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A Qualitative Assessment and Short-Term Mediation Analysis of Defeat, Entrapment, and Suicide

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Abstract

Objectives: The Integrated Motivational-Volitional Model (IMV) of Suicide is growing in empirical support. The present study advances IMV research through two aims: (1) to qualitatively probe the subjective experiences of defeat, internal entrapment, and external entrapment, and (2) conducting a 3-month prospective mediation analysis using quantitative and qualitative metrics of defeat and entrapment.

Methods: The study featured an online two-point survey separated by 3 months. Participants were 255 adults living in the United Kingdom.

Results: Persons endorsing qualitative defeat and internal entrapment in their narratives also showed higher quantitative scores on corresponding IMV and suicide-related self-report scales. Internal entrapment mediated the effect of baseline defeat on 3-month suicidal ideation, whereas external entrapment mediated the association of baseline defeat on 3-month suicide attempt likelihood.

Quantitative assessment of entrapment was more significantly associated with suicide attempts and ideation within mediation tests compared to corresponding qualitative variables.

Conclusions: IMV model principles are largely supported by findings. Mediation results support further consideration of entrapment and defeat within clinical practice and public health-focused suicide research. Understanding the complexity of entrapment narratives represents an important next step for conducting qualitative IMV-focused research with minoritized and high-risk suicide populations.

Key Words: Suicidal ideation; Suicide attempt; Entrapment; Defeat; United Kingdom; Integrated Motivational-Volitional Model.

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Introduction

Over 700,000 people die by suicide every year globally (World Health Organization (WHO), 2021). In the United Kingdom (UK), suicide accounts for approximately 22% of deaths among people between the ages of 20-34 (Office for National Statistics (ONS), 2020). Suicide is therefore a public health priority, and current UK suicide prevention strategies encourage research into the detection, treatment, and management of those at risk of suicide. Due to the complexity of suicide, there has been a call for research which identifies modifiable factors related to suicidality (i.e., thoughts, plans, and behaviours) which may contribute to the early detection of suicide risk, and which can inform development of prevention initiatives (Kleiman & Anestis, 2015). Consequently, identifying modifiable risk factors for suicidal thoughts and behaviours (STBs), is critical to enhancing public health strategies aimed at reducing suicide rates.

Defeat and entrapment represent key risk factors for suicidal thinking and behaviours and therefore have the potential to impact clinical care, intervention, and prevention development. The constructs of defeat and entrapment originally emerged from the animal literature. One of the first theoretical efforts to translate the findings from the animal literature to a human context comes from social rank theory (SRT; Price, 1972) which attempts to explain the submissiveness and withdrawal which is typical of depression. The social rank concepts of defeat and entrapment were later operationalised by self-report scales developed by Gilbert and Allan (Defeat and Entrapment Scales (D- and E-Scales, respectively; 1998) and remain the core measures of defeat (i.e., a perception of failed struggle and powerlessness) and entrapment (i.e., a perceived inability to escape from unbearable situations) in the suicidology literature today. Gilbert (2000) described different types of events which have the potential to induce a feeling of defeat in a person including a failure to obtain, or loss of, valued social and/or material resources, and social or internally generated criticism. Entrapment, on the other hand, captures a person's subjective perceptions of their circumstances being inescapable either through no personal agency to change circumstances or through rescue from others.

Both defeat and entrapment-based premises have seen clear empirical support (e.g., Russell, Rasmussen, & Hunter, 2018). For example, O'Connor et al. (2013) reported that pre-discharge levels of entrapment predicted suicide attempt status at four-year follow-up among adults hospitalised for a

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suicide attempt. To date, one systematic review (Taylor et al., 2011) and one meta-analysis (Siddaway et al., 2015) concluded that entrapment is a transdiagnostic construct, which is central to the development of STBs. Entrapment is also a vital concept germane to emerging suicide prevention theory, clinical diagnosis, and intervention. For instance, it has received empirical support as the core symptom of the Suicide Crisis Syndrome (SCS; e.g., Galynker et al., 2017; Li et al., 2018).

Entrapment was originally proposed as a key psychological construct within the Cry of Pain model of suicide (Williams, 1997, 2001; Williams & Pollock, 2000, 2001), and has subsequently been highlighted as an important component of the formation of suicidal ideation (SI) within the Integrated Motivational-Volitional Model (IMV; O'Connor, 2011; O'Connor & Kirtley, 2018) of Suicidal Behaviour.

The IMV posits a three-stage process leading to a suicide attempt or death. In the pre-motivational phase (i.e., background vulnerability), an interaction between predisposition (e.g., demographics), life events (e.g., stress), and environment (e.g., social network) sets the stage for formation of feelings of defeat. In the motivational phase (i.e., risk related thinking and perceptions), a mediation pathway from defeat to SI runs through entrapment. There are a number of factors within the motivational phase which may attenuate or worsen the transition from defeat to entrapment (threat to self- moderators; e.g., social problem solving, coping) and from entrapment to suicidal ideation (motivational moderators; e.g., perceived burdensomeness, thwarted belongingness). Finally, the volitional phase (transition from ideation to behaviour) presumes suicide attempt or death results from ideation and intent driven by a number of volitional moderators (e.g., past behaviour, access to means). That is, the final volitional phase deals with variables which may impact on the intention-behaviour gap, and which will subsequently make it more likely that suicidal thoughts will be translated into behaviours.

The IMV is a useful starting point for better understanding suicidal risk in that it recognises the complexity of suicide whilst also providing testable hypotheses. Several studies to date have demonstrated the general validity of the model (e.g., Dhingra et al., 2015; Russell et al., 2018; Tucker, et al., 2016). Further, most evidence to date suggests entrapment is best conceptualized and measured as a two-factor construct: internal and external entrapment (Gilbert & Allan, 1998; Cramer et al.,

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2019; Forkman et al., 2018). In addition, prospective investigations of the relationship between defeat, entrapment and suicidal ideation confirmed the proposed relationships between the key theoretical variables (e.g., Branley-Bell et al., 2019; Slade et al., 2014).

Despite the clear significance of defeat and entrapment, there remain unanswered questions. For instance, the respective roles of internal and external entrapment within this theoretical context requires further attention. While the defeat-entrapment-suicidal ideation pathway has been supported in prior research, much of this literature focuses on clinical or high-risk groups. Lucht et al. (2020) found that total entrapment, internal and external entrapment mediated the relationship between defeat and suicidal ideation in a psychiatric sample; however, they also found that the effect size was greater for internal entrapment. Among persons diagnosed with bipolar disorder, Owen et al. (2018) found that internal entrapment, but not external entrapment, mediated the relationship between defeat and entrapment in a clinical sample over a 4-month follow-up period. In addition, Höller et al. (2022) indicated that defeat was associated with changes in both internal and external entrapment over time, and that defeat and internal, but not external, entrapment were able to predict suicidal ideation over 12 months in a clinical sample. While the clinical focus is valuable, a public health view of suicide prevention suggests needing to test and identify key suicide risk factors among the general population (Cramer & Kapusta, 2017). In an effort to do so, one cross-sectional study examined the collective effects of defeat and entrapment on suicidal thoughts and behaviours among adults living in the UK; results showed internal, but not external, entrapment was associated with lifetime suicidal behaviour (Cramer et al., 2019). Additional prospective testing of the IMV among the general population is still needed.

Finally, current entrapment-related knowledge is limited to quantitative self-report inventories such as the D- and E-Scales (Gilbert & Allan, 1998), leaving gaps concerning the narrative lived experience of entrapment. To our knowledge, few studies to date have used qualitative methods to directly elaborate on the IMV constructs of defeat and entrapment. Zortea and colleagues (2019) interviewed nine people with suicide lived experience to explore in more detail the nature of the relationship between attachment and STBs in adults. They found that a qualitative approach to this topic was able to provide valuable theoretical contributions by highlighting how secure and insecure

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forms of attachment may be linked to suicide risk. Authors interpreted these findings through an IMV perspective as pre-motivation factors. That is, they argued that attachment findings provided support for the IMV model by showing how differing exposures to early attachments can contribute to suicide risk by shaping an individual's perceptions and thoughts about themselves as well as others. More on point to interrogating the experience of entrapment, based on semi-structured interviews, Kidd (2004) found that a sense of being trapped was a primary factor in driving suicide among a sample of 80 Canadian youth experiencing homelessness. Also, Tzeng (2001) interviewed ten Taiwanese persons after a suicide attempt. Key entrapment-focused themes identified in the post-suicide attempt experiences included being controlled by others versus striving to live for oneself, and a desire to leave one's family. Both themes align conceptually with the external entrapment. Qualitative methods, therefore, offer a way of extending our understanding of key theoretical constructs, and represent an important step in theory development and refinement. In addition, qualitative measures may add further knowledge which can inform future IMV-based research and intervention development.

The Present Study

The current study examined the IMV variables of defeat and entrapment, and their predictive links to suicidal thinking and future suicide attempt likelihood, over a period of three months using both standardised measures of defeat and entrapment (i.e., the D- and E-Scales, Gilbert & Allan, 1998) and a qualitative examination of entrapment and defeat. On that basis, the first aim was to examine whether there were any associations between the quantitative and qualitative measures of the IMV constructs. We expected presence of qualitatively coded IMV constructs (versus absence) to be associated with worse scores on that respective measure (H1). For instance, qualitatively coded defeat would be associated with higher scores on the D-Scale. The second aim of the study was to conduct a short-term prospective mediation analysis to assess the predictive utility of defeat and entrapment. We expected internal, but not external, entrapment to mediate the association between baseline defeat and 3-month suicidal ideation (H2a) and suicide attempt likelihood (H2b). We explored whether quantitative versus qualitative measurement of defeat and entrapment made a difference in observed mediation findings (research question [RQ]1).

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Materials & Methods

Participants. A total of 255 adults living in the United Kingdom took part in the study. Table 1 contains demographic, IMV and suicide variable descriptive statistics. The sample was predominantly young adult, cisgender women, heterosexual, White, and resided in Scotland. Employment status was mixed. Qualitatively coded IMV constructs were frequently represented (20.0-65.3%). All IMV scale scores were below respective mid-points. Total suicide ideation was in the low-risk range (Van Spijker et al., 2014), and suicide attempt likelihood reflected an average score between “no chance at all” and “unlikely” (Osman et al., 2001).

Procedure. This study was approved by the ethics committee of the [name withheld for anonymity reasons]. Data were collected between November 2019 and May 2020; as such, a small overlap was observed with the first pandemic lockdown in the UK (lockdown started in March 2020). This overlap primarily impacted the follow-up component of the study. Data were collected using a Qualtrics survey which first asked potential participants to read an information sheet (PIS) and giving consent before being able to access the survey. Both the PIS and the debriefing sheet were downloadable and contained information about relevant support organisations (e.g., Samaritans). In addition, all participants who scored above 21 on the Suicidal Ideation Attributes Scale (SIDAS; Van Spijker et al., 2014), and who provided an email address, were contacted and reminded about the available support resources (e.g., national suicide support hotlines). It was made clear on the PIS that this would happen, and where individuals were not willing to give their email addresses, the support information was also presented in the PIS and on the debriefing sheet.

The study was advertised on the university research website, social media, and paper flyers in residence halls. Advertisements contained a description of the survey and a shortened survey link; paper advertisements also included a QR code that directed users to the survey. The study was advertised as being a project interested in understanding better the factors that contribute to, or protect us from, psychological distress, including STBs. Individuals were invited to take part regardless of whether they had previous experience of STBs. Participants were eligible if they were resident in the UK and at least 16 years of age. The baseline survey contained questions related to demographics, the IMV variables (defeat, entrapment, suicidal ideation, and future suicide attempt likelihood), IMV-

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focused open-ended questions, mental health (e.g., depression) and physical health (e.g., sleep).

Participants provided an optional email address in the debriefing form if they wanted to be contacted for the three-month follow up survey. The follow up survey only contained the suicidal ideation and behaviour measures, and sleep-related questions. Participants were asked to include their email address as well as a self-generated code which was used to link the data from the different surveys. Email addresses were deleted from the survey after pre-post data merging, and the data were anonymised upon completion of the study in May 2020.

Measures.

Demographics. Participants provided the following information: age, race, gender, sexual orientation, employment status, and country of residence (see Table 1).

Quantitative IMV Constructs. IMV constructs were measured with the Defeat Scale (D-Scale) and Entrapment Scale (E-Scale), respectively (Gilbert & Allan, 1998). The D-Scale is a 16-item measure capturing one's sense failed struggle and perceived powerlessness. Each item is rated on a 5-point (0-4) scale with a summed total score. Internal consistency values are consistently high (.93-.94; Gilbert & Allan, 1998), including in a sample of adults in the UK (.96; Rasmussen et al., 2021). Internal consistency for the present sample was .96. The E-Scale is a 16-item measure assessing one's sense of being trapped due to personal beliefs or social and situational circumstances. E-Scale items are scored on a 5-point (0-4 scale), yielding two subscales: internal entrapment and external entrapment, as well as a possible total score. Factor analytic evidence favours the two-factor E-Scale structure (e.g., Cramer et al., 2019; Gilbert & Allan, 1998). Internal consistency values for internal (.86-.94) and external (.88-.90) entrapment are consistently high (Gilbert & Allan, 1998), including among adults living in the U.K. (.95 for internal and .93 for external entrapment). Internal consistencies for the present sample were .94 and .95 for internal and external entrapment, respectively.

Qualitative IMV Constructs. We devised the following two-step strategy to gather participant perspectives on subject experiences of entrapment and defeat. First, participants completed the entire E-Scale. Second, they encountered a prompt followed by ten total qualitative questions. The

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online supplement appendix contains the exact prompt and series of qualitative questions. Participants encountered the following prompt:

“The last questions you answered are about feeling trapped. According to research, people can feel trapped by situations or obligations, as well as more personal things such as who they are as a person. We want to better understand what your thoughts were when you answered those questions. Below you will see a question that you already completed presented above a set of open-ended questions. Please refer to the question in bold while filling out your answers. Please note that if the questions below are not relevant to you, you can leave them blank.”

Following this prompt, we designed a set of follow-up open-ended questions in response to one external (i.e., external: *“I have a strong desire to escape from things in my life”*) and one internal (i.e., internal: *“I would like to get away from who I am and start again”*) entrapment item, resulting in the ten total questions. We selected two items that were most consistent with the general definitions of external and internal entrapment, respectively, in order to generate participant responses that could yield IMV-focused content. Each E-Scale item was followed by the following set of open-ended questions that were subsequently qualitatively coded: (1) What about you personally makes you feel this way?; (2) Write a couple of sentences about what was going on when you felt this way the most in your life.; (3) Why do you think other people feel this way from time to time?; (4) What do you think of when you think about *escaping from things in your life/getting away and starting again* (one or the other)? How could you do this if you wanted to?; (5) How, if at all, does feeling this way relate to your experience with suicide?

Suicidal ideation. Suicidal thinking was measured with the Suicidal Ideation Attributes Scale (SIDAS; Van Spijker et al., 2014). The SIDAS is a five-item assessment of past-month suicidal ideation addressing frequency, controllability, nearness to making an attempt, intensity, and functional impact. Items are summed for a total score (range 0 to 50), and a cut-score of >13 denotes high suicide risk. Internal consistency is high for the SIDAS (.91; Van Spijker et al., 2014). SIDAS internal consistency in the present sample was .83.

Suicide attempt likelihood. Suicide attempt likelihood was quantified by the Suicidal Behaviors Questionnaire-Revised (SBQ-R; Osman et al., 2001). The SBQ-R contains four items concerning suicide-related behaviour across one’s lifetime. Possible uses include a total summed score, clinical cut-score, and single items. Because the central question for the present study

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concerned a short-term prospective assessment of the IMV, we used SBQ-R item four which assesses future suicide attempt likelihood on a 7-point (0-6) scale. Use of the single item to capture future suicide attempt likelihood has yielded meaningful suicide-related findings in prior literature (e.g., Hilgeman et al., in press; Lund et al., 2019; Rasmussen et al., 2021).

Data analysis.

In the full sample (N=311), data missingness on items of interest varied between 0.0-36.5%. Data were screened for data quality checks in two steps. First, participants completing less than 95% of the survey were dropped. Second, respondents outside two standard deviations from the mean for time to completion were dropped. This left an analysable final sample of 255 persons.¹ Pooled regression-based multiple imputation (Enders, 2017) was used to supplant missing scale items but not missing demographics (e.g., age). We selected this approach because simulation research (e.g., Peyre et al., 2011; Scholmer et al., 2010) has shown multiple imputation to produce less bias in scalar health data compared to other approaches (e.g., mean substitution, hot deck replacement). Imputation featured the following parameters: linear regression approach for scalar data, 20 imputations, and a maximum of 100 case draws.

Open-ended responses were analysed using directed content analyses (Hsieh & Shannon, 2005) in Dedoose online qualitative software (Dedoose, n.d.). The coding team included five coders trained in qualitative methods. An initial codebook was created based on the IMV constructs and preliminary analyses of responses by the full team. The team coded an initial sample of 25 responses each (a pool of 125 total responses), and then used Dedoose's "test" function to confirm reliability. In line with qualitative best practices (e.g., Bakeman & Gottman, 1986; Syed & Nelson, 2015), any codes with a Kappa of less than 0.70 were revised through coding team discussion to arrive at a consensus definition. The codebook category was subsequently refined for additional coding. The finalized codebook was then used on the full sample (including the initial sample), with each response coded by two coders.

¹ Online supplement contains further detail on sample size determination.

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The specific coding procedure for the narrative data was as follows. We grouped the set of 10 responses by participant, such that each participant's responses were collapsed into one narrative for coding. Coders reviewed each narrative for respective codes (e.g., internal entrapment). Excerpts were extracted from the full narrative response based on when an idea or code first appeared, to the end of that respective chunk. Referring to online supplement Table 1 for examples, a code was marked as beginning where each example except idea could be identified. Only the end of that thought was included in the text narrative for the specific code. For instance, for defeat, the sample coded quote began and ended with: "Opportunities and prospects for the future were closed off by a series of mistakes and poor choices many years ago." It is possible for a coded excerpt to be more than once sentence.

Coders examined each participant's open-ended response using the process above to document whether themes of each IMV construct (i.e., defeat, internal entrapment, and external entrapment) were present in the narrative. If they were deemed to include information that was relevant to a specific construct (e.g., internal entrapment), it was coded as present and assigned a value of 1. If no information was included of relevance to a specific IMV construct, it was coded as not present as assigned a value of 0. Whilst we chose two questions from the entrapment scale which represented internal and external entrapment for this part of the study, we chose not to code the responses purely based on whether they represented internal or external entrapment within the standardised measure. Instead, in line with best practices in qualitative inquiry (e.g., Syed & Nelson, 2015), we employed IMV theory (O'Connor, 2011; O'Connor & Kirtley, 2018) to guide what content or constructs would be coded for in order to (a) try to capture the complexity of the entrapment construct (e.g., whether internal and external entrapment co-occur), and (b) the extent to which defeat may be present in narratives of entrapment. Qualitative code presence was analysed for the relevant constructs (e.g., internal entrapment, defeat) by exporting all codes from Dedoose. Aim 1 analyses featured independent-samples *T*-tests with Cohen's *d* effect sizes. Qualitatively coded defeat, internal entrapment, and external entrapment (all coded 0 = absent, 1 = present in narrative responses) were examined for between-groups variation in the defeat, internal entrapment, external entrapment, suicidal ideation, and suicide attempt likelihood quantitative scores. The purpose of the *T*-tests was to

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offer possible quantitative validation of the qualitative coding scheme. That is, to the extent presence of qualitative defeat (versus absence) in narrative responses was associated with higher levels on the D-Scale, we would be more confident in the validity of the qualitative codes.

For aim, 2, we tested four separate parallel mediation models.² In Model 1, baseline continuous defeat was the independent variable (IV), and SI at 3-month follow-up was the dependent variable (DV). In Model 2, baseline continuous defeat was the IV, and SA likelihood at 3-month follow-up was the DV. In Model 3, baseline dichotomous defeat (0 = absence, 1 = presence) was the IV, and SI at 3-month follow-up was the DV. In Model 4, baseline dichotomous defeat was the IV, and SA at 3-month follow-up was the DV. Four mediators were assessed across all models: (1) continuous internal entrapment (CIE), (2) continuous external entrapment (CEE), (3) dichotomous IE (0 = absence, 1 = presence), and (4) dichotomous EE (0 = absence, 1 = presence). A model contains mediation if the 95% bias corrected and accelerated confidence interval (BCa CI) for the indirect effect does not include 0 (Preacher & Hayes, 2008). Confidence intervals were bias-corrected and accelerated to reduce Type 1 errors and skewness in a sample distribution (Davison & Hinkley, 1997). Continuous predictors were grand mean centred to aid interpretation of beta coefficients (Schielzeth, 2010). All models were based on the logit-link function featuring maximum likelihood estimation (Muthén et al., 2011) and 5000 bootstrapped samples. Analyses were conducted using Mplus v. 8.8 (Muthén & Muthén, 2022).

Results

Aim 1: Associations between Quantitative and Qualitative IMV Constructs

Table 1 contains frequencies of the presence of each qualitative theme, with examples provided in Online Supplement Table 1. Table 2 contains a summary of quantitative IMV and suicide outcome scores by defeat, internal entrapment, and external entrapment qualitative codes. Online supplement table 1 contains illustrative quotes for each IMV-related narrative theme (defeat, internal and external entrapment). Confirming H1, results showed all quantitative IMV and suicide outcomes

² Prior to testing aim 2, we performed competing E-Scale measurement models that confirmed statistical support of the two-factor (i.e., internal and external) entrapment structure over the one-factor model. See online supplement Table 2 and text for detailed results.

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were significantly worse for persons expressing a theme of defeat in their narrative responses. All effects were moderately sized with the largest being for the differences in defeat score. Contrary to H1, endorsement of entrapment in qualitative narratives were not associated with significantly elevated quantitative IMV and suicide scores. However, patterns were in expected directions (i.e., persons reported higher quantitative scores for external entrapment, suicidal ideation, etc. when they also endorsed entrapment in qualitative responses). Consistent with H1, results showed that all quantitative IMV and suicide outcomes were significantly worse for persons endorsing a theme of internal entrapment. All effects were in the moderate-to-large range with the largest effect observed for quantitative internal entrapment.

Aim 2: Short-Term Mixed Method Prospective Test of the IMV

Model 1: Total Defeat Predicting SI at 3-Month Follow-Up. Figure 2 depicts this mediation analysis. When the mediators were included in the model, there was not a direct effect of baseline total defeat on SI at 3-month follow-up, $b = 0.09$, $SE = 0.07$, $p = .186$. Consistent with H2a, there was a significant indirect effect of CIE in the relationship between baseline total defeat and SI at 3-month follow-up, $b = 0.18$, $SE = 0.06$, $p = .003$, 95% CI: [0.06, 0.30]. Greater baseline total defeat was associated with higher CIE, and greater CIE was associated with higher SI at 3-month follow-up. There were no significant indirect effects of CEE ($b = 0.03$, $SE = 0.04$, $p = .493$, 95% BCa CI: [-0.05, 0.11]), dichotomous EE ($b = 0.01$, $SE = 0.02$, $p = .730$, 95% BCa CI: [-0.01, 0.07]), and dichotomous IE ($b = 0.02$, $SE = 0.05$, $p = .674$, 95% BCa CI: [-0.08, 0.14]) in the relationship between baseline total defeat and SI at 3-month follow-up.

Model 2: Total Defeat Predicting SA Likelihood at 3-Month Follow-Up. Online Supplement Figure 1 depicts this mediation model. When the mediators were included in the model, there was still a direct effect of higher baseline total defeat on SA at 3-month follow-up ($b = 0.03$, $SE = 0.03$, $p = .007$). Contrary to H2b, there was a significant indirect effect of CEE in the relationship between baseline total defeat and SA likelihood at 3-month follow-up, $b = 0.01$, $SE = 0.01$, $p = .022$, 95% BCa CI: [0.00, 0.03]. Greater baseline total defeat was associated with higher CEE, and greater CEE was associated with higher SA likelihood at 3-month follow-up. There were no significant indirect effects of CIE ($b = 0.01$, $SE = 0.01$, $p = .305$, 95% BCa CI: [-0.01, 0.03]), dichotomous EE (b

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= 0.00, $SE = 0.00$, $p = .640$, 95% BCa CI: [0.00, 0.01]), and dichotomous IE ($b = 0.00$, $SE = 0.01$, $p = .920$, 95% BCa CI: [-0.02, 0.02]) in the relationship between baseline total defeat and SA at 3-month follow-up.

Models 3: Dichotomous Defeat Predicting SI at 3-Month Follow-Up. Online supplement Figure 2 depicts this mediation model. When the mediators were included in the model, there was not a direct effect of baseline dichotomous defeat on SI at 3-month follow-up, $b = 0.10$, $SE = 0.93$, $p = .919$. In line with H2a, there was a significant indirect effect of CIE in the relationship between baseline dichotomous defeat and SI at 3-month follow-up, $b = 2.06$, $SE = 0.64$, $p = .001$, 95% BCa CI: [1.04, 3.62]. In comparison to people not reporting baseline dichotomous defeat, the presence of baseline dichotomous defeat was associated with higher CIE, and greater CIE was associated with higher SI at 3-month follow-up. There were no significant indirect effects of CEE ($b = 0.35$, $SE = 0.41$, $p = .391$, 95% BCa CI: [-0.25, 1.41]), dichotomous EE ($b = 0.64$, $SE = 10.03$, $p = .535$, 95% BCa CI: [-1.12, 3.07]), and dichotomous IE ($b = 0.59$, $SE = 1.20$, $p = .621$, 95% BCa CI: [-1.64, 3.16]) in the relationship between baseline dichotomous defeat and SI at 3-month follow-up.

Model 4: Dichotomous Defeat Predicting SA at 3-Month Follow-Up. Online supplement Figure 3 depicts this mediation model. When the mediators were included in the model, there was not a direct effect of baseline dichotomous defeat on SA at 3-month follow-up, $b = 0.13$, $SE = 0.16$, $p = .40$. Partially in line with H2b, there was an indirect effect of CIE ($b = 0.22$, $SE = 0.09$, $p = .009$) and CEE ($b = 0.16$, $SE = 0.07$, $p = .028$) in the relationship between baseline dichotomous defeat and SI at 3-month follow-up. In comparison to people not reporting baseline dichotomous defeat, the presence of baseline dichotomous defeat was associated with higher CIE, and greater CIE was associated with greater SA likelihood at 3-month follow-up. In comparison to people not reporting baseline dichotomous defeat, the presence of baseline dichotomous defeat was associated with greater CEE, and greater CEE was associated with greater SA at 3-month follow-up. There were no significant indirect effects of dichotomous EE ($b = 0.14$, $SE = 0.18$, $p = .417$, 95% BCa CI: [-0.10, 0.63]) and dichotomous IE ($b = 0.03$, $SE = 0.20$, $p = .900$, 95% BCa CI: [-0.40, 0.42]) in the relationship between baseline dichotomous defeat and SA at 3-month follow-up.

Discussion

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The goal of this study was to provide an in-depth examination of the IMV model of suicide with a particular focus on the constructs of defeat and entrapment using two approaches. First, we were interested in exploring the subjective experiences of defeat and entrapment. Second, we tested the utility of these qualitative measures, along with standardised measures of defeat and entrapment, in predicting suicide-related outcomes over a three-month period. We developed this study to address these specific aims given the transdiagnostic value of the constructs of defeat and entrapment, and the potential implications for a public or population health view of suicide prevention.

Broadly, and in line with previous research (e.g., Branley-Bell et al., 2019; Moscardini et al., 2022; O'Connor et al., 2013), we found support for the importance of defeat and entrapment in the prediction of suicide risk over time. Currently, measurement of defeat and entrapment generally involves the use of the original defeat and entrapment measures as proposed by Gilbert and Allan (1998), or shorter versions thereof (e.g., Griffiths et al., 2015). We therefore recognised the value of expanding on these well validated measures by also including opportunities for individuals to describe their own experiences of feeling defeated and trapped. Importantly, when adding in the qualitative capturing of defeat and entrapment, one key finding was that experiences of defeat and internal entrapment as described narratively were key predictors of suicide outcomes. Our approach allowed for participants to describe their relevant identities (e.g., transgender) or situations (e.g., workplace sector) factoring into their unique entrapment narratives. For instance, the following narrative clearly depicts the unique interplay between marriage and faith in one's experience of external entrapment: "I haven't been happy in my marriage for a long time now. I am religious and as such, believe that marriage is not a thing to take lightly and I didn't at the time but now I feel trapped in my life with this person I don't want to be with anymore" (see Online Supplement Table 1 for further examples). Giving voice to the unique expression of suicide related risk factors is in line with recent calls for expanding the role of lived experience narratives in suicide research (e.g., Watling et al., 2022).

In line with our first hypothesis (H1), we found that quantitative outcomes were worse for individuals who had qualitative responses which indicated experiencing defeat and internal entrapment, but not external entrapment. This is an interesting finding given that we found that external entrapment was more commonly coded than internal entrapment or defeat, with more readily

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apparent signifiers such as mentions of work, marriage or familial obligations in the responses compared to internal entrapment or defeat. This is, however, in line with past literature which suggests that whilst desires to escape are more frequently focussed upon external circumstances (Gilbert & Gilbert, 2003), the experience of internal entrapment is more highly associated with suicide (Baumeister, 1990).

The second aim of the study was to conduct a mediation test informed by the IMV, including both quantitative and qualitatively coded measures of defeat and entrapment. In line with recent literature (e.g., Höller et al., 2022), based on cross-sectional evidence from the UK (Cramer et al., 2019), we expected internal entrapment to mediate the association between baseline defeat and 3-month suicidal ideation and suicide attempt likelihood. We included both survey measures of defeat and entrapment (continuous) and qualitative measures of these constructs (dichotomous). Our findings highlighted that in the mediation analyses, only the continuous measures were predictive of outcomes over time. Specifically, we found that only continuous internal entrapment mediated the relationship between defeat and suicidal ideation. In contrast, continuous external entrapment mediated the relationship between defeat and suicide attempt likelihood.

Our results on continuous internal entrapment are certainly in line with previous work with both community and clinical samples which have highlighted the importance of this subdimension (Höller et al., 2022; Owen et al., 2018; Rasmussen et al., 2010). Because our qualitative coding of internal entrapment did not replicate this finding, it may suggest that the experience of entrapment is attributed to more temporal internal circumstances (possibly related to suicidal ideation). This attribution aligns well with other qualitative work from the wider depression and suicide literatures (e.g., Gilbert & Gilbert, 2003; Nicolopoulos et al., 2018). Participants navigating internal entrapment may have been more challenged to describe their experiences in this type of short answer survey; similarly, participants may have been more comfortable reporting external situations in short-answer texts.

We also found that external entrapment was implicated in the prediction of future suicide attempt likelihood (SBQ-R item 4; Osman et al., 2001). Within the context of the IMV, internal entrapment may have been linked to suicidal ideation due to a painful self-concept which creates a

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higher urgency to escape, and, therefore, increases the likelihood of suicidal thoughts. In contrast, external entrapment, which revolves around the perception of being trapped in external situations such as a difficult relationship or stressful job, may still be linked to suicidal outcomes. However, as external variables may seem easier to escape (e.g., leave a relationship or change jobs) compared to changing oneself, they may be linked to more distant thoughts of suicide. This potential certainly needs further examination going forward.

An alternative explanation of the external entrapment-suicide attempt likelihood links more closely with the Theory of Planned Behaviour (TPB; Ajzen, 1991), which informed the development of the motivational phase of the IMV (O'Connor, 2011). Whilst item 4 of the SBQ-R does not perfectly align with suicide outcomes as outlined by the IMV (i.e., suicide ideation, intent, attempt, and death; O'Connor & Kirtley, 2018), it does capture perceived likelihood of engaging in a future suicidal act. This aligns with TPB concepts such as perceived behavioural control (e.g., “how much control do I have in making the attempt?”) or attitudes toward/intentions about a health-related action (e.g., personal attitudes about the acceptability of suicide). External entrapment, as it reflects the influence of one’s context, may also align with a TPB perspective given the overt influence of aspects of TPB like perceived social norms (e.g., “what do others think about my making the attempt?”). In all, the role of external entrapment and utility of the suicide metric we employed may lend themselves to future TPB-specific models of suicide research investigation.

Whilst our study did not identify a predictive role for our qualitative narratives within the mediational models, narrative results do provide insight into the entrapment debate. To date, quantitative studies (e.g., Cramer et al., 2019; Gilbert & Allan, 1998) suggest entrapment may best be conceptualized as internal and external (versus a single entrapment factor). On a more individual level, narratives from our own study sometimes point to the complexities of entrapment. Coding suggested not only presence of both internal and external entrapment, but narratives where both may (a) be present simultaneously and (b) exacerbate one another’s impact on well-being. Consider the following narrative response: “Being a people pleaser makes me vulnerable and amplifies those keen to exploit whilst I know I let this happen, which makes it even worse.” This short narrative response about feeling trapped contains both internal (e.g., self-concept as a people pleaser) and external

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(inability to escape being exploited by others) elements. Many responses were similarly complex (see online supplement Table 1 for examples). Future research may dig into explanatory mechanisms as to why internal versus external entrapment may be linked to different aspects of suicide. This line of inquiry may also help disentangle the potential overlay of both entrapment subtypes or test their potentially interactive nature on suicidal thinking and behaviour.

Overall, it is also worth considering the findings in the theory validation versus predictive utility. According to the IMV, suicide ideation forms as a result of high defeat leading to elevated entrapment (O'Connor & Kirtley, 2018). We used quantitative assessments of baseline defeat and entrapment, as opposed to measuring change in entrapment emanating from feelings of defeat. We should therefore not assume our findings to be a true validation of the IMV. While supported by premises within the IMV, our findings more directly build on existing evidence (e.g., Branley-Bell et al., 2019; O'Connor et al., 2013; Weatherall et al., 2022) that defeat and entrapment predict suicide outcomes over time.

Implications. The present study has a number of implications. Recent literature addresses entrapment within the SCS clinical diagnosis (e.g., Galynker et al., 2017; Li et al., 2018). That is, SCS is a proposed clinical diagnosis specific to suicide, as opposed to treating STBs as diagnostic criterion for other disorders (e.g., depression). From this clinical perspective, a suicide crisis is thought to emerge from a distorted view of one's personal narrative about the self; such a disruption leads to a suicide crisis state due to high distress and a hopeless future (Schuck et al., 2019). Interestingly, entrapment is defined within suicide crisis syndrome (SCS) diagnostic criteria as an "urgent feeling of needing to escape a perceived inescapable life situation" (Schuck et al., 2019, p. 225). Our findings in the present study, coupled with other existing entrapment-suicide research (e.g., Cramer et al., 2019; Höller et al., 2022; Lucht et al., 2020), suggest the need for a more nuanced view of entrapment within the SCS framework. Namely, given both the robust evidence for the two-factor entrapment structure and primacy of internal entrapment in driving suicide ideation in many samples, SCS diagnostic criteria and suicide crisis-focused interventions may need to consider the difference between needing to escape the self versus environmental circumstances. The E-Scale may be a first step to test a dual entrapment focus in clinical application.

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Present findings also highlight future IMV-related research directions. Both defeat and entrapment are relevant to a number of mental health and suicide theories (e.g., Galynker et al., 2017; Sloman, 2000; Williams, 2001). In particular, the IMV has been useful in explaining suicide in clinical, high-risk collegiate, and general community samples (e.g., Cramer et al., 2019; Owen et al., 2018; Tucker et al., 2016). From a theoretical point of view, the motivational phase of the IMV model (O'Connor & Kirtley, 2018) identifies entrapment as a mediator of the defeat to suicide ideation relationship. The model does not currently specify differential roles for internal versus external entrapment; however, there is certainly growing evidence to suggest the value in considering these subdimensions separately (e.g., Owen et al., 2018; Rasmussen et al., 2010). In particular, separating them out in the context of intervention development may be valuable. Whilst external entrapment factors are caused by circumstances external to the individual (e.g., work, relationship issues), which may be possible to remediate through concrete actions, internal entrapment causes may require different approaches which may require a focus on changing thinking styles.

We would argue that the IMV is not only clinically relevant, but germane to understanding suicide from a public health point of view (Cramer & Kapusta, 2017). That is, the IMV addresses risk factors relevant to the general population and provides insights about individual and interpersonal levels of a social-ecology of suicide. As such, we recommend at least the following two next IMV research directions. First, contextual and structural level influences on defeat and entrapment should be investigated as additional moderators in the defeat-entrapment-suicide pathway. These may include, but not be limited to, suicide-relevant laws, suicide-related community attitudes or norms, and mental health access at the community level. Second, public health surveillance or epidemiological suicide research should consider assessing defeat and entrapment; existing short E- and D-Scales (Griffiths et al., 2015) exist to do so efficiently.

Limitations. The present study is not without key limitations. Regarding generalizability, the study comprised a large proportion of White cisgender women; moreover, the online data collection many have created recruitment inequities based on access to technology. In terms of measurement, we elected to pilot the qualitative questions around entrapment due to the central linkage of entrapment to suicide via both the IMV (O'Connor & Portzky, 2018) and SCS (Galynker et al., 2017). We made this

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decision to also allow for depth in data balanced with brevity. That is, we did not include defeat-focused qualitative questions in order to keep the survey a manageable length for participants. We encourage future research exploring further qualitative defeat and entrapment narratives. In order to support such future inquiry, we provide our data collection strategy in the online supplement appendix. A next step would include similar follow-up open-ended questions after completing the D-Scale (Gilbert & Allan, 1998). As opposed to interview studies with deeper context, short answer qualitative studies of internal entrapment or defeat may require iterative research team dialogues regarding the manifestation of these concepts. It is also worth highlighting the low levels of suicidal ideation and future suicide attempt likelihood in the sample. We intentionally advertised the study to be open to any UK dwelling adult regardless of past STB history so that the sample would contain the full range of STBs. The clear trade off of this strategy is low frequency or skewed range in STBs. The under representation of STBs in the sample may have limited detection of significant findings. We recommend that future IMV studies sample equally from low- and high-risk groups based on lifetime or recent STBs. Finally, although relatively large, the sample size may have been under-powered for the full set of multiple mediation analyses. Conclusions about non-significant pathways should be viewed with caution, as our study may have failed to detect some significant pathways. Future work should replicate and extend mixed methods IMV tests over shorter and longer durations with larger, more diverse samples.

Conclusion

The present study supports the IMV among a general population of UK-dwelling adults and provides additional evidence for the two-factor view of entrapment. The mixed methods approach used in this study provides a starting point for future IMV qualitative research. Next steps in this line of inquiry include translation of entrapment and defeat assessment approaches to public health research and clinical practice.

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Table 1. *Participant Descriptive Information*

Variable	<i>n</i> (%)	<i>M</i> (<i>SD</i>)
Gender		
Cisgender male	48 (18.8)	-
Cisgender female	179 (70.2)	-
Transgender and gender diverse	28 (11.0)	-
Sexual orientation		
Straight	174 (68.2)	-
Gay	8 (3.1)	-
Lesbian	4 (1.6)	-
Bisexual	35 (13.7)	-
Queer	12 (4.7)	-
Questioning	8 (3.1)	-
Other (unspecified)	12 (4.7)	-
Not sure	1 (0.4)	-
Decline to state	1 (0.4)	-
Race/Ethnicity		
White	243 (95.3)	-
Asian	4 (1.6)	-
Arab	1 (0.4)	-
Mixed race	5 (2.0)	-
Other (unspecified)	2 (0.8)	-
Country of residence		
Scotland	187 (73.3)	-
England	50 (19.6)	-
Wales	6 (2.4)	-
Northern Ireland	4 (1.6)	-
Ireland	8 (3.1)	-
Employment status		
Full-time	97 (38.0)	-
Part-time	47 (18.4)	-
Self-employed	7 (2.7)	-
Student	82 (32.2)	-
Retired	8 (3.1)	-
Unemployed	14 (5.5)	-
Qualitative defeat		
Absent	121 (47.5)	-
Present	134 (52.5)	-
Qualitative internal entrapment		
Absent	110 (43.1)	-
Present	145 (56.9)	-
Qualitative external entrapment		
Absent	51 (20.0)	-
Present	204 (80.0)	-
Age	-	31.79 (12.61)
Defeat	-	28.69 (15.00)
Internal entrapment	-	9.91 (7.65)
External entrapment	-	14.49 (9.96)
Suicidal ideation	-	7.41 (9.43)
Suicide attempt likelihood	-	1.71 (1.47)

Notes: N=255; For qualitatively coded Integrated Motivational-Volitional Model characteristics, codes were rated as absent (0) or present (1); Defeat = Defeat Scale total score (Gilbert & Allen, 1998); Internal and external entrapment = Entrapment Scale subscale scores (Gilbert & Allen, 1998); Suicidal ideation = Suicidal Ideation Attributes Scale (SIDAS) total score (Van Spijker et al., 2014); Suicide attempt likelihood = Suicidal Behaviors Questionnaire-Revised (SBQ-R) item 4 (Osman et al., 2001); *M* = Mean; *SD* = Standard deviation.

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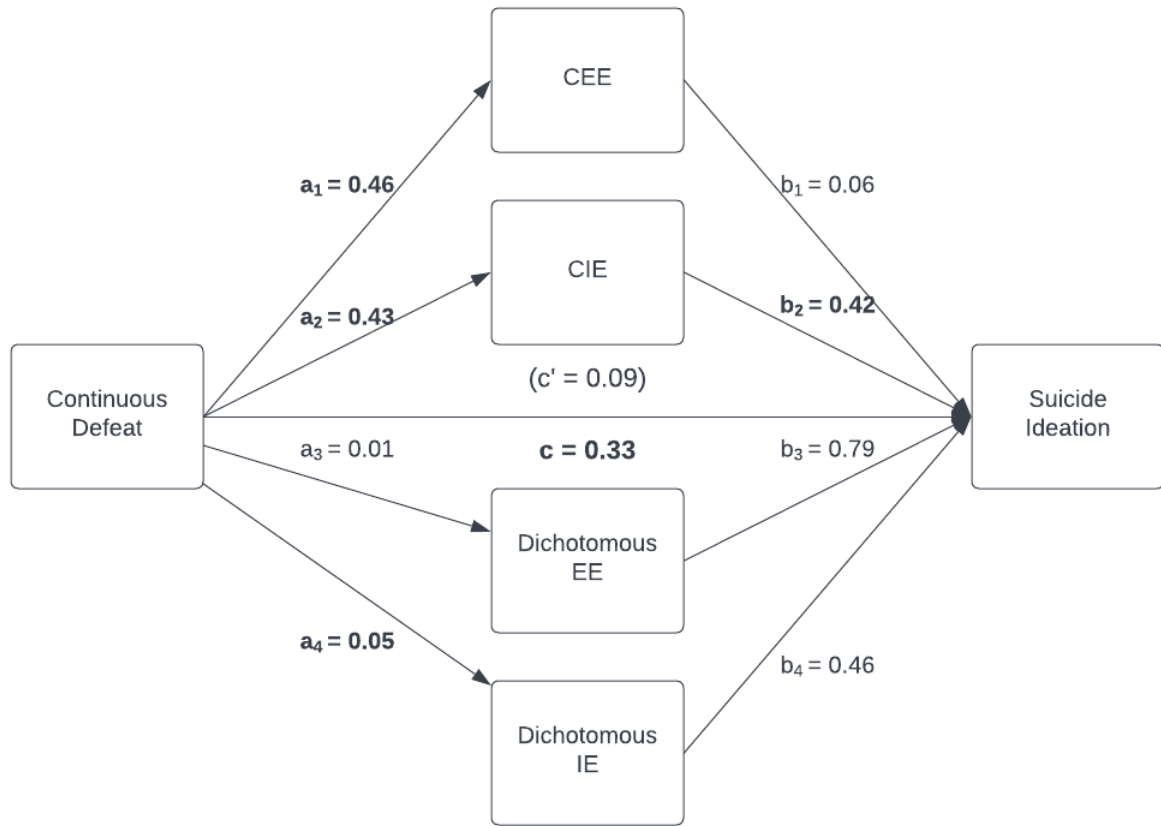
Table 2. *IMV and Suicide Outcomes by Defeat and Entrapment Qualitative Code Subgroups*

Quantitative Variable	Qualitative Defeat				Qualitative External Entrapment				Qualitative Internal Entrapment			
	Absent <i>M (SD)</i>	Present <i>M (SD)</i>	<i>T, p</i>	<i>d</i>	Absent <i>M (SD)</i>	Present <i>M (SD)</i>	<i>T, p</i>	<i>d</i>	Absent <i>M (SD)</i>	Present <i>M (SD)</i>	<i>T, p</i>	<i>d</i>
Defeat	24.40 (13.71)	32.55 (15.12)	4.49, < .001	.56	27.35 (13.65)	29.01 (15.34)	0.71, .24	.11	22.96 (13.45)	33.03 (14.70)	5.61, < .001	.71
IE	7.92 (6.98)	11.70 (7.82)	4.05, < .001	.51	9.45 (7.53)	10.02 (7.70)	0.48, .32	.07	6.78 (6.68)	12.28 (7.52)	6.07, < .001	.77
EE	12.29 (8.58)	16.48 (10.07)	3.55, < .001	.47	14.00 (9.98)	14.61 (9.53)	0.41, .34	.06	11.58 (8.94)	16.70 (9.53)	4.36, < .001	.55
SI	7.40 (3.49)	9.07 (3.77)	2.99, .002	.37	7.59 (3.64)	8.44 (3.73)	1.47, .07	.23	7.29 (3.82)	9.02 (3.49)	3.76, < .001	.48
SA	1.42 (1.39)	1.96 (1.49)	3.66, < .001	.46	1.49 (1.36)	1.76 (1.49)	1.17, .12	.18	1.36 (1.49)	1.97 (1.40)	3.31, < .001	.42

Notes: N=255; Df for all analyses=253; Absent=Code absent; Present=Code present; *M*=Mean; *SD*=Standard deviation; df=Degrees of freedom; *d*=Cohen's *d*; *p*=*p*-value; IE=Internal entrapment; EE=External entrapment; SI=Suicidal ideation; SA=Suicide attempt likelihood.

Defeat, Entrapment, Suicide

Figure 2. *Baseline Continuous Defeat Associations with Suicide Ideation at 3-month Follow-Up Through Continuous External and Internal Entrapment, and Dichotomous Internal and External Entrapment*



Note. CEE = continuous external entrapment; CIE = continuous internal entrapment; EE = external entrapment; IE = internal entrapment; **Bold** font coefficients indicate significance at $p < .05$.