

Abstract

Objective The Integrated Motivational-Volitional model of suicide proposes that feelings of entrapment play a key role in the development of suicidal ideation. The model also posits a set of motivational moderators which either facilitate or hinder the development of suicidal thinking when entrapment is present. These motivational moderators include factors such as attitudes, future goals, thwarted belongingness, and social support. Two previously studied protective factors against suicide, reasons for living and life meaning, have received support in suicidology and might serve as motivational moderators in this model. *Methods* The current cross-sectional study included college students ($N=195$) oversampled for recent suicidal ideation who took a series of self-report questionnaires online. *Results* Our findings demonstrated that both reasons for living and life meaning are protective against the relation between entrapment and suicidal ideation, especially when presence of life meaning and reasons for living are high. Search for life meaning was found demonstrated a less protective relation with SI severity, particularly when reasons for living were low. *Conclusion* Both motivational moderators demonstrated protective relationships with suicidal ideation and may be relevant to suicide prevention strategies. Limitations and future directions are discussed.

Keywords: suicide; positive psychology; risk; protective factors

Introduction

The Integrated Motivational-Volitional model of suicidal behavior (IMV; O'Connor & Kirtley, 2018) explains the emergence of suicidal ideation (SI) and its escalation to suicide attempts. It begins with the pre-motivational stage, which includes life events and factors which serve as an individual's baseline level of suicide risk, followed by the motivational phase which posits that feelings of defeat cause feelings of entrapment which in turn cause SI. Specifically, defeat causes entrapment in the presence of factors such as ruminative processes and poor coping skills, and entrapment causes SI in the presence of factors such as thwarted belongingness, lack of life meaning, and perceived burdensomeness. Finally, the volitional phase posits that factors such as suicide capability and access to lethal means bridges the gap between SI and suicide attempts.

There is a growing body of literature supporting the motivational phase of IMV. For example, in one study analyzing longitudinal predictors of suicide attempts, entrapment and suicide attempt history were the only significant multivariate predictors (O'Connor, Smyth, Ferguson, Ryan & Williams, 2013). Similarly, a more recent investigation of the IMV found that both entrapment and defeat were significant concurrent predictors of SI and that entrapment was a significant predictor of SI at one-month follow-up (Branley-Bell et al. 2019). Importantly, they found that entrapment mediated the relation between defeat and SI, supporting the IMV's central motivational hypothesis (Branley-Bell et al. 2019).

Entrapment, triggered by evaluations of defeat, is the feeling that one is trapped by current life situations and that suicide is the only solution to their entrapment (O'Connor, 2011). Entrapment is considered to be comprised of internalized and externalized entrapment (Gilbert & Allan, 1998). Externalized entrapment can be understood as the feeling of being trapped by one's

circumstances (e.g., loss of employment, death of a family member, relationship crises).

Internalized entrapment refers to the feelings of being trapped by one's thoughts and feelings (e.g., "I'll always be a horrible person," "I'm terrible at my job," and "There's no way to feel better"). Separately assessing internalized and externalized entrapment is necessary for understanding the factors that lead to the emergence of SI. To demonstrate, a recent investigation of the Entrapment scale's (Gilbert & Allan, 1998) factor structure revealed that internalized entrapment was more related to suicide outcomes in United Kingdom (UK) participants, whereas externalized entrapment was more related to suicide outcomes in United States (US) participants (Cramer, Rasmussen, & Tucker, 2019). Therefore, a nuanced understanding of these factors is important for better assessment and management of SI in individuals with varying backgrounds.

The IMV explicitly provides a non-exhaustive list of potential protective factors in the development of SI. These "motivational moderators" (e.g., thwarted belongingness, future thoughts, goals) either increase or decrease the likelihood of SI emerging with entrapment present. Although not explicitly stated, factors such as reasons for living, life meaning, and social support could act as protective factors against SI in individuals who feel defeated and entrapped, whereas factors like thwarted interpersonal needs and lack of life meaning could lead to or increase SI when defeat and entrapment are present. For example, Tucker and colleagues (2016) found that hope mitigated the relation between entrapment and SI in a sample of undergraduates. To further explore the central tenants of the IMV, the current study investigated two previously unexplored motivational moderators: reasons for living and life meaning.

Suicide Protective Factors: Reasons for Living and Life Meaning

Reasons for living are thought to be "beliefs about life and expectations for the future ... instrumental in keeping many alive through extremes of painful life stress" (Linehan, et al. 1983,

p. 277). Qualitative research has found that one's reasons for living can include factors such as perceived responsibility to meaningful individuals, religious or spiritual beliefs, and fear of death (Moody et al. 2015). In support of this notion, a study of positive psychological factors and SI found that reasons for living was strongly negatively correlated with SI and accounted for a small percentage of the variance in SI (Heisel et al. 2016). Similarly, reasons for living attenuated the relation between hopelessness and SI in adult patients seeking treatment for mood disorders (Britton et al. 2008), and Bagge and colleagues (2013) found that reasons for living mediated the relation between depression, hopelessness, and SI in a sample of college students. Through the lens of the IMV, it follows that reasons for living may prove protective against the severity of SI, and this has been demonstrated in extant research. For example, Ren and colleagues (2019) found that reasons for living attenuated the impact that low self-esteem had on SI severity in a sample of Chinese adolescents; however, internalized and externalized entrapment were not separately considered in this study, which is an important future research direction. Some reasons for living encompass aspects of the motivational moderators (e.g., future goals, connection to others) that are posited to mitigate the relation between entrapment and SI. For example, the reason for living "my family depends upon me and needs me" (Linehan, 1983) represents both familial connection and is future oriented, potentially explaining why extant literature has found reasons for living to be protective against entrapment and SI (Ren et al. 2019).

In addition to reasons for living, life meaning may serve as a motivational moderator in the IMV. In positive psychology, life meaning is viewed as a vital aspect of eudaimonic well-being, defined as being "fully engaged and aligned with deeply held values and beliefs" (Niemiec, 2014, pp. 2005). This view of human well-being contrasts with the typical medical

model view of well-being, which focuses primarily on syndrome identification and symptom reduction (e.g., Elkins, 2009). To illustrate, in his seminal work, *Man's Search for Meaning*, psychologist Viktor Frankl wrote that "suffering ceases to be suffering at the moment it finds a meaning" (Frankl, 1946, p. 135).

These relations are important when considering the role meaning in life may play in the IMV. Most research has found that life meaning is protective against suicidal desire (e.g., Heisel et al. 2016); however, few studies have separately analyzed the search for and the presence of life meaning. Of studies that have, presence of life meaning has been found to be the most protective factor in the emergence and maintenance of SI (e.g., Sinclair et al. 2016, Kleiman & Beaver, 2013). For example, Sinclair and colleagues (2016) found that the presence of life meaning was a protective variable in veterans at a higher risk for suicide due to clinical concerns such as Posttraumatic Stress Disorder. Although presence of life meaning may be protective against SI severity, the search for life meaning has not previously demonstrated such a clear protective relation. To demonstrate Park and colleagues (2010) found that, although presence of life meaning was positively related to factors like life satisfaction and happiness and negatively related to factors like depression symptom severity, search for life meaning demonstrated an inverse relation. This indicates that the search for life meaning may not be a protective factor, as it could represent unfulfilled needs.

Along with reasons for living, the factors that one perceives to give their lives meaning may coincide with motivation moderators (e.g., positive attitude, reframing of adverse events) posited to mitigate the relation of entrapment with SI; however, this research has not explicitly been conducted in the context of the IMV.

Adding to the extant research regarding the IMV, the current study sought to determine whether reasons for living and life meaning buffered the relation between entrapment and SI. We hypothesized that, when analyzed together, higher reasons for living and higher presence of life meaning would reduce the relation between entrapment and SI. Additionally, we hypothesized that, when analyzed together, lower reasons for living and higher search for life meaning would demonstrate a less protective relation regarding SI severity compared to higher reasons for living and higher search for life meaning. We hypothesized that these effects would be demonstrated when analyzing the relations between SI and both internalized entrapment and externalized entrapment. Finally, we explored whether reasons for living and presence of life meaning, or reasons for living and search for life meaning may have a stronger moderating role on the internalized/externalized entrapment to SI relation.

Methods

Participants

Participants ($N=195$) were selectively sampled from large, state university based on their experience of recent SI as measured by the Hopelessness Depression Symptom Questionnaire - Suicidality Subscale (HDSQSS; Metalsky & Joiner, 1997). Any student who endorsed a non-zero total score on the measure, representing some level of SI in the past two weeks (e.g., “sometimes I have thoughts of killing myself”) was invited to participate. In addition, approximately five percent of students who did not endorse SI on the HDSQSS were invited to participate. Participants were recruited through the university’s student research participation system. A majority of participants were female (77.9%, $n=152$), while 21% ($n=41$) were male and 1% ($n=2$) preferred not to answer. All participants were adults (18-54 years of age, $M=19.66$, $SD=3.47$). Participants identified being White (83.6%, $n=163$), Native American (11.3%, $n=25$),

African American/Black (6.7%, $n=13$), Hispanic or Latino/Latina (5.1%, $n=10$), Asian/Pacific Islander (5.1%, $n=10$), and as other (.5%, $n=1$). As participants could select all racial categories that apply, 12.3% of the sample self-identified as bi-racial. A quarter of the sample (23%) endorsed SI in the past week.

Measures

Demographics. Participants responded to questions which assessed their age, race, ethnicity, and gender.

Brief reasons for living inventory (BRFL; Ivanoff, Jang, Smyth, & Linehan, 1994). The BRFL is a 12-item self-report measure adapted from the longer 48-item Reasons for Living inventory (Linehan, Goodstein, Nielsen, & Chiles, 1983) which is used to measure an individual's reasons for not dying by suicide when contemplating suicide. Participants respond to statements on a six-point scale ranging from one (*not at all important*) to six (*extremely important*). The current study used the BRFL total score, as higher reasons for living has been found to be protective against SI (e.g., Heisel, et al. 2016). In previous research, the BRFL has demonstrated good internal consistency ($\alpha=0.86$) (Ivanoff, et al. 1994), and in the current study, the BRFL demonstrated good internal consistency ($\alpha=0.84$).

Meaning in life questionnaire (MLQ; Steger, Frazier, Oishi, & Kaler, 2006). The MLQ is a 10-item questionnaire that measures an individual's perceived meaning in life and their tendency to search for life meaning. The MLQ has two subscales: presence and search which consist of five items each. Participants are asked to rate how true statements are for them on a seven-point scale ranging from one (*absolutely untrue*) to seven (*absolutely true*). The MLQ demonstrates good internal consistency for both the presence and search subscales ($\alpha=0.86$ and 0.92, respectively; and good one-month test-retest reliability $\alpha=0.70$ and 0.73, respectively;

Steger, et al. 2006). In the current study, the MLQ total score and the presence and search subscales demonstrated good internal consistency ($\alpha=0.78, 0.90, 0.87$ respectively).

Entrapment scale (ES; Gilbert and Allan, 1998). The ES is a 16-item self-report measure consisting of two subscales that measure internal and external entrapment. Participants respond to questions on a five-point scale ranging from zero (*not at all like me*) to four (*extremely like me*). The ES has demonstrated good internal consistency ($\alpha=0.93$) and validity (Gilbert & Allan, 1998). In the current study, the ES total score and externalized and internalized entrapment subscales demonstrated good internal consistency ($\alpha=0.96, 0.94, 0.94$ respectively).

Beck scale for suicidal ideation (BSSI; Beck, Kovacs, Weissman, 1979). Originally developed as a semi-structured clinical interview, the BSSI is a 21-item self-report questionnaire used to assess SI and past suicide-related behaviors (Beck, Kovacs & Weissman, 1979). Individuals are presented with a number of prompts and asked to rate their relationship to or attitude toward the prompt on a scale from zero to two. The items are then summed to create a total score yielding a range from zero to 42, with higher scores indicating greater severity of SI. The BSSI has demonstrated good construct validity and good internal consistency ($\alpha=0.89$) (Beck, Kovacs & Weissman, 1979). Because the current study was only interested in SI, the last two questions of the BSSI which inquire about suicidal behaviors were omitted, leaving 19 items which were used in study analyses. In the current study, the 19-item BSSI demonstrated good internal consistency ($\alpha=0.92$).

Analytical plan

All data were pre-screened to check for non-credible responding, outliers, and missing data. Descriptive analyses were conducted in SPSS. Four separate three-way interaction models

with bootstrapping techniques were conducted using the PROCESS macro for SPSS (Hayes, 2017). For model 1, reasons for living followed by presence of life meaning were entered to see if they attenuated the relation between internalized entrapment and SI. For model 2, reasons for living and search for life meaning were entered to see if they attenuated the relation between internalized entrapment and SI. For model 3, reasons for living and presence of life meaning were entered to see if they attenuated the relation between externalized entrapment and SI. For model 4, reasons for living and search for life meaning were entered to see if they attenuated the relation between externalized entrapment and SI.

All significant three-way interactions were probed using the Johnson–Neyman procedure via PROCESS and simple slopes analyses were conducted for all significant two-way interactions so as to compare the relative strength of moderators and combinations of moderators.

Results

Descriptive statistics and intercorrelations for variables in the study are presented in Table 1. As was expected, the total entrapment score was positively associated with SI with a moderate effect size. Both internalized and externalized entrapment were positively associated with SI with moderate effect sizes. Reasons for living and presence of life meaning were negatively associated with SI with small and moderate effect sizes, respectively. Search for life meaning had no significant relation with SI.

The first three-way interaction model tested if presence of life meaning and reasons for living attenuated the relation between internalized entrapment and SI. The overall model was significant [$F(7,191)=20.93, p<.01, R^2=.43$]. Internalized entrapment ($b=.13, p<.01, 95\% \text{ CI } [.05, .22]$), presence of life meaning ($b=-.08, p=.01, 95\% \text{ CI } [-.16, -.02]$), and internalized entrapment

× presence of life meaning ($b=-.01, p=.01, 95\% \text{ CI } [-.02, -.01]$) were all significant predictors of SI. Simple slope analyses revealed that at high levels of internalized entrapment, severity of SI differed such that individuals with low presence of life meaning demonstrated higher severity of SI than individuals with high presence of life meaning.

The second three-way interaction model tested if search for life meaning and reasons for living attenuated the relation between internalized entrapment and SI. The overall model was significant [$F(7,189)=17.92, p<.01, R^2=.39$]. Internalized entrapment ($b=.20, p<.01, 95\% \text{ CI } [.12, .28]$), reasons for living ($b=-.05, p=.01, 95\% \text{ CI } [-.09, -.01]$) and internalized entrapment × reasons for living ($b=-.01, p<.01, 95\% \text{ CI } [-.01, <-.01]$) were significant predictors of SI. Simple slope analyses revealed that at high levels of internalized entrapment, severity of SI differed such that individuals with high internalized entrapment and high reasons for living demonstrated lower severity of SI than those with high internalized entrapment and low reasons for living. The three-way interaction of internalized entrapment × reasons for living × search for life meaning ($b=<.01, p<.01, 95\% \text{ CI } [<.01, <.01]$) was a significant predictor of SI. Interactions of internalized entrapment and reasons for living were significant at low ($b=-.02, p<.01$) and average ($b=-.01, p<.01$) levels of search. See Table 2 for conditional effects.

The third three-way interaction model tested if reasons for living and presence of life meaning attenuated the relation between externalized entrapment and SI. The overall model was significant [$F(7,189)=22.82, p<.01, R^2=.45$]. Externalized entrapment ($b=.07, p<.01, 95\% \text{ CI } [.02, .12]$) and presence of life meaning ($b=-.07, p=.02, 95\% \text{ CI } [-.14, <-.01]$) were significant predictors of SI. Two, two-way interactions were significant as well: externalized entrapment × presence of life meaning ($b=<.01, p=.03, 95\% \text{ CI } [-.01, <-.01]$) and reasons for living × presence of life meaning ($b=<.01, p<.01, 95\% \text{ CI } [<.01, <.01]$). Simple slope analyses revealed that at

lower reasons for living, severity of SI differed such that those who reported less presence of life meaning had higher levels of SI severity. The three-way interaction of externalized entrapment \times reasons for living \times presence of life meaning ($b < .01$, $p < .01$, 95% CI [$< .01$, $< .01$]) was a significant predictor of SI. Interactions of externalized entrapment and reasons for living were significant at low levels of presence of life meaning ($b < .01$, $p < .01$). See Table 3 for conditional effects.

The fourth three-way interaction model tested if reasons for living and search for life meaning attenuated the relation between externalized entrapment and SI. The overall model was significant [$F(7,187)=17.38$, $p < .01$, $R^2=.39$]. Externalized entrapment ($b=.13$, $p < .01$, 95% CI [.08, .18]) and reasons for living ($b=-.07$, $p < .01$, 95% CI [-.11, -.04]) were significant predictors of SI. Two, two-way interactions were significant as well: externalized entrapment \times reasons for living ($b = -.01$, $p < .01$, 95% CI [-.01, $< -.01$]) and reasons for living \times search for life meaning ($b < .01$, $p = .01$, 95% CI [$< .01$, .01]). Simple slope analyses revealed that at high levels of externalized entrapment, severity of SI differed such that individuals with lower reasons for living experienced greater SI severity than individuals with higher reasons for living. Simple slope analyses also revealed that reasons for living was associated with differences in SI severity, such that individuals with lower reasons for living and lower search for meaning of life demonstrated higher severity of SI than those with higher reasons for living and higher search for life meaning. **The three-way interaction of externalized entrapment \times reasons for living \times search for life meaning ($b < .01$, $p < .01$, 95% CI [$< .01$, $< .01$]) was a significant predictor of SI.** Interactions of externalized entrapment and reasons for living were significant at low ($b = -.01$, $p < .01$) and average ($b = -.01$, $p < .01$) levels of search for life meaning. See Table 4 for conditional effects.

Discussion

The current study sought to determine whether two motivational moderators, life meaning and reasons for living, attenuate the deleterious relation that entrapment has with SI. Correlation analyses indicated that externalized entrapment and internalized entrapment were both positively related to SI. The relation between internalized entrapment and SI was stronger than the relation between externalized entrapment and SI. This is consistent with research which found that internalized entrapment accounts for more variance in SI than factors such as externalized entrapment and thwarted interpersonal needs (De Beurs et al. 2019). In contrast, a different study indicated that externalized entrapment is more closely related to SI than internalized entrapment (e.g., Cramer, Rasmussen, & Tucker, 2019). Cultural and contextual factors may account for this discrepancy and should be factored in future IMV research, as they may improve understanding of how aspects of the IMV operates in different groups.

In line with previous research, both the presence of life meaning and reasons for living were negatively related to SI (e.g., Heisel et al. 2016). The search for life meaning demonstrated a non-significant relation with SI. These correlational findings indicate that both the presence of life meaning and reasons for living may be protective against the escalating intensity of SI. This is consistent with the IMV's assertion that motivational moderators can lessen the severity of SI when feelings of entrapment are present and reportedly high.

Internalized entrapment and SI severity

Simple moderation results indicated that, at high levels of internalized entrapment, SI severity was attenuated when reasons for living were also high. In addition, SI severity was greatest when internalized entrapment was high and presence of life meaning was low.

Regarding the three-way interactions holding internalized entrapment at the mean, SI severity trended downward as a result of different levels of reasons for living and search for life meaning. Specifically, SI severity was greatest when both reasons for living and search for life meaning were low. SI severity was lowest when both reasons for living and search for life meaning were high; however, the ameliorating impact of search for life meaning appears less consequential when reasons for living are high. To demonstrate, SI severity was greater at high search for life meaning and low reasons for living than when search for life meaning was low and reasons for living were at mean levels. Similarly, SI was slightly higher at high search for life meaning and mean reasons for living than at mean search for life meaning and mean reasons for living. This might indicate that search for life meaning is less relevant to the severity of SI when one already has higher reasons for living.

Externalized entrapment and SI severity

Simple moderation results indicated that, at high levels of externalized entrapment, SI severity was greatest when reasons for living were low.

Regarding the three-way interactions holding externalized entrapment at the mean, results indicated that SI severity was greatest when both reasons for living and presence of life meaning were low and that SI severity was lowest at mean levels of reasons for living and presence of life meaning. Similarly, SI severity was greatest when reasons for living and search for life meaning were both low and lowest when both reasons for living and search for life meaning were high. The same trend previously demonstrated regarding the interplay of reasons for living and search for life meaning was seen when analyzing externalized entrapment: the ameliorating effect of search for life meaning was less consequential when search for life meaning was greater than reasons for living. To demonstrate, SI severity was greater at mean reasons for living and high

search for life meaning than at mean reasons for living and low search for life meaning. This again indicates that within the context of mean levels of externalized entrapment, search for life meaning may be less relevant to SI severity when reasons for living are high.

Our findings that reasons for living and presence of life meaning moderate the impact of entrapment on SI severity are consistent with past research which has identified these factors as protective against SI and promote overall well-being (e.g., Heisel, et al. 2016). Although more research has been conducted on the buffering relation between reasons for living and SI (e.g., Heisel, et al. 2016), the finding that presence of life meaning was protective against SI is in accordance with research which has consistently found that meaning in life is positively related to emotional and social well-being (Boehmer et al. 2007), positive mood (Affleck, 1985), life satisfaction (Pakenham, 2008), and adjustment following a traumatic event (Thompson, 1985), and negatively related to depression symptom severity (Hayes et al. 2005; Park, 2005), experiential avoidance (Affleck, 1985), and intrusive thoughts (Park, 2005).

In accordance with research on life meaning broadly, search for life meaning was related to lowest levels of SI when it and reasons for living were high; however, the impact of search for life meaning appeared less impactful when considered at higher levels of reasons for living compared to mean levels. There are several potential interpretations of this finding. It could be that at higher reasons for living, the search for life meaning is simply not as consequential. It could also be that search for life meaning in conjunction with low reasons for living represent unfulfilled search for purpose and meaning in one's life and thus is not as protective against SI in these conditions. Although similar trends have not been reported in samples of individuals over sampled for SI, this is consistent with past research (e.g., Park, Park, & Peterson, 2010). For example, in a sample of men diagnosed with prostate cancer, the search for life meaning was

longitudinally related to poorer mental health outcomes (Roberts, et al. 2006). Similarly, in a sample of family members who had lost loved ones to suicide, illness, or traumatic accidents, the search for meaning was related to greater levels of intrusive thoughts, depressive symptoms, and experiential avoidance at four- and 14-month follow up (Cleiren, 1993).

Results also indicated that combinations of study moderators were most protective in the context of externalized entrapment compared to internalized entrapment; however, the difference in associations were quite small. For example, at high reasons for living and high search for life meaning, externalized entrapment had a weaker relation with SI severity ($B=.09$) than internalized entrapment and SI severity ($B=.18$). It could be that protective factors such as life meaning and reasons for living are most protective against SI in situations where one feels trapped by external factors (e.g., job loss, financial strain) opposed to internal factors (e.g., feelings of low self-worth), potentially because the majority of reasons for living items themselves represent external constructs (e.g., “the effect on my children could be harmful,” “I am concerned what other would think of me”). In addition, one’s feelings of internalized entrapment might reflect a lack of reasons for living or life meaning in a way that externalized entrapment does not. For example, it could be that feelings of internalized entrapment contribute to negative thoughts and feelings (e.g., self-criticism) more so than externalized entrapment (Sturman & Mongrain, 2005), leading to a decreased perception that life is worth living. Research which includes factors conceptually related to both externalized and internalized entrapment (e.g., self-efficacy, self-acceptance, autonomy) may aid researchers in better understanding the nature of entrapment and its relation with SI. These related factors likely have differing associations with the components of entrapment, and thus explain why, in the current

study, internalized entrapment appeared more strongly related to SI than externalized entrapment.

Importantly, results demonstrated that measuring reasons for living, a component of many suicide-related interventions, is not analogous to measuring life meaning, as the strength of moderation differed between each variable. Of note, presence of life meaning had only a moderate relation with reasons for living, with search for life meaning demonstrating no significant relation. In the life meaning literature, researchers have identified three primary aspects of life meaning: purpose, coherence, and significance (Martela & Steger, 2016). Purpose refers to the goals a person has in life, such as career and family goals and coherence refers to a person's understanding of how the world works (Martela & Steger, 2016). Significance has to do with believing that life has inherent value and meaning which transcends the trivial (Martela & Steger, 2016). A reason for living such as "I am afraid of death" may not represent purpose, coherence or significance, and thus lack meaning. Therefore, an individual's reason for living may not contribute to their overall feeling of presence of life meaning, and an individual's presence of life meaning may be high even in the absence of many reasons for living. Further, a person who has many reasons for living that are rules or related to social pressure (e.g., "It's wrong to kill yourself," "My family would be upset if I killed myself") but reports low life meaning may be less protected against experiencing SI than a person who believes that life is inherently valuable, but only names a few reasons for living. This could explain findings which show that reasons for living related to family obligations are related to greater intensity of suicidal desire (*see* Britton, et al. 2008). Such obligation-related reasons for living may also represent feelings of externalized entrapment, supporting the aforementioned notion of the importance of separate assessments of externalized and internalized entrapment.

The results of the current study should be interpreted in light of several methodological limitations. The cross-sectional nature of the study precludes any causal interpretations, thus prospective replication is needed. In addition, the current study was unable to answer an important question related to life meaning: what happens when the search for meaning is successful? For example, in parents who miscarried a child or lost an infant, searching for the answer to questions like “why me” *and* finding an answer to said questions was inversely related to trauma symptoms longitudinally (Tunaley et al. 1993). Future research which incorporates a longitudinal design would be able to determine if the search for life meaning is protective in the case of found life meaning. Finally, the results of this sample may not generalize to other populations, as the participants in this sample were mostly White, female, and generally young in age.

These results have important implications for clinical practice. Regarding suicide prevention, it could be that the assessment of the presence and search for life meaning should be included in suicide-related interventions. Although certain interventions, such as the Collaborative Assessment and Management of Suicidality (Jobes, 2012) and Brief Cognitive-Behavioral Therapy for Suicide Prevention (Bryan & Rudd, 2018) assess ones’ reasons for living, they do not explicitly assess either presence of or search for life meaning. This inclusion may be fruitful for better understanding a person’s desire to die as well as factors which promote their connection to life, such is in line with existential therapies like Meaning Therapy (Wong, 2009), which is specifically aimed at identifying and increasing meaning in life despite life suffering. In support of this notion, Lockman & Servaty-Seib (2018) found that existential distress mediates the relation between meaning making following an adverse event and SI in a sample of college students. **The**

assessment of life meaning and reasons for living also supports the utility of Acceptance and Commitment Therapy, which explicitly promotes values driven activity (Hayes, et al. 2009).

This strategy would not just focus on reducing factors such as loneliness and hopelessness, but also aim to promote life meaning and purpose, which may prove valuable for suicide prevention efforts. In addition, this assessment could elucidate potential risk factors for experiencing SI. To demonstrate, an individual who reports high search for life meaning and low presence of life meaning and reasons for living may need different care than an individual who reports a different iteration of these factors. The broader implication here also refers to schools of thought which do not position psychopathology and mental health at opposite ends of a single spectrum, rather position them as distinct spectrums which can coexist (*see* Keyes, 2005). As a whole, these results suggest that reasons for living and life meaning are important to consider when aiming to understand and prevent suicide risk.

References

- Affleck, G., Tennen, H., & Gershman, K. (1985). Cognitive adaptations to high-risk infants: The search for mastery, meaning, and protection from future harm. *American Journal of Mental Deficiency, 89*, 653– 656.
- Bagge, C. L., Lamis, D. A., Nadorff, M., & Osman, A. (2014). Relations between hopelessness, depressive symptoms and suicidality: Mediation by reasons for living. *Journal of Clinical Psychology, 70(1)*, 18-31.
- Beck, A. T., Kovacs, M., & Weissman, A. (1979). Assessment of Suicidal Intention: The Scale for Suicide Ideation. *Journal of Consulting and Clinical Psychology, 47(2)*, 343 - 352.
- Boehmer, S., Luszczynska, A., & Schwarzer, R. (2007). Coping and quality of life after tumor surgery: Personal and social resources promote different domains of quality of life. *Anxiety, Stress, & Coping, 20(1)*, 61-75.
- Branley-Bell, D., O'Connor, D. B., Green, J. A., Ferguson, E., O'Carroll, R. E., & O'Connor, R. C. (2019). Distinguishing suicide ideation from suicide attempts: Further test of the Integrated Motivational-Volitional Model of Suicidal Behaviour. *Journal of Psychiatric Research, 117*, 100-107.
- Britton, P. C., Duberstein, P. R., Conner, K. R., Heisel, M. J., Hirsch, J. K., & Conwell, Y. (2008). Reasons for living, hopelessness, and suicide ideation among depressed adults 50 years or older. *The American Journal of Geriatric Psychiatry, 16(9)*, 736-741.
- Bryan, C. J. & Rudd, M. D. (2018). *Brief Cognitive-Behavioral Therapy for Suicide Prevention*. New York, NY: The Guilford Press

- Cleiren, M. P. (1993). *Bereavement and adaptation: A comparative study of the aftermath of death*. Taylor & Francis.
- Cramer, R. J., Rasmussen, S., & Tucker, R. P. (2019). An examination of the Entrapment Scale: Factor structure, correlates, and implications for suicide prevention. *Psychiatry Research, 282*, 112550.
- De Beurs, D., Fried, E. I., Wetherall, K., Cleare, S., O'Connor, D. B., Ferguson, E., ... & O'Connor, R. C. (2019). Exploring the psychology of suicidal ideation: A theory driven network analysis. *Behaviour Research and Therapy, 120*, 103419.
- Elkins, D. N. (2009). The medical model in psychotherapy: Its limitations and failures. *Journal of Humanistic Psychology, 49(1)*, 66-84.
- Frankl, V. E. (1985). *Man's search for meaning*. Simon and Schuster.
- Gilbert, P. & Allan, S. (1998). The role of defeat and entrapment (arrested flight) in depression: an exploration of an evolutionary view. *Psychological Medicine, 28*, 585 - 598.
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2009). *Acceptance and commitment therapy*. Washington, DC: American Psychological Association.
- Hayes, A. M., Beevers, C. G., Feldman, G. C., Laurenceau, J., & Perlman, C. (2005). Avoidance and processing as predictors of symptom change and positive growth in an integrative therapy for depression. *International Journal of Behavioral Medicine, 12*, 111–122.
- Heisel, M. J., Neufeld, E., & Flett, G. L. (2016). Reasons for living, meaning in life, and suicide ideation: investigating the roles of key positive psychological factors in reducing suicide risk in community-residing older adults. *Aging & Mental Health, 20(2)*, 195 - 207.
- Ivanoff, A., Jang, S. J., Smyth, N. J., & Linehan, M. M. (1994). Fewer reasons for staying alive

- when you are thinking of killing yourself: The Brief Reasons for Living Inventory. *Journal of Psychopathology and Behavioral Assessment*, 16(1), 1-13.
- Jobes, D. A. (2012). The Collaborative Assessment and Management of Suicidality (CAMS): An Evolving Evidence-Based Clinical Approach to Suicidal Risk. *Suicide and Life-Threatening Behavior*, 42(6), 640 – 653.
- Keyes, C. L. (2005). Mental illness and/or mental health? Investigating axioms of the complete state model of health. *Journal of Consulting and Clinical Psychology*, 73(3), 539.
- Kleiman, E. M., & Beaver, J. K. (2013). A meaningful life is worth living: Meaning in life as a suicide resiliency factor. *Psychiatry Research*, 210(3), 934-939.
- Linehan, M. M., Goodstein, J. L., Nielsen, S. L., & Chiles, J. A. (1983). Reasons for staying alive when you are thinking of killing yourself: the Reasons for Living Inventory. *Journal of Consulting and Clinical Psychology*, 51(2), 276.
- Lockman, J. D., & Servaty-Seib, H. L. (2018). Testing the predictions of the existential constructivist theory of suicide in a college student sample. *Journal of Counseling Psychology*, 65(3), 294.
- Martela, F., & Steger, M. F. (2016). The three meanings of meaning in life: Distinguishing coherence, purpose, and significance. *The Journal of Positive Psychology*, 11(5), 531-545.
- Metalsky, G. I., & Joiner, T. E. (1997). The hopelessness depression symptom questionnaire. *Cognitive Therapy and Research*, 21(3), 359-384.
- Moody, C., Fuks, N., Peláez, S., & Smith, N. G. (2015). “Without this, I would for sure already be dead”: A qualitative inquiry regarding suicide protective factors among trans adults. *Psychology of Sexual Orientation and Gender Diversity*, 2(3), 266.

- Niemiec C.P. (2014) Eudaimonic Well-Being. In: Michalos A.C. (eds) *Encyclopedia of Quality of Life and Well-Being Research*. Springer, Dordrecht
- O'Connor, R. C. (2011). Towards an integrated motivational–volitional model of suicidal behaviour. *International Handbook of Suicide Prevention: Research, Policy and Practice, 1*, 181-98.
- O'Connor, R. C., Smyth, R., Ferguson, E., Ryan, C., & Williams, J. M. G. (2013). Psychological processes and repeat suicidal behavior: A four-year prospective study. *Journal of Consulting and Clinical Psychology, 81*(6), 1137.
- O'Connor, R. C., & Kirtley, O. J. (2018). The integrated motivational–volitional model of suicidal behaviour. *Philosophical Transactions of the Royal Society B: Biological Sciences, 373*(1754), 20170268.
- Pakenham, K. I. (2008). Making sense of caregiving for persons with multiple sclerosis (MS): The dimensional structure of sense making and relations with positive and negative adjustment. *International Journal of Behavioral Medicine, 15*, 241–252.
- Park, N., Park, M., & Peterson, C. (2010). When is the search for meaning related to life satisfaction? *Applied Psychology: Health and Well-Being, 2*(1), 1-13.
- Park, C. L. (2005). Religion as a meaning-making framework in coping with life stress. *Journal of Social Issues, 61*, 707–729.
- Ren, Y., You, J., Lin, M. P., & Xu, S. (2019). Low self-esteem, entrapment, and reason for living: A moderated mediation model of suicidal ideation. *International Journal of Psychology, 54*(6), 807-815.
- Roberts, K. J., Lepore, S. J., & Helgeson, V. S. (2006). Social–cognitive correlates of adjustment to prostate cancer. *Psycho-Oncology, 15*, 183–192

- Thompson, S. C. (1985). Finding positive meaning in a stressful event and coping. *Basic and Applied Social Psychology, 6(4)*, 279-295.
- Tucker, R. P., O'Connor, R. C., & Wingate, L. R. (2016). An investigation of the relationship between rumination styles, hope, and suicide ideation through the lens of the integrated motivational-volitional model of suicidal behavior. *Archives of Suicide Research, 20(4)*, 553-566.
- Tunaley, J. R., Slade, P., & Duncan, S. B. (1993). Cognitive processes in psychological adaptation to miscarriage: A preliminary report. *Psychology and Health, 8(5)*, 369-381.
- Sinclair, S., Bryan, C. J., & Bryan, A. O. (2016). Meaning in life as a protective factor for the emergence of suicide ideation that leads to suicide attempts among military personnel and veterans with elevated PTSD and depression. *International Journal of Cognitive Therapy, 9(1)*, 87-98.
- Steger, M. F., Frazier, P., Oishi, S. & Kaler, M. (2006). The Meaning in Life Questionnaire: Assessing the Presence of and Search for Meaning in Life. *Journal of Counseling Psychology, 53(1)*, 80 - 93.
- Sturman, E., & Mongrain, M. (2005). Self- criticism and major depression: An evolutionary perspective. *British Journal of Clinical Psychology, 44(4)*, 505-519.
- Wong, P. T. (2010). Meaning therapy: An integrative and positive existential psychotherapy. *Journal of Contemporary Psychotherapy, 40(2)*, 85-93.

Table 1*Bivariate correlations, means, standard deviations, skew, and kurtosis*

Variable	1	2	3	4	5	6	<i>M</i>	<i>SD</i>	Skew	Kurtosis
1. BRFL	—						55.19	11.73	-0.71	0.01
2. BSSI-19	-0.32***	—					4.14	.78	3.58	13.85
3. MLQ Presence	0.43***	-0.54***	—				25.43	7.38	-0.83	0.02
4. MLQ Search	0.10	0.04	-0.03	—			26.50	6.38	-0.75	0.20
5. External Entrap	-0.27***	0.44***	-0.51***	0.18*	—		18.00	9.21	1.23	0.72
6. Internal Entrap	-0.36***	0.54***	-0.61***	0.18**	0.833***	—	11.21	6.54	1.18	0.24

Note: *** $p < .001$, ** $p < .01$, * $p < .05$; BRFL=Brief Reasons for Living scale total score; BSSI-19=Beck's Scale for Suicidal Ideation 19 item; MLQ Presence= Meaning in Life Questionnaire, presence subscale; MLQ Search=Meaning in Life Questionnaire, search subscale

Table 2*Conditional effects of internalized entrapment and SI severity at levels of the moderators*

BRFL	Search for Life meaning	<i>B</i>	<i>SE</i>	<i>p</i>	LLCI	ULCI
Low	Low	.44	.06	.00	.32	.56
Low	Mean	.25	.04	.00	.27	.43
Low	High	.26	.06	.01	.13	.38
Mean	Low	.19	.07	.01	.05	.32
Mean	Mean	.20	.04	.00	.12	.28
Mean	High	.22	.04	.00	.14	.30
High	Low	-.07	.11	ns	-.29	.15
High	Mean	.05	.06	ns	-.06	.18
High	High	.18	.06	.00	.06	.30

Note. BRFL= Brief Reasons for Living; *B*= beta weight, *SE*=standard error; ns= not significant; LLCI=Lower level confidence limit; ULCI=Upper level confidence interval ; Values of the moderators are calculated at mean levels, one standard deviation below the mean (Low), and one standard deviation above the mean (High).

Table 3*Conditional effects of externalized entrapment SI severity at levels of the moderators*

BRFL	Presence of Life meaning	<i>B</i>	<i>SE</i>	<i>p</i>	LLCI	ULCI
Low	Low	.21	.03	.00	.15	.28
Low	Mean	.12	.04	.00	.04	.20
Low	High	.03	.06	ns	-.10	.15
Mean	Low	.12	.03	.00	.06	.18
Mean	Mean	.08	.03	.00	.02	.13
Mean	High	.03	.79	ns	-.04	.10
High	Low	.03	.05	ns	-.06	.12
High	Mean	.03	.03	ns	-.04	.10
High	High	.03	.05	ns	-.06	.12

Note. BRFL= Brief Reasons for Living; *B*= beta weight, *SE*=standard error; ns= not significant; LLCI=Lower level confidence limit; ULCI=Upper level confidence interval; Values of the moderators are calculated at mean levels, one standard deviation below the mean (Low), and one standard deviation above the mean (High).

Table 4*Conditional effects of externalized entrapment and SI severity at levels of the moderators*

BRFL	Search of Life meaning	<i>B</i>	<i>SE</i>	<i>p</i>	LLCI	ULCI
Low	Low	.37	.05	.00	.28	.47
Low	Mean	.26	.03	.00	.20	.33
Low	High	.16	.05	.00	.06	.25
Mean	Low	.14	.04	.00	.06	.23
Mean	Mean	.13	.03	.00	.08	.18
Mean	High	.12	.03	.00	.06	.18
High	Low	-.09	.07	ns	-.22	.05
High	Mean	.00	.04	ns	-.07	.08
High	High	.09	.04	.03	.01	.18

Note. BRFL= Brief Reasons for Living; *B*= beta weight, *SE*=standard error; ns= not significant; LLCI=Lower level confidence limit; ULCI=Upper level confidence interval; Values of the moderators are calculated at mean levels, one standard deviation below the mean (Low), and one standard deviation above the mean (High).