e.g. impulsivity or access to lethal means). All things considered, the IMV has obtained empirical evidence regarding the model factors associated with suicidal ideation vs. suicidal behavior, and about its structure and main assumptions (Dhingra, Boduszek, & O'Connor, 2015, 2016).

According to the IMV, the central axis of the model is the motivational phase in which suicidal ideation/intention is developed. In this phase, O'Connor (2011) positions defeat as the precedent of entrapment, as the variable closest to suicidal ideation/intention. However, entrapment is not an inevitable consequence of feeling defeated (O'Connor & Kirtley, 2018). In IMV, transit from one element to another, and among phases, is regulated by a second level of moderating variables. The presence or absence of these moderators increases or decreases the likelihood of moving from one state to another. Therefore, the transition from defeat to entrapment would be subordinated to a set of moderators (i.e. threat to self-moderators) involved in the individual's ability to resolve the state of defeat.

The study of the moderators involved in the defeat-entrapment relationship is relevant in the clinical context, since these moderators constitute a therapeutic goal. Their treatment would limit the exacerbation of the defeated state and the transit to entrapment (Gooding et al., 2015). Even though IMV is one of the most prominent theoretical frameworks of suicidal ideation and behaviour, analyses concerning the

moderators hypothesized within the model are generally lacking. In the literature, there are only a few examples, such as the study conducted by Teismann and Forkmann (2015). They confirmed the role of entrapment as a mediator between rumination and suicidal ideation in a community and clinical sample in line with IMV assumptions. A further study (Forkmann & Teismann, 2017) analyzed the moderating role of perceived burdensomeness and thwarted belongingness between entrapment and suicidal ideation in a community sample. However, they found no evidence supporting the IMV assumption that the frustration of both interpersonal needs acts as a motivational moderator of IMV.

A potential candidate to serve as a threat to self-moderators is experiential avoidance, a process included in the psychological flexibility model of psychopathology (the framework underlying acceptance and commitment therapy, ACT; Hayes, Strosahl, & Wilson, 2012). Experiential avoidance is a process characterized by the suppression, control, or elimination of internal experiences (i.e. thoughts, emotions, memories, sensations) that are distressing or are expected to be distressing (Hayes et al., 2012). The attempt to avoid, suppress, or eliminate unwanted private experiences paradoxically leads to an increase in the frequency and intensity of these experiences (Wenzlaff & Wegner, 2000). Because the distressing internal experience is not subject to voluntary behavioral regulation, in the long-term the avoidance strategy ends up reducing the person's life space, the situations avoided multiply, the internal experiences become more overwhelming, and the ability to get into the present moment and enjoy a valuable life is reduced (Hayes et al., 2012).

Experiential avoidance is not new in suicide literature. Ellis and Rufino (2016) found that increased experiential avoidance was associated with an increase in suicidal ideation in hospitalized psychiatric patients after controlling for depression and

hopelessness. Recently, Krafft, Hicks, Mack, and Levin (2019) have shown –in a sample of young adults– that experiential avoidance is a robust predictor of suicidal ideation, both transversely and longitudinally.

Therefore, guided by empirical evidence involving experiential avoidance as a relevant factor in the increase or maintenance of suicidal ideation, this study aims to analyze the possible role as a threat to self-moderators of experiential avoidance in the relationship between defeat and entrapment. Experiential avoidance, like other threats to self-moderators, is likely to affect both entrapment and defeat, and even other phases of the model (e.g. the volitional phase). Our hypothesis is that it will have its strongest effect on the defeat-entrapment relationship, since the transit from one point to another is moderated by the factors that are commonly involved in the problem resolution (O'Connor & Kirtley, 2018). We consider that experiential avoidance in IMV is a strategy oriented towards the resolution of psychological distress caused by the state of defeat. However, attempting to avoid the aversive internal experience will increase the suffering rather than reduce or eliminate it, enhancing the defeat-entrapment relationship.

Method

Participants

Of the total sample ($N = 644$), 24 cases were eliminated due to a lack of data related to the study variables. The final sample consisted of 620 residents in Spain recruited from the general population ($M_{\text{age}} = 25.94$, $SD_{\text{age}} = 5.16$; Range: 18-35 years old; 51.1% female) who participated in an online survey. The sampling method was by quota sampling in keeping with the composition of the Spanish young adult population: age (33% of 18-23 years old; 33% of 24-29 years old; and 33% of 29-35 years old), sex

(50%), and education (30% university students). The other sociodemographic and clinical characteristics can be seen in Table 1.

Procedure

The recruiters were psychology students and research team collaborators. Each recruiter administered an online questionnaire through their social networks to six participants within the following quotas: 33% (50% women) aged 18 to 23; 33% (50% women) aged 24 to 29; 33% (50% women) aged 29 to 35; and a maximum of 50%, minimum 33%, of university graduates. Neither recruiters nor participants received any economic incentive for their participation. All participants were informed of the purpose of the research, the mechanisms guaranteeing their anonymity, and that their participation was voluntary. The participants gave their consent through an online click. The study was approved by the Bioethics Committee in Human Research of the University of Almeria (Spain).

Instruments

An online questionnaire was administered consisting of the following scales, sociodemographic variables, self-reported clinical characteristics, and other scales (not used for this work).

Defeat scale (DS; Gilbert & Allan, 1998). This self-administered, 16-item scale measures how often the participants have felt defeated in the last seven days. A higher score indicates higher perceptions of defeat. Answer choices are above a five-point Likert-type scale, from 0 (*never*) to 4 (*always*). The version adapted to the Spanish context (Ordóñez-Carrasco, Cuadrado, & Rojas, 2019) showed a bifactorial structure (i.e. a general defeat factor and a complementary factor according to a wording effect of the inverted items) with good fit indices. Therefore, in practical terms, it could be

considered a one-dimensional measure. Lastly, the adaptation to Spanish of the defeat scale has good internal consistency ($\alpha = .94$) in the general population, and it showed evidence of validity based on the relationship with other variables. Positive, moderate-high, and statistically significant correlations between the defeat scale and other variables related to suicidal behaviors (i.e. entrapment, depression, hopelessness, perceived burdensomeness, thwarted belongingness, and suicidal ideation) were found. In this work, the internal consistency of the DS scores is .94 through both Cronbach's alpha and omega coefficient.

Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011). This is a self-administered, 7-item scale that measures experiential avoidance. Answer choices are above a seven-point Likert-type scale, from 1 (*it's never true*) to 7 (*it's always true*). The higher the score on the scale, the higher the recurrence of experiential avoidance. The AAQ-II Spanish context adaptation (Ruiz, Langer-Herrera, Luciano, Cangas, & Beltrán, 2013) had an internal consistency of .88. In the present study, Cronbach's alpha is .90 and omega coefficient is .91.

Entrapment scale (ES; Gilbert & Allan, 1998). This self-administered, 16-item scale measures the perception of entrapment in the last seven days. Answer choices are above a five-point Likert-type scale, from 0 (*not at all like me*) to 4 (*extremely like me*). The higher the score, the greater the perception of entrapment. The estimate of the reliability of the Spanish version of the ES (Ordóñez-Carrasco et al., 2019) scores by Cronbach's alpha was .94 in the general population. In this work, Cronbach's alpha and omega coefficient are .96.

Beck Depression Inventory II (BDI-II; Beck, Steer, & Brown, 1996). A self-administered 21-item scale for assessing the severity of depressive symptoms through multiple choice ranging from 0 to 3. The ninth item of BDI-II allows evaluating the

existence of suicidal ideation: 0 indicates absence of suicidal ideation, 1 is considered as mild or passive suicidal ideation, 2 and 3 are considered as severe or active suicidal ideation. In our study, the estimate of the reliability of the Spanish version of the BDI-II (Sanz, García-Vera, Espinosa, Fortún, & Vázquez, 2005) scores through Cronbach's alpha is .93 and omega coefficient is .94.

Plutchik Suicide Risk Scale (Plutchik, van Praque, Conte, & Picard, 1989). This is a self-administered 15-item scale for assessing the potential risk of suicide. The scale's score ranges from 0 to 15. In our study, the estimate of the reliability of the Spanish version of Plutchik Suicide Risk Scale (Rubio et al., 1998) scores is .78 through both Cronbach's alpha and omega coefficient.

Statistical analyses

Bivariate correlations between the variables under study (defeat, experiential avoidance, and entrapment) and suicidal ideation were carried out. For alleviate collinearity, the independent variables were centered by subtracting a variable's mean from all observations on that variable in the dataset. Then, a first multiple linear regression model conformed by defeat and experiential avoidance as predictors of entrapment was performed (Model 1). Lastly, the potential moderating effect of experiential avoidance was analyzed through a second multiple linear regression model (Model 2). Model 2 included the variable interaction Defeat \times Experiential avoidance. There is a moderating effect of experiential avoidance on the relationship between defeat and entrapment if the interaction variable is significant ($p \leq .05$). Multicollinearity ($VIF < 5$) and normal distribution of standardized residuals (Q-Q plot) were checked. All the analyses were processed using the SPSS v.25 (omega coefficients were performed with JASP v.0.10.2). No a priori power calculation was used. Using

G*Power 3.1.9.4, given a total of 620 participants, $\alpha = .05$, and a large effect size ($f^2 = .35$), the post-hoc power (1- β err prob) is 1.

Results

The correlation matrix showed positive, high, and statistically significant associations ($p \leq .001$) between all the studied variables. The correlation matrix and descriptive statistics of the total scores of the scales can be seen in Table 2.

In Model 1, $F(2, 617) = 784.73; p < .001; R^2 = .72$, defeat ($\beta_{DS} = .80$) and experiential avoidance ($\beta_{AAQ-II} = .21$) were statistically significant predictors of entrapment. Then, in Model 2, $F(3, 616) = 556.06; p < .001; R^2 = .73$, the variable interaction Defeat \times Experiential avoidance was entered ($\beta_{DS \times AAQ-II} = .13$). This interaction was statistically significant ($p \leq .001$) according to a moderation effect. Likewise, Model 2 showed a statistically significant change of F ($p = .013$) that indicates a significant improvement in explanatory power (see Table 3).

Finally, the data displayed in Figure 1 show that when the degree of defeat is high, the perception of entrapment is higher when the experiential avoidance is high than when this is low. In contrast, when the degree of defeat is low, the perception of entrapment does not change depending on the degree of experiential avoidance.

Discussion

According to the IMV, entrapment is not an inevitable consequence of the perception of defeat, but the exacerbation of defeat and the transit to entrapment is dependent on other psychological processes related to the ability to resolve the distress of defeat (O'Connor & Kirtley, 2018). The variables involved in increasing or reducing the probability of moving from defeat to entrapment are referred to as threats to self-

moderators. This paper is the first empirical evidence of the role of experiential avoidance as a threat to self-moderators.

Our findings show, first, the relevance of defeat and experiential avoidance as variables involved in shaping the perception of entrapment and, therefore, closely linked to the development of suicidal ideation. The results show that the perception of defeat is an essential component in the variation of the perception of entrapment. This is in consonance with the theoretical structure of the IMV (O'Connor, 2011) and with the literature that has tested the relationship of the model components (e.g. Dhingra et al., 2016). Likewise, experiential avoidance was not only significant as a variable related to entrapment (although to a lesser extent than defeat), but, and more importantly, as part of interaction with defeat according to a moderating effect that would facilitate the transition from defeat to entrapment. Avoiding suffering is a natural response reinforced by the reduction of the short-term distress it causes (Hayes et al., 2012). However, the indiscriminate and/or recurrent use of avoidance of unpleasant internal experiences (i.e. experiential avoidance) as a strategy to mitigate suffering ends up being ineffective for such a purpose. When people are deliberately unable to control their negative emotional state, they tend to present more extreme forms of behaviour in order to regain control. Prolonging the avoidance strategy would lead to negative consequences, often more damaging than the original problem (Chiles & Strosahl, 2005). In the context of IMV, the perception of entrapment arises when the state of defeat is not resolvable by a lack of individual agency and/or an absence of rescue by others. Experiential avoidance would undermine the individual's ability to resolve, restricting his/her individual agency and driving him/her away from a valuable or 'meaningful' life.

Regarding experiential avoidance as a therapeutic target, preliminary data suggest that ACT (Hayes et al., 2012) has been effective in reducing the frequency and

intensity of suicidal ideation. Walser and colleagues (2015) showed a decrease in both the severity of depressive symptomatology and suicidal ideation during an ACT-based psychological intervention for veterans with depression and suicidal ideation.

The main limitation of the present study is that, due to the cross-sectional design, we cannot establish causal associations between the variables. Future studies with longitudinal designs would capture the temporal fluctuations of the constructs and the directionality of their associations. Future multivariate analyses may clarify the relationship of experiential avoidance to the rest of the threats to self-moderators (e.g. social problem solving, brooding rumination, autobiographical memory biases) and how they collectively impact the transit from defeat to entrapment. Finally, in pursuit of the generalizability of our results, studies with samples with higher prevalence of suicidal ideation (i.e. suffering from mental illness, chronic pain, or inmates) may expand the evidence of validity of the present study.

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Table 1

Socio-demographic and clinical characteristics of participants

	<i>N (%)</i>
Sex	
Woman	317 (51.1%)
Man	294 (47.4%)
Other	9 (1.5%)
Completed education level	
No studies	19 (3.1%)
Primary education	18 (2.9%)
Secondary education	358 (58.4%)
Higher education	218 (35.6%)
Marital status	
Single	351 (57.4%)
Married/Domestic partner/Stable partner	241 (39.4%)
Divorced	19 (3.1%)
Widowed	1 (0.2%)
Work activity	
Student	260 (42.5%)
Homemaker	14 (2.3%)
Unemployed	42 (6.9%)
Employee	296 (48.4%)
Religion	
Catholic	253 (41.7%)
Muslim	10 (1.6%)
Protestant	11 (1.8%)
Agnostic	70 (11.5%)
Atheist	167 (27.5%)
Indifferent	96 (15.8%)
Mental and behavioural disorders (ICD-10 code)	
Substance-Related and Addictive Disorder (F19.9)	1 (0.2%)
Anxiety Disorder (F41.9)	7 (1.1%)
Major Depressive Disorder (F32.9)	4 (0.7%)

Feeding and Eating Disorder (F50.9)	1 (0.2%)
Attention-Deficit/Hyperactivity Disorder (F90.0)	2 (0.3%)
Mixed Anxiety-Depressive Disorder (F41.2)	2 (0.3%)
Borderline Personality Disorder (F60.3)	2 (0.3%)
Obsessive-Compulsive and Related Disorder (F42.9)	2 (0.3%)
Suicide	
No ideation	491 (79.2%)
Passive suicidal ideation	119 (19.2%)
Active suicidal ideation	10 (1.6%)
Attempted suicide in the past	39 (6.3%)
Depressive Symptoms Severity (BDI-II)	$M = 10.96 (SD = 10.20)$
Suicide Risk Scale (Plutchik Scale)	$M = 3.38 (SD = 2.88)$

Note: Suicidal ideation was evaluated according to the answer to item 9 of the BDI-II. Suicide attempts were evaluated by answering item 15 on Plutchik's suicide risk scale (*Have you ever tried to take your own life?*).

Table 2

Means, standard deviations and correlations between experiential avoidance, defeat, entrapment and suicidal ideation

	Experiential avoidance	Defeat	Entrapment	Suicidal ideation
Experiential avoidance	-	.70*	.64*	.38*
Defeat	-	-	.78*	.47*
Entrapment	-	-	-	.45*
<i>M</i>	20.42	16.81	11.13	0.23
<i>SD</i>	8.41	12.01	12.90	0.49
Range	7-48	0-64	0-64	0-3

Note: Spearman's Rho correlation coefficients; * $p \leq .001$.

Table 3

Results of the multiple regression analyses predicting entrapment

	Model 1			Model 2		
	<i>B</i>	β	<i>t</i>	<i>B</i>	β	<i>t</i>
Intercept	11.133	-	40.379*	10.257	-	32.489*
Defeat	0.801	0.746	24.552*	0.723	0.673	20.599*
Experiential avoidance	0.207	0.135	4.449*	0.212	0.138	4.658*
Defeat × Experiential avoidance	-	-	-	0.012	0.132	5.346*
Model	Adj. R ² = .717			Adj. R ² = .729		
	<i>F</i> (2, 617) = 784.729*			<i>F</i> (3, 616) = 556.062*		
R² Change	-			.013		
Sig. <i>F</i> Change				<i>p</i> < .001		

**p* < .001

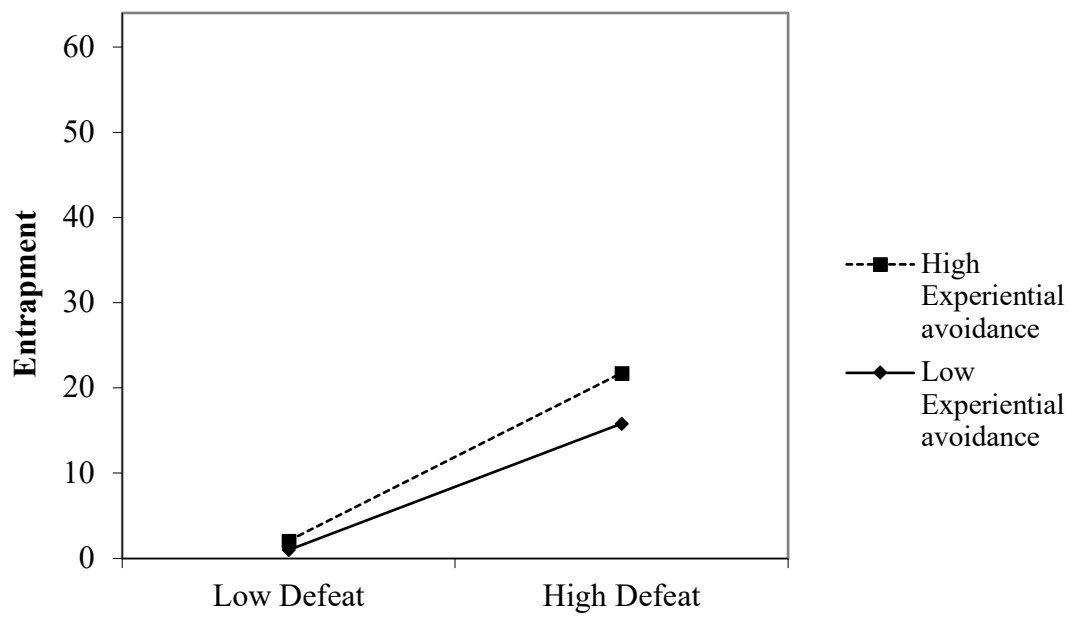


Figure 1. Two-way interaction effects (Model 2).