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Beliefs about the uncontrollability of emotions and interpersonal needs as predictors of Suicide Crisis Syndrome

Colmenero-Navarrete Lidia , Salguero José M *, García-Sancho Esperanza

Department of Personality, Evaluation and Psychological Treatment, University of Malaga, Spain

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ABSTRACT

Suicide Crisis Syndrome (SCS) is an "acute" mental state characterized by intense cognitive and affective dysregulation which aims to explain the psychological processes occurring in the days or hours prior to suicide behavior. SCS has been shown to be able to predict suicide behavior, however, few studies have studied which variables predict it. In this study we examined the predictive role of beliefs about the uncontrollability of emotions and interpersonal needs on SCS. We used a sample of 276 participants (50,4% male), ranging in age from 18 to 77 years, who completed a 4-month follow-up study, to address our hypotheses. Results showed that emotional uncontrollability beliefs and perceived burdensomeness predicted SCS. Furthermore, the perception of burdensomeness at Time 1 mediated the link between uncontrollability beliefs at Time 1 and SCS at Time 2. Clinical implications of these results and future lines of research are discussed.

1. Introduction

Suicide remains a profound concern for worldwide public health (WHO, 2021). In many instances, despite extensive suicide prevention efforts, it continues to remain unpredictable (Franklin et al., 2017). According to Berman (2018), more than 50% of patients who died by suicide explicitly denied experiencing suicidal ideation or intent during their interactions with healthcare professionals. Several underlying factors may contribute to explaining this non-disclosure, such as, the rapid fluctuations that suicide ideation and intent may exhibit within hours or minutes (Hallensleben et al., 2018), feelings of shame (Fulginiti and Frey, 2019), concerns about losing autonomy (Blanchard and Farber, 2020), a limited capacity for introspection that might impede the recognition and communication of such thoughts (Podlogar et al., 2020), or personality traits, such extraversion or trait anxiety (Bloch-Elkouby et al., 2023). While influential models have addressed medium and long-term risk factors for suicide (Joiner, 2005; O'Connor, 2011), there has been a growing demand in recent times to explore immediate risk assessment, even when patients do not self-disclose suicidal thoughts or ideation.

2. Suicide Crisis syndrome and suicide behavior

Suicide Crisis Syndrome (SCS) is a pre-suicidal cognitive–affective state that encompasses acute mental processes and indicates imminent risk for suicidal ideation and behaviors (Galynker et al., 2017). Although suicidal ideation may be present, it is not the central feature of SCS. This distinctiveness allows SCS to predict instances where individuals might not recognize or admit their suicidal ideation; although SCS has also been associated with higher disclosure of suicidal intent (Rogers et al., 2022a,b). SCS encompasses empirically-based symptoms that form a unidimensional syndrome (Schuck et al., 2019). Primarily, the core component of the SCS is characterized by a persistent and recurrent sensation of entrapment or frantic hopelessness, that is, an urgent need to escape or evade an overwhelming life situation (Galynker et al., 2017; Yaseen et al., 2014). Additional components encompass affective, cognitive, and behavioral alterations linked to the experience of entrapment/frantic hopelessness, such as affective disturbances, loss of cognitive control, hyperarousal, and social withdrawal (Galynker et al., 2017; Schuck et al., 2019).

A growing body of research is supporting the validity, reliability, and clinical usefulness of the SCS (Barzilay et al., 2020; Menon et al., 2022). SCS is recognized as a robust construct (Bloch-Elkouby et al., 2021) that can effectively predict short-term suicidal behavior (e.g., Barzilay et al.,

* Corresponding author. Department of Personality, Evaluation and Psychological Treatment School of Psychology University of Málaga, Campus de Teatinos s/n.29071, Malaga, Spain.
E-mail address: jmsalguero@uma.es (S. José M).

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2020; Calati et al., 2020; Cohen et al., 2022; Galynker et al., 2017; Yaseen et al., 2019). For example, it has proven to be predictive of suicidal thoughts and behaviors one month after discharge (Bloch-Elkouby et al., 2020a) and has demonstrated incremental predictive validity over suicidal ideation when it comes to suicide attempts (Rogers et al., 2022a,b). In addition, it has been widely used in both research and clinical settings (Menon et al., 2022; Otte et al., 2020) and demonstrated cross-cultural validity (Rogers et al., 2023). Yet, while SCS has been identified as a predictor of suicidal behavior, the factors that predict SCS itself remain less explored.

3. The Narrative Crisis Model of suicidality

The Narrative Crisis Model (NCM) of suicidality proposed by Galynker (2017) aims to provide a framework that helps to understand the relationship between long- and short-term risk factors for suicidal behavior, and that gives SCS a central role. The NCM is a dynamic multi-stage model of suicide that incorporates and combines well-documented distal and proximal risk factors for suicide. This model suggests that when individuals with distal risk factors or trait vulnerabilities (social, interpersonal, psychological, or historical characteristics) experience stressful life events, they may develop distinct perceptions of themselves and society, referred to as the "suicide narrative". Within the framework of this narrative, individuals perceive themselves as defeated and humiliated, experience a sense of burdensomeness (self-hatred and a belief that they are a liability), and lack a sense of belonging (loneliness or a disconnect between self and others, along with the absence of reciprocal care), which are known as "interpersonal needs" (Joiner, 2005). This leads to a sense of hopelessness and the belief that there is no future for them (Cohen et al., 2019; Galynker et al., 2017). This narrative increases the likelihood that individuals will move into the acute stage of the model: the SCS. Thus, chronic factors (trait vulnerabilities) lead to the suicidal narrative, which in turn leads to SCS, and SCS represents the most immediate predictor of suicidal behavior.

Recent studies have provided preliminary evidence for the NCM (see Bloch-Elkouby et al., 2022; Bloch-Elkouby et al., 2024, for a review). Cohen et al. (2018) found that SCS played a significant mediating role between trait vulnerabilities (e.g, perfectionism, impulsivity) and lifetime suicidal ideation and behaviors, and SCS has also found to mediate the connection between various themes within the suicidal narrative (e.g., thwarted belongingness or perceived burdensomeness) and lifetime suicide behavior (Cohen et al., 2019). Additionally, Bloch-Elkouby et al. (2020a), in a longitudinal study where patients were assessed upon admission, before discharge, and 1-month post-discharge, found that trait vulnerabilities (attachment problems and perfectionism) predicted the interpersonal needs aspects of the suicide narrative and that individuals who actively engaged in the suicidal narrative at the beginning were notably more likely to experience SCS symptoms at discharge. Finally, SCS predicted suicidal ideation and behavior at the 1-month follow-up.

In sum, the NCM suggests that distal risk factors, such as trait vulnerabilities, drive the suicide narrative (e.g., interpersonal needs), which predicts SCS (Bloch-Elkouby et al., 2022, 2024; Cohen et al., 2019). Despite the existence of evidence in this regard (Bloch-Elkouby et al., 2020a; Cohen et al., 2022), further research is needed, mainly by identifying the role of relevant trait vulnerabilities and using prospective studies. In this study, we focused on beliefs about the uncontrollability of emotions (Ford and Gross, 2019).

4. Beliefs about the uncontrollability of emotions, SCS, and suicidal behavior

Uncontrollability beliefs about emotions are understood as individuals' perceptions of their lack of ability to effectively manage or control their emotions (Ford and Gross, 2019). From the Ford and Gross (2019) perspective, this perception of uncontrol leads to a decreased motivation to practice and persevere with effective emotion regulation (ER) strategies, in favor of other "maladaptive" ones that require less practice but make it possible to quickly reduce negative emotions and/or regain perceived control (e.g., rumination); which have been linked to suicide (Colmenero-Navarrete et al., 2022). Higher levels of uncontrollability beliefs are predicted to be associated with intense emotions and clinical symptoms not only through the effect of these maladaptive strategies, but also directly because perceiving one's own emotions as uncontrollable would increase the sense of helplessness and stress when dealing with painful emotions (Ford and Gross, 2019).

Research has found evidence of these ideas. Beliefs about the uncontrollability of emotions have been associated with the use of maladaptive emotion regulation strategies, higher levels of emotional distress, and clinical symptoms (Arbulu et al., 2023; Hong and Kangas, 2022). Uncontrollability beliefs have also been linked to suicide (Khaleghi et al., 2021; Zhu and Wong, 2022). Khaleghi et al. (2021) found that individuals with stronger convictions about the uncontrollability of their emotions reported more pronounced suicidal behavior. Likewise, Zhu & Wong (2022) yielded analogous results in a prospective study involving a large adolescent cohort. Their study revealed that beliefs concerning the non-malleability of depression, anxiety, and stress predicted suicidal ideation, even when considering the initial levels of depression, anxiety, and suicidal ideation as control variables.

Based on these previous studies, Colmenero-Navarrete et al. (2024) examined if the relationship between uncontrollable beliefs and suicide could be mediated by SCS. They hypothesize that beliefs about emotional uncontrollability could be related to the SCS through a process in which the perceived lack of control over emotions triggers a series of negative emotional and cognitive responses. When someone holds beliefs about not beings able to control their emotions, they are more likely to experience increased emotional distress and a sense of helplessness and hopelessness in stressful or emotionally challenging situations, which would facilitate the transition to SCS. They tested this hypothesis in two cross-sectional studies, using both a clinical and a community sample, and found that those individuals who believe that their emotions are uncontrollable informed higher levels of SCS, suicide ideation and attempts. Moreover, their results shown that the association between uncontrollable beliefs and suicide behaviors were mediated by the SCS.

5. The present research: Beliefs about the uncontrollability of emotions, interpersonal needs, and SCS

The NCM posits that long-term factors lead to suicidal narrative (e.g., interpersonal needs), and narrative to SCS, which is the most proximal predictor of suicide. Previous studies have found evidence for this model (Cohen et al., 2018, 2019). Specifically, interpersonal needs have been associated with SCS (Bloch-Elkouby et al., 2020a). Furthermore, within the long-term factors, uncontrollable beliefs have also been linked to SCS (Colmenero-Navarrete et al., 2024) and suicide (Khaleghi et al., 2021). However, this evidence comes from cross-sectional studies that preclude the predictive role of uncontrollable beliefs and interpersonal needs on SCS. Moreover, there are no studies that have examined the relationship between uncontrollable beliefs and interpersonal needs, nor has been studied a model incorporating beliefs about emotional uncontrollability, interpersonal needs, and SCS, which would align with the NCM.

In this prospective study, we aimed to analyze the predictive role of emotional uncontrollability beliefs and interpersonal needs on the SCS. Although our primary focus is on the SCS, we will also examine the predictive role of these variables and SCS on suicidal ideation. Furthermore, we will explore potential bidirectional effects between the variables. We hypothesized that: (1) both uncontrollability emotional beliefs and interpersonal needs (thwarted belongingness, perceived burdensomeness) predict the SCS; (2) the association between

uncontrollability emotional beliefs and SCS is mediated by interpersonal needs; (3) uncontrollability emotional beliefs, interpersonal needs, and SCS predict suicidal ideation.

6. Method

6.1. Participants and procedures

A sample of 276 participants (50,4% male), ranging in age from 18 to 77 years (M = 39.01, SD = 13.15) completed the measures at Time 1, and then, four months later, at Time 2.

Among individuals from the sample, the majority self-identified as White (83.3%), while 4,3% identified as Black, 8.3% as Asian, 3.4% as mixed race, and .7% identified as other. In terms of educational level distribution: .4% had primary education, 18.1% had a General Certificate of Secondary Education (GCSE) or General Certificate of Education (GCE), 17% had Vocational Education and Training (VET) or a Certificate of Higher Education (HNC), 41.7% had obtained a Bachelor's Degree or University Degree, 18.5% had a Graduate Certificate (PGCert), Master's Degree, or Doctorate (PhD), and 4.3% had achieved a different education level. Finally, regarding relationship status, 39.5% were single, 29.3% were married, 26.4% had a stable partner (more than a year), 1.4% were widowed, 2.9% were divorced or separated, and .4% had a different status.

In this prospective study, participants were recruited through the Prolific platform (https://www.prolific.co) and received payment for completing an online survey. All participants provided informed consent and, after reading the instructions, proceeded to complete a battery of self-report questionnaires at the initial time point. Four months later, they were contacted again and asked to complete the same measures administered at Time 1. Although the use of crowdsourcing platforms has raised some methodological concerns, such as subject inattentiveness or repeated participation (for a review see Cheung et al., 2017), recent research has found evidence of the usefulness of Prolific in providing good quality data, also in longitudinal research (Douglas et al., 2023; Peer et al., 2021; Stanton et al., 2022).

The Ethics Committee of the University of Malaga (CEUMA, Registration Number: 8-2021-H) approved the procedure.

6.2. Measures

Suicide Crisis Syndrome (*The Suicide Crisis Inventory-Short Form, SCI-SF*; Galynker et al., 2017). It is an abbreviated 8-item version derived from the original Suicide Crisis Inventory, which initially comprised 49 items. This scale evaluates the presence and severity of the SCS, a mental state posited to precede suicidal behavior. This assessment summarizes a spectrum of affective and cognitive facets, including feelings of entrapment and flooding rumination. At Time 1, respondents are asked to indicate their feelings when they were at their worst in recent months (e.g., *Did you feel trapped?*), on a 5-point scale ranging from 0 (Not at all) to 4 (Extremely). At Time 2, they were asked their feelings when they were at their worst in the last four months (using the same point scale). Higher scores indicate more severe symptoms. This abbreviated version demonstrated good internal consistency (α = 0.87) (Calati et al., 2020). The sample in this study exhibited high internal consistency (Cronbach's α: .90 for T1; .91 for T2).

Emotional Uncontrollability Beliefs (*Beliefs about Emotions Questionnaire, BAEQ*; Manser et al., 2012). This self-report assessment comprises six subscales designed to assess various types of beliefs that individuals might hold about their emotions. These subscales explore perceptions of emotions as shameful and irrational, overwhelming and uncontrollable, useless, harmful, invalid and meaningless, and contagious. For this study, the 9-item emotional uncontrol subscale was employed. This subscale assesses participants' beliefs regarding their ability to manage their emotions (e.g., *"Once I start feeling upset, there's nothing I can do to stop it"*). Participants express their level of agreement with each item on a scale ranging from 1 (totally disagree) to 5 (totally agree). The emotional uncontrol subscale demonstrates favorable internal consistency, with α = 0.83 (Arbulu et al., 2023). Internal consistency in this sample was very good at both Time 1 and Time 2 (Cronbach's α: .94 for T1; .89 for T2).

Thwarted belongingness and perceived burdensomeness *(Interpersonal Needs Questionnaire Short-Form,* INQ; Van Orden et al., 2012). The INQ is a 15-item self-report measure that assesses thwarted belongingness (9 items) (e.g., "*I feel disconnected from other people*") and perceived burdensomeness (6 items) (e.g., "*I think my death would be a relief to the people in my life*"). Responses are provided on a 7-point Likert scale ranging from 1 (Not at all true for me) to 7 (Very true for me). Select items were recoded so that higher scores reflect higher levels of both variables. The internal reliability reported by Van Orden et al. (2012) was $\alpha = 0.85$. The internal consistency in the total scale in this sample was α = 0.89 in both T1 and T2.

Suicidal ideation (*Frequency of Suicide Ideation Inventory, FSII;* Chang and Chang, 2016). The FSII is a 5-item self-report scale designed to measure the frequency of suicidal thoughts experienced in the past 12 months (*Have you thought about hurting yourself? Have you believed that you did not deserve to live? Have you wondered what would happen if you ended your life? Have you thought about committing suicide? Have you wished you did not exist?*). At Time 2, they were asked about suicidal thoughts in the last 4 months. This measure is presented on a 5-point Likert scale ranging from 1 (never) to 5 (almost every day). The comprehensive score varies within the range of 5–25, with higher scores indicating a greater frequency of suicidal ideation. The original version of the scale demonstrates robust internal consistency (α = .96) (Chang and Chang, 2016). In the Spanish adaptation, the coefficient α is recorded at .89 (Sánchez-Álvarez et al., 2020). In both cases it is very good internal consistency. In this sample, Cronbach's α was .94 in both T1 and T2.

7. Data analyses

We used IBM SPSS (Version 23) for computing descriptive statistics, correlation analyses, and internal consistency (Cronbach's alpha), and JASP (Version .16.2) to conduct cross-lagged panel model and mediation analysis. We specified a cross-lagged panel model with the R package lavaan version (Rosseel, 2012). This approach allows simultaneous analysis of both time-lagged directions, thereby permitting the identification of possible bidirectional associations between the assessed variables (uncontrollability beliefs, interpersonal needs, SCS and suicidal ideation). In mediation analyses, we examined whether uncontrollability beliefs (Time 1) were linked to SCS (Time 2) through the effect of interpersonal needs (Time 1), when controlling for baseline levels of SCS (Time 1). We performed both the cross-lagged and the mediation analyses with observed variables and using the ML estimator with robust standard errors to account for non-normality (Rosseel, 2012).

8. Results

8.1. Bivariate analysis

Means, standard deviations, reliability of variables, and correlations between key variables are presented in Table 1. As expected, all variables correlated significantly at both Time 1 and Time 2. Specifically, at Time 1, significant positive correlations were identified between emotional uncontrollability beliefs and all variables. Furthermore, interpersonal needs (belongingness and burdensomeness subscales) were positively and significantly correlated with SCS. Additionally, suicidal ideation was found to be positively correlated with all the variables. This pattern persisted at Time 2, with all variables being significantly and positively intercorrelated. Moreover, all variables at Time 1 were significantly associated with the variables at Time 2.

Table 1
Means, standard deviations, reliabilities, and correlations among study variables.

	1	2	3	4	5	6	7	8	9	10
1. Suicide crisis syndrome (T1)	–									
2. Uncontrollability emotional beliefs (T1)	.64	–								
3. Thwarted belongingness (T1)	.53	.49	–							
4. Perceived burdensomeness (T1)	.61	.49	.63	–						
5. Suicidal ideation (T1)	.69	.54	.61	.76	–					
6. Suicide crisis syndrome (T2)	.69	.55	.47	.57	.58	–				
7. Uncontrollability emotional beliefs (T2)	.56	.75	.49	.48	.53	.67	–			
8. Thwarted belongingness (T2)	.43	.40	.74	.56	.52	.59	.58	–		
9. Perceived burdensomeness (T2)	.50	.43	.52	.78	.66	.64	.55	.63	–	
10. Suicidal ideation (T2)	.58	.46	.57	.70	.81	.69	.55	.72	.72	–
M	17.59	28.89	31.48	12.05	9.35	16.72	28.13	31.10	11.95	8.84
DT	7.94	8.92	9.8	7.59	5.03	7.68	8.99	9.66	7.54	4.68
α	.90	.94	.78	.93	.94	.90	.94	.79	.94	.94

Note. All variables are significant at $p < 0.01$; T1 = Time 1; T2 = Time 2.

8.2. Cross-lagged panel model

Standardized estimates of the cross-lagged panel model are displayed in Fig. 1. Results revealed a significant positive effect of emotional uncontrollability beliefs at Time 1 on SCS at Time 2 ($\beta = .13$, $SE = .05$, $p = .015$). Similarly, perceived burdensomeness at Time 1 predicted SCS ($\beta = .20$, $SE = .07$, $p = .002$), thwarted belongingness ($\beta = .13$, $SE = .08$, $p = .039$), and suicide ideation ($\beta = .19$, $SE = .033$, $p < .001$), at Time 2. Suicide ideation (T1) predicted perceived burdensomeness at Time 2 ($\beta = .16$, $SE = .09$, $p = .01$), so there was a bidirectional relationship between these variables. Contrary to our hypotheses, suicide ideation (T2) was not predicted by either SCS (T1) ($\beta = .02$, $SE = .03$, $p = .72$), emotional uncontrollability beliefs (T1) ($\beta = -.01$, $SE = .02$, $p = .94$), nor thwarted belongingness (T1) ($\beta = .06$, $SE = .02$, $p = .21$). None of the variables predicted emotional uncontrollability beliefs at Time 2. We examined the same model after controlling for relevant sociodemographic variables (age, gender and race) but the results remained significantly unchanged.

8.3. Mediation analysis

To test our second hypothesis, a mediation model was tested (see Fig. 2). Because thwarted belongingness fails to predict SCS in the cross-lagged analysis, we only included perceived burdensomeness in the model. The total effect, representing the association between emotional uncontrollability beliefs (T1) and SCS (T2), was found to be significant ($\beta = .18$, $SE = .06$, $p = .001$). Moreover, the indirect effect, —namely, the effect of emotional uncontrollability beliefs (T1) on SCS (T2) mediated by perceived burdensomeness (T1) — was also significant ($\beta = .04$, $SE = .02$, $p = .01$). Lastly, the direct effect, denoting associations between emotional uncontrollability beliefs (T1) and SCS (T2) not mediated by perceived burdensomeness (T1) emerged as statistically significant ($\beta = .14$, $SE = .05$, $p = .01$). Therefore, uncontrollability beliefs at T1 are associated with burdensomeness at T1, and this predicts SCS at T2 (controlling for the effect of SCS at T1).

9. Discussion

This study aimed to examine the predictive role of emotional

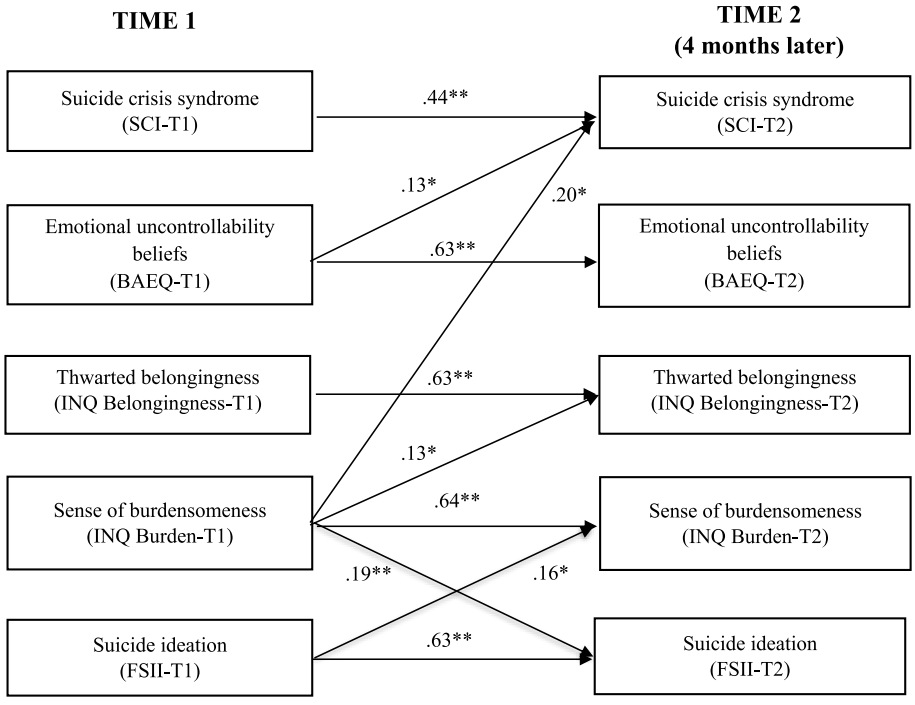


Fig. 1. Cross-Lagged Panel Model
Note. The lines containing non-significant betas have been omitted to enhance readability. *$p \leq 0.05$, **$p \leq 0.01$.

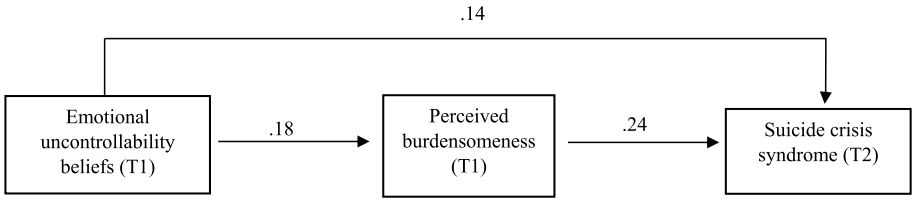


Fig. 2. Mediation Model for Emotional Uncontrollability Beliefs and Suicide Crisis Syndrome Through Perceived Burdensomeness
Note. All paths are significant at $p < .01$. $p < .01$.

uncontrollability beliefs and interpersonal needs on the SCS. We posited that emotional uncontrollability beliefs, thwarted belongingness, and perceived burdensomeness, would predict the SCS and that interpersonal needs would mediate the relationship between emotional uncontrollability beliefs and SCS. We also aimed to examine the ability of these variables to predict suicidal ideation and the existence of bidirectional associations between the assessed variables. Our findings partially supported our hypothesis.

Regarding the first hypothesis, we found that both uncontrollability emotional beliefs and interpersonal needs predicted SCS. With respect to uncontrollability beliefs, this result corroborates and extends those found by Colmenero-Navarrete et al. (2024) cross-sectionally, who found that uncontrollability beliefs were associated with SCS in both community and clinical samples. On the other hand, with respect to the interpersonal needs assessed, we found that perceived burdensomeness emerged as a predictor of SCS, while thwarted belongingness did not. This result is in line with previous studies that found interpersonal needs predicted SCS (Bloch-Elkouby et al., 2020a; Cohen et al., 2019). However, these studies did not examine perceived burdensomeness and thwarted belongingness as separate factors. Thus, we found that, of the different interpersonal needs, perceived burdensomeness appears to be the more relevant to understand the SCS.

In terms of the second hypothesis, we found that perceived burdensomeness (at Time 1) partially mediated the association between emotional uncontrollability beliefs (at Time 1) and SCS (at Time 2). This finding is in line with the NCM (Cohen et al., 2022), where emotional uncontrollability beliefs would function as vulnerability traits and would be related to the SCS through interpersonal needs, which form a part of the suicide narrative. Furthermore, uncontrollability beliefs were associated with interpersonal needs, as we expected. However, it is noteworthy that uncontrollability beliefs do not predict either burdensomeness or belongingess longitudinally, so further research is needed in this area.

Finally, regarding the third hypothesis, the only variable capable of predicting suicidal ideation was perceived burdensomeness, which is consistent with previous studies (Cero et al., 2015; Cukrowicz et al., 2011). Neither beliefs about uncontrollability nor SCS predicted ideation. These results contradict previous research that found that suicide ideation was predicted by beliefs about the non-malleability of emotions (Zhu and Wong, 2022), as well as SCS (Galynker et al., 2017). Some differences between our study and previous research may help to explain this. First, few studies have longitudinally investigated these associations. Second, almost all prior research related to SCS has focused on clinical populations (Bloch-Elkouby et al., 2020b; Rogers et al., 2022a, b), and the only one study carried out to examine the predictive effect of uncontrollable beliefs on suicide used an adolescent sample. Third, most of previous studies do not distinguish between ideation and attempts, but rather use unidimensional measures to assess suicidal behavior (Bloch-Elkouby et al., 2020a; Cohen et al., 2019). It is possible that SCS may be more linked to suicide attempts as it does not require explicit suicidal ideation.

Taken together, our results emphasize the relevance of beliefs regarding the controllability of our emotions and perceived burdensomeness in the prediction of the SCS. Uncontrollability beliefs are associated with SCS directly and through the perception of burdensomeness. This result suggests that holding the belief that we have limited control over our emotions may directly initiate a cascade of adverse emotional and cognitive responses, facilitating feelings of entrapment, affect disturbances, or lack of cognitive control that characterized the SCS (Colmenero-Navarrete et al., 2024). On the other hand, a continuous feeling of lack of control over emotions can also lead to a higher perception of burdensomeness. When individuals strongly believe they lack control over their emotions and that these emotions negatively affect those around them, they may feel burdensomeness. If an individual struggles to regulate their emotions, this can interfere with their ability to focus on their social relationships, facing difficulties in forming meaningful connections with others and being responsive to the others. As a result, they may perceive a lack of fit and a sense of being a burden. This feeling could intensify other negative emotions, such as guilt or shame, and the individual emotional distress, thereby increasing the likelihood of experiencing SCS.

10. Clinical implications

From a clinical perspective, our results underscore the importance of addressing beliefs related to a lack of emotional control and the perception of burdensomeness in preventing SCS. Previous research has found that emotional beliefs are modifiable through treatment (de Castella et al., 2015) and, specifically, that uncontrollability beliefs mediated the effectiveness of cognitive-behavioral therapy on clinical symptoms (Gallagher et al., 2014). If emotional beliefs are associated with perceived burdensomeness and SCS, as our results show, and are responsive to treatment, mental health professionals should focus on them when assessing and intervening in people who suffer from SCS and are at risk of suicide. Also, focusing on interpersonal needs, especially burdensomeness, may be of relevance in early assessment and intervention to address SCS and suicidal ideation. There are interventions developed to reduce suicidal ideation that involve brief web-based cognitive bias modification specifically targeting perceived burdensomeness (Allan et al., 2018), which have been found to prevent the onset of suicidal ideation in adults (Allan et al., 2018; Schafer, 2022). Mental health professionals can concentrate on therapeutic strategies that alleviate the perception of burdensomeness in those at risk, contributing to more effective and preventive care in this clinical context.

11. Limitations and future directions

Although the present study revealed novel results, some limitations should be considered. Firstly, while maintaining gender balance, we used a convenience sample. Future research should aim to corroborate our findings in a more representative sample. Secondly, we tested the mediation model in a two-wave longitudinal study, assessing both the predictor and the mediator at the same time (T1). Future research using longer follow-up periods (e.g., three waves) would allow a more robust testing of the proposed mediation model. Third, the use of a community sample precludes the generalization of our results to the clinical population. In this respect, it is possible that uncontrollability beliefs and SCS

may emerge as significant predictors of suicide behavior when examining their effect in clinical samples, where the prevalence of suicide behavior is higher. In this regard, we encourage future research to examine the predictive role of uncontrollability beliefs and SCS on suicide ideation and attempts as separate factors, to test whether they are predicted differently; for example, it is possible that SCS predicts attempts but not ideation. Fourth, we assessed uncontrollability beliefs using a measure (the BAEQ) which includes items that more closely reflect participants' beliefs (e.g., *Feeling upset is uncontrollable*), but also other items that might simply reflect a report of deficits in participants' emotion regulation abilities (e.g., *When I start to feel upset, I can't control it*). Future studies should take this into account and corroborate our results using measures (or items) that more clearly reflect participants' emotional beliefs. Finally, it should be noted that we used an abbreviate measure of the SCS (which is a fast screener for SCS diagnosis), so further research is warranted to corroborate our results with a more extensive measure of SCS (e.g., the SCS-2; Bloch-Elkouby et al., 2021).

12. Conclusions

This study is the first to use a prospective design to assess the relationship between emotional uncontrollability beliefs, interpersonal needs, and SCS under the NCM framework. Our findings provide evidence that emotional uncontrollability beliefs and perceived burdensomeness emerged as predictors of SCS, with interpersonal needs mediating the associations between uncontrollability beliefs and SCS. These results support the integration of uncontrollability beliefs, within the framework of emotional regulation, into theoretical models of suicide. Furthermore, they highlight the potential benefits of evidence-based interventions aimed at reducing beliefs about emotional uncontrollability and the sense of being a burden for the prevention of SCS.

CRediT authorship contribution statement

Colmenero-Navarrete Lidia: Writing – review & editing, Writing – original draft, Data curation, Conceptualization. **Salguero José M:** Writing – review & editing, Supervision, Methodology, Formal analysis, Conceptualization. **García-Sancho Esperanza:** Writing – review & editing, Conceptualization.

Publication ethics

Informed consent was obtained from all participants included in the study.

The procedure was approved by the Ethics Committee of the University of Malaga (CEUMA, Registration number: 8-2021-H).

Availability of data

Data available on request from the authors.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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