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Abbreviated Suicidal Narrative Inventory: Factor Structure, Internal Consistency, and Validity in a Brazilian Sample

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Abstract

Aim: To investigate the factor structure, reliability, and validity of the Brazilian version of the Abbreviated Suicidal Narrative Inventory (SNI-38). Methods: We used an anonymous online questionnaire of the SNI-38 and self-report measures administered between November 2020 and October 2021 in the Brazilian community. Participants were recruited through social media advertisements. Confirmatory factor analysis was carried out to test the factor structure of the SNI-38. In addition, we examined internal consistency, and convergent validity against stressful life events, the suicide crisis syndrome, suicidal ideation, and suicide attempts. Results: 2660 participants were included. The eight-factor model SNI-38 had a good model fit (χ^2[637] = 7,473.98, p < .001, CFI = .99, TLI = .99, RMSEA = .07, SRMR = .06); all items were significantly and positively loaded onto their respective factors (factor loadings ≥ .45). Reliability was good to high in all subscales except goal disengagement. Additionally, all subscales — except goal disengagement — were correlated positively which the suicide crisis syndrome, stressful life events, lifetime/past-month suicidal ideation, and lifetime suicide attempts. Conclusions: These findings provide preliminary support for the validity of the Brazilian version of the SNI-38, being an appropriate and valid tool for measuring suicidal narrative among Brazilian samples.

Keywords: Narrative-Crisis Model of suicide; Suicidal Narrative; Suicide Crisis Syndrome; Suicide.

Introduction

Suicide is a serious public health problem worldwide. It is estimated that more than 700,000 people die due to suicide annually. In addition, it is described that for each suicide, more than 20 attempts occur [1]. In Brazil, preliminary evidence shows that the overall suicide rates remained stable after the start of the COVID-19 pandemic compared to expected [2, 3]. However, between 2000 to 2017, the standardized rate increased in the country by 75% and 85% for men and women, respectively [4]. Furthermore, in 2019 over 13,500 (rate 6.9 per 100 thousand) people died by suicide in Brazil [5], which represented the third highest mortality among men of 15 to 34 years and fourth among women of 15 to 24 years [6]. Unfortunately, the official data described above may be an underestimation due to very high rates of underreporting and non-notification, as well as no adequate system for monitoring suicide deaths in Brazil [7, 8].

Despite research efforts and the introduction of many approaches to treating suicidal behavior, suicide rates have not meaningfully improved in several decades [9, 10]. Therefore, there is an urgent need to improve methods for recognizing and mitigating suicide [11]. Indeed, continued efforts to develop and validate psychometric instruments for identifying psychological processes contributing to acute suicide risk are necessary [12, 13].

In particular, theoretical models that contribute to the understanding and prevention of suicidal behavior may lead to substantial advances in the scientific and clinical fields. One such model is the Narrative-Crisis Model of Suicide [14]. This model provides a theoretical and conceptual framework for understanding the relationship between long-term and short-term risk factors [15, 16]. Hence, this model postulates that suicidal crises arise from the dynamic interactions of four components; trait vulnerabilities (e.g., history, perfectionism, impulsivity, social support, hopelessness, fearlessness, and cultural acceptability), stressful life events, a suicidal narrative, and the suicide crisis syndrome, culminating in imminent suicidal risk [14, 17, 18, 19, 20].

To contextualize, Cohen et al., (p. 414) conceptualized the suicidal narrative as a "cognitive structure in which the representation of self about others becomes sufficiently distressing that suicide becomes a viable option"

[18]. Its components are drawn from psychological constructs derived from the Interpersonal Theory of Suicidal Behavior by Joiner—such as thwarted belongingness and perceived burdensomeness [21, 22], and the Integrated Motivational-Volitional Model of suicidal behavior by O'Connor — such as social defeat, humiliation, and failure to disengage from unattainable goals [23, 24]. When individuals with trait vulnerabilities to suicide experience stressors (i.e., stressful life events, social problems), they may become susceptible to the suicidal narrative [25, 26]. Then, when the suicidal narrative is activated, the individual loses a sense of self-worth and a perceived emotional bond with other people [18]. This distorted representation of themselves makes individuals cling to unrealistic life goals, feeling humiliated and defeated. Concurrently, this results in the perception of burdensomeness, lack of belonging to others, and perceptions of having no future [16, 18].

The Suicidal Narrative Inventory (SNI) is a tool used to measure the intensity of suicidal thoughts [18]. Recently, the SNI has been condensed to 38 items to make it more useful for clinical purposes (SNI-38). The SNI has been investigated in countries including India [47] and the USA [18]; however, there is limited research on the internal structure and validation of the SNI-38 across different cultures and languages. Furthermore, the SNI-38 has not yet been studied within a Brazilian population. A reliable SNI-38 could help identify people who are more likely to experience suicidal thoughts and behaviors, especially those who have transitioned to suicide crisis syndrome, which plays a more central role in triggering suicidal behavior according to the Narrative-Crisis Model of Suicide [16, 18].

Therefore, this research aimed to investigate the psychometric properties of the Brazilian version of the SNI-38, to replicate and extend the findings in different populations and cultures. Specifically, we inspected whether the previously proposed eight-factor model exhibited strong model fit, whether the items of the SNI-38 were internally consistent, and whether the scales exhibited convergent validity with other relevant risk factors and suicide-related outcomes in a Brazilian sample.

Methods

Participants and Procedure

A sample of 2,265 Brazilian adults aged 18-70 years (mean = 31.27, SD = 10.90, 70.7% female), were recruited between November 2020 and October 2021 on social media platforms in five geographical regions in Brazil (North, Northeast, Midwest, Southeast, South) that represented a mix of communities of the 26 states. Participants completed the study online using Qualtrics, a web interface that allows for secure remote data collection through the distribution of anonymous secure links to the protocol. Only participants who completed the full study were included in the dataset and in all analyses. Before the beginning of the research, all survey batteries, including the Abbreviated Suicidal Narrative Inventory, Revised Suicide Crisis Inventory-2, and Stressful Life Events Questionnaire were translated and cross-cultural adapted from English to Portuguese as described below. All participants were fluent in Brazilian Portuguese and able to understand and sign the informed consent form. The study excluded 81 non-adult individuals (i.e., children and teenagers). This study was approved by the Ethics Committee in Research and Humans of the University *Extremo Sul Catarinense* with identification registration in CEP, nº 4,275,326 and CAAE nº 37216620.6.0000.0119.

Measures

Abbreviated Suicidal Narrative Inventory (SNI-38)

The abbreviated 38-item version of the SNI was derived from factor analysis of the original 132-item measure, which was originally designed by Cohen and coauthors [18]. The SNI-38 is categorized into eight subscales: thwarted belongingness (5 items), perceived burdensomeness (5 items), fear of humiliation (5 items), defeat (5 items), goal disengagement (3 items), goal reengagement (5 items), entrapment (5 items), and perfectionism (5 items). Items on the scale are scored on a 5-point Likert scale ranging from 1 (*not at all true*) to 5 (*extremely true*). The SNI-38 individual scores of each subcategory were calculated and independently tested to assess convergent validity with other relevant measures, as in recent cross-cultural factor analyses [27, 45].

Revised Suicide Crisis Inventory (SCI-2)

The SCI-2 is the revised version of the original 61-item self-report Suicide Crisis Inventory [28]. The SCI-2 assesses the presence of the symptoms of Suicide Crisis Syndrome. Items are rated on a 5-point Likert scale ranging from 0 (*not at all true*) to 4 (*extremely true*) in five subscales: entrapment (10 items), affective disorder (18 items), loss of cognitive control (15 items), hyperarousal (13 items), and social withdrawal (5 items). In this study, the internal consistency of the SCI was high (α = 0.99), consistent with previous studies (α = 0.97) [15, 28]. We used the SCI-2 total to assess convergent validity with the SNI-38.

Stressful Life Events Questionnaire (SLEQ)

The SLEQ is a 22-item self-report questionnaire developed by Cohen and colleagues [29], adapted from several older scales [30, 31, 32, 33]. The questionnaire lists 22 proximal life events that may have occurred in the last three months or the past week (non-overlapping). Ongoing or chronic stressors are not considered. The questionnaire consists of five categories of stressful life events: harm to a close person or pet (3 items), a relationship stressor (5 items), a threat to self-role/identity (5 items), a threat to self-personal safety (8 items), and other (1 item). Based on prior work, stressful life events that occurred in the past-week and past-3-month were used to test convergent validity with SNI-38 [34, 35].

Columbia - Suicide Severity Rating Scale (C-SSRS)

The C-SSRS is a semi-structured interview that measures the severity of suicidal phenomena [36]. In the self-report screener version, a rating scale of 0 to 5 measures the severity of suicidal ideation, ranging from thoughts of death, suicidal ideation, consideration of a method, suicidal intent, and suicidal ideation with a plan and intent to act on this plan. To assess criterion validity with the SNI-38, we used the total suicidal ideation intensity and suicide attempt scores.

Process of Cross-Cultural Adaptation

We used the guidelines by Beaton et al., which encompass the process that looks at language (translation) and cultural adaptation issues for using the SNI-38 in Brazil [37]. Therefore, cross-cultural adaptation included translations, synthesis of initial translations, back translation, review by an expert committee and a test of the pre-final version. First, two forward translations (T1, T2) from English to Portuguese were produced by two bilingual translators with different profiles whose native language is Portuguese. Second, these two translators and a new observer synthesized the results of the translations (T1 and T2), comparing discrepancies. A consensus version, T 1-2, was developed from this synthesis. Working from the T 1-2 version and blind to the SNI original version, a translator fluent in English translated the questionnaire back into English (back translation). This stage was performed to check if the translated version reflected the same item content as the original version. Next, the expert committee (clinicians, health professionals, methodologists, translators) consolidated the pre-final version of the SNI, emphasizing semantic, idiomatic, experiential, and conceptual - cross-cultural equivalence - rather than literal equivalence. For this step, the material at the disposal of the committee included the original versions, back-translated versions, and all translations for the achievement of such equivalences. Finally, having the back-translation approved by the original author, the translations were tested in a small pilot test to assess the acceptability and understandability of the translation. Further tests were conducted on the psychometric properties of the adapted questionnaire after the translation is complete.

Data Analytic Strategy

We first employed the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity to determine the appropriateness of these data for factor analysis [38, 39]. A confirmatory factor analysis (CFA) was then conducted to test whether the proposed eight-factor model, in which items were set to load on their respective subscales (i.e., thwarted belongingness, perceived burdensomeness, fear of humiliation, defeat, goal disengagement, goal reengagement, entrapment, and perfectionism), was replicated in a

Brazilian sample. Items were ordinal; thus, diagonally weighted least squares (WLSMV) estimation was used. Model fit was evaluated using the chi-square statistic (χ2), comparative fit index (CFI), Tucker-Lewis index (TLI), root mean squared error of approximation (RMSEA), and standardized root mean residual (SRMR). Specifically, good model fit was indicated by a non-significant χ2 statistic, CFI ≥ .95, TLI ≥ .95, RMSEA ≤ .08, and SRMR ≤ .08 [40, 41].

Measurement invariance of the SNI-38 was then tested across participant gender (i.e., cisgender man vs. cisgender woman) through a series of iterative steps: configural invariance (i.e., a baseline model with no cross-group constraints), metric invariance (i.e., whether factor loadings for items are equal across groups), and scalar invariance (i.e., whether item thresholds/intercepts are equivalent across groups). We used recommended guidelines, as noted above, to examine model fit. Moreover, the Satorra-Bentler scaled χ2 difference test [42] was used to evaluate measurement invariance models, though this test has been criticized due to its sensitivity to sample size [43]. Accordingly, we also examined change in CFI, such that ΔCFI ≤ .01 was used to determine whether the null hypothesis of measurement invariance should be maintained [43]. In the case of discrepancies between these two indices, we followed the expected change in CFI given the chi-square test's sensitivity to sample size. When full measurement invariance was not supported, modification indices were used to guide efforts to establish partial measurement invariance.

Finally, bivariate correlations and linear/logistic regressions were calculated to test the convergent and criterion validity of the SNI-38 subscale scores with other relevant constructs. There was no missing data across the variables of interest in the study. All analyses were conducted in R (version 4.2.1) using the lavaan (version 0.6-12) [43], semTools (version 0.5-6) [44], and psych (version 2.2.5) [45] packages.

Results

Factor Structure

The KMO statistic (.96) and Bartlett's test of sphericity (χ^2[703] = 65,936.66, p < .001) both indicated that there were sufficient significant correlations in the data to be suitable for factor analysis. The eight-factor model of the SNI-38 had good model fit (χ^2[637] = 7,473.98, p < .001, CFI = .99, TLI = .99, RMSEA = .07, SRMR = .06); standardized factor loadings are presented in Table 2, whereas covariances between factors are presented in Table 3. All items significantly and positively loaded onto their respective factors. Correlations between the latent factors were all statistically significant, though of varying effect sizes (ranging from small to very large), and generally performed as hypothesized — because the thwarted belongingness and goal reengagement subscales consist of exclusively reverse-coded items, negative correlations between these latent factors with other suicidal narrative constructs were expected — however, the goal disengagement factor exhibited inconsistent patterns of association with the other factors. Namely, correlations with the goal disengagement factor were in the opposite direction (negative relations with perceived burdensomeness, fear of humiliation, defeat, entrapment, and perfectionism, and positive relations with the reverse-coded thwarted belongingness and goal reengagement factors) of what would have been predicted.

Table 1. *Sample Sociodemographic Characteristics*

	N	Valid %
Gender		
Cisgender Man	637	28.1
Cisgender Woman	1601	70.7
Transgender Man	1	0.0
Transgender Woman	2	0.1
Nonbinary	11	0.5
Not Sure	6	0.3
Decline to State	7	0.3
Age (*M* = 31.27, *SD* = 10.90, Range = 18-70)		
Marital Status		
Single/Never Married	882	38.9
Married	536	23.7
Separated	18	0.8
Divorced	59	2.6

Widowed	8	0.4
In a Relationship	464	20.5
Cohabitating	298	13.2
Education		
High School/Equivalent	106	4.7
2-Year College (Diploma)	16	0.7
Some College	783	34.6
4-Year College (Bachelor's Degree)	662	29.2
Master's Degree	467	20.6
Doctoral Degree	225	9.9
Did Not Complete High School	6	0.3

Table 2. *Standardized Factor Loadings of all Items*

Subscale/Item	**Factor Loading**
Perceived Burdensomeness	
Item 19 - These days, I think my death would be a relief to the people in my life	.93
Item 24 - These days, the people in my life would be happier without me	.96
Item 28 - These days, I think I make things worse for the people in my life	.93
Item 36 - These days, I think the people in my life wish they could be rid of me	.92
Item 38 - These days, the people in my life would be better off if I were gone	.94
Thwarted Belongingness	
Item 3 (R) - These days, I am fortunate to have many caring and supportive friends	.75
Item 6 (R) - These days, I am close to other people	.82
Item 16 (R) - These days, other people care about me	.74
Item 23 (R) - These days, I have at least one satisfying interaction every day	.71
Item 30 (R) - These days, I feel that there are people I can turn to in times of need	.84
Fear of Humiliation	
Item 5 - I fear being ridiculed	.97
Item 7 - I fear being laughed at	.88
Item 12 - I fear being harassed	.56
Item 21 - I am concerned about being called names or referred to in derogatory terms	.69
Item 26 - I fear being bullied	.92
Defeat	
Item 14 - I feel that I have given up	.91
Item 15 - I feel that my confidence has been knocked out of me	.91
Item 22 - I feel down and out	.89
Item 31 - I feel defeated by life	.95
Item 37 - I feel completely knocked out of action	.86
Goal Reengagement	
Item 1 (R) - If I have to stop pursuing an important goal in my life, I think about other new goals to pursue	.96
Item 13 (R) - If I have to stop pursuing an important goal in my life, I convince myself that I have other meaningful goals to pursue	.87
Item 20 (R) - If I have to stop pursuing an important goal in my life, I tell myself that I have a number of other new goals to draw on	.86
Item 33 (R) - If I have to stop pursuing an important goal in my life, I seek other meaningful goals	.94

Item 35 (R) - If I have to stop pursuing an important goal in my life, I start working on other new goals	.90
Goal Disengagement	
Item 9 - I stay committed to a goal for a long time	.79
Item 27 - I can't let my goals go	.45
Item 29 - I find it difficult to stop trying to achieve a goal	.67
Entrapment	
Item 11 - I often have the feeling that I would just like to run away	.82
Item 17 - I feel powerless to change things	.81
Item 25 - I can see no way out of my current situation	.89
Item 32 - I feel I'm in a deep hole I can't get out of	.95
Item 34 - I feel powerless to change myself	.84
Perfectionism	
Item 2 - I demand nothing less than perfection of myself	.90
Item 4 - I strive to be as perfect as I can be	.63
Item 8 - One of my goals is to be perfect in everything I do	.88
Item 10 - I must work to my full potential at all times	.56
Item 18 - It is very important that I am perfect in everything I attempt	.95

Note: (R) refers to reverse scored items.

Table 3. *Standardized Covariances between All Latent Factors*

Factor	2	3	4	5	6	7	8
1. Perceived Burdensomeness	-.63***	.55***	.81***	-.58***	-.29***	.81***	.28***
2. Thwarted Belongingness	---	-.29***	-.59***	.60***	.48***	-.56***	-.05*
3. Fear of Humiliation		---	.70***	-.35***	-.11***	-.67***	.37***
4. Defeat			---	-.62***	-.33***	.97***	.29***
5. Goal Disengagement				---	.46***	-.61***	-.04*
6. Goal Reengagement					---	-.28***	.43***
7. Entrapment						---	.33***
8. Perfectionism							---

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Reliability was good to high in all subscales except goal disengagement in which internal consistency was questionable as follows: thwarted belongingness (α = .83), perceived burdensomeness (α = .93), fear of humiliation (α = .88), defeat (α = .93), goal reengagement (α = .93), goal disengagement (α = .62), entrapment (α = .90), and perfectionism (α = .87).

Measurement Invariance across Gender

The baseline/configural model exhibited adequate-to-good model fit (see Table 4 for detailed results), with comparable model fit among male participants (χ^2[637] = 1915.35, p < .001, CFI = .93, TLI = .93, RMSEA = .06, SRMR = .07) than among female participants (χ^2[637] = 3323.29, p < .001, CFI = .94, TLI = .94, RMSEA = .05, SRMR = .06). After constraining factor loadings, differences in CFI values (.001), but not the chi-square difference test ($\Delta\chi^2$ = 69.66, df = 30, p < .001), supported full metric invariance. Scalar invariance was then tested by constraining item thresholds: there was evidence of full scalar invariance based on changes in CFI, but not chi-square ($\Delta\chi^2$ = 595.89, df = 30, p < .001, ΔCFI = .009). Overall, full metric invariance and full scalar invariance were supported by the change in CFI across models. After establishing metric and scalar invariance, we then examined whether latent means differed across gender for the eight factors. Female participants had significantly higher scores in fear of humiliation (B = -.51, SE = .06, p < .001), defeat (B = -.15, SE = .05, p = .002), entrapment (B = -.18, SE = .05, p < .001), and perfectionism (B = -.17, SE = .05, p = .001), whereas male participants had significantly higher scores in thwarted belongingness (B = .13, SE = .05, p = .005) and goal reengagement (B = .12, SE = .05, p = .017). There were no differences across gender in perceived burdensomeness (B = -.04, SE = .04, p = .327) or goal disengagement (B = .03, SE = .04, p = .505).

Table 4. *Model Fit Indices for SNI Multiple Group Analysis across Genders*

Model/Fit Index	Configural Invariance	Metric Invariance	Scalar Invariance
N	2238	2238	2238
χ^2	5238.64	5308.30	5904.19
df	1274	1304	1334
CFI	.939	.938	.929
TLI	.932	.933	.926
RMSEA	.053	.052	.055
SRMR	.061	.063	.067
$\Delta\chi^2$		69.66	595.89
Δdf		30	30
ΔCFI		.001	.009

Note: The $\Delta\chi^2$ reflects the Satorra-Bentler scaled chi-square difference test statistic.

Convergent and Criterion Validity

Descriptive statistics and internal consistencies of the SNI-38 subscales and bivariate correlations with all other relevant measures are presented in Table 5. Consistent with expectations, there were significant positive correlations between all SNI-38 subscales—except goal disengagement—and past-week and past-three-month stressful life events, lifetime and past-month suicidal ideation, and lifetime suicide attempts. However, goal disengagement had small and negative associations with these constructs.

Table 5. *Correlations between SNI Subscale Scores and Other Relevant Constructs*

	PB	TB	Hum.	Defeat	GR	GD	Entrap.	Perfectionism
SCI-2	.60***	.41***	.53***	.75***	.44***	-.13***	.77***	.27***
Past-Week SLEs	.31***	.18***	.21***	.33***	.21***	-.04	.33***	.12***
Past-3-Month SLEs	.31***	.20***	.25***	.36***	.23***	-.06**	.36***	.11***
Lifetime SI	.49***	.28***	.32***	.49***	.32***	-.11***	.50***	.17***
Past-Month SI	.61***	.35***	.28***	.54***	.39***	-.14***	.54***	.14***
Lifetime SA	.34***	.18***	.20***	.29***	.21***	-.08***	.29***	.14***
Mean	8.36	11.29	14.65	11.71	11.51	10.83	12.87	15.98
SD	4.65	4.27	5.81	5.82	5.11	2.53	5.68	4.95
Range	5-25	5-25	5-25	5-25	5-25	3-15	5-25	5-25
Skewness	1.61	.67	-.02	.55	.69	-.45	.35	-.12
Kurtosis	2.06	.15	-1.09	-.83	-.09	.03	-.86	-.69
α	.93	.83	.88	.93	.93	.62	.90	.87

Note: * $p < .05$, ** $p < .01$, *** $p < .001$. SD = Standard Deviation; PB = Perceived Burdensomeness; TB = Thwarted Belongingness; Hum. = Fear of Humiliation; GR = Goal Reengagement; GD = Goal Disengagement; PSS = Perceived Stress Scale; SI = Suicidal Ideation; SA = Suicide Attempt; SCI-2 = Suicide Crisis Inventory—2; SLE = Stressful Life Events.

Finally, we conducted a linear regression (suicidal ideation) and logistic regression (suicide attempts) to determine which SNI-38 subscales were uniquely related to past-month suicidal ideation and lifetime suicide attempts. First, the model predicting past-month suicidal ideation explained 40.9% of the variance in suicidal ideation. Perceived burdensomeness (B = .12, SE = .01, p < .001), defeat (B = .02, SE = .01, p = .024), difficulties with goal reengagement (B = .02, SE = .01, p < .001), and entrapment (B = .04, SE = .01, p < .001) were uniquely and significantly positively related to suicidal ideation, whereas fear of humiliation (B = -.01, SE = .005, p = .003) was negatively related to suicidal ideation. Thwarted belongingness (B = -.005, SE = .01, p = .444), goal disengagement (B = .004, SE = .01, p = .697), and perfectionism (B = .002, SE = .005, p = .635) were not significantly associated with suicidal ideation.

Second, the model predicting lifetime suicide attempts explained 20.0% (Nagelkerke R^2) of the variance. Perceived burdensomeness (OR = 1.10, $p < .001$) and perfectionism (OR = 1.05, $p = .001$) were significantly related to increased odds of having made a lifetime suicide attempt; no other SNI-38 subscales were significant (*p*s = .072 to .844).

Discussion

The purpose of this paper was to examine the factor structure, internal consistency, and convergent validity of the SNI-38 in a Brazilian sample. Our results showed that the eight-factor model of the SNI-38 had a good model fit. We found excellent internal consistency for subscales; all items were significantly and positively loaded into their respective factors — except goal disengagement which showed low internal consistency and negative correlations with other constructs. Minimal differences in model fit indices were found when testing metric and scalar invariance across genders, indicating that the model is suitable for both genders. Female participants scored higher on fear of humiliation, defeat, entrapment, and perfectionism, while male participants scored higher on frustrated belongingness and goal re-engagement. Moreover, the perceived burdensomeness, thwarted belongingness, fear of humiliation, defeat, goal reengagement, entrapment, and perfectionism factor were significantly correlated with the Suicide Crisis Inventory–2, stressful life events (both past-week/past-3-month), suicidal ideation (both lifetime/past month), and lifetime suicide attempts. Finally, perceived burdensomeness and perfectionism subscales were demonstrated to be consistent predictors of lifetime suicide attempts. These findings provide initial support for the validity and potential utility of the SNI-38 in the Brazilian population.

Here, we replicate that the internal consistency of the full SNI-38 subscales was high for humiliation, thwarted belongingness, and social defeat such as in a United States sample [18]. In addition, entrapment, perfectionism, and perceived burdensomeness are also in line with results in Indian adults (SNI-38) that report high internal consistencies for these constructs [47]. In this study, the low internal consistency for goal disengagement here also is similar

to these previous studies [18, 47]. Additionally, the goal disengagement factor also exhibited inconsistent patterns of association with the other factors of the SNI, and correlations in the opposite direction (with SCI-2 and suicidal ideation) of what would have been predicted. The findings previously demonstrate that the ability to disengage from unattainable goals is associated with positive outcomes such as better self-reported health and well-being [48]. Cohen et al., suggested that the scales used in the goal orientation factor (which comprised the goal disengagement and goal reengagement subscales) appear not to be sensitive to the construct of the suicidal narrative, although all items were from previously validated measures [18]. In part, we think that non-significant associations of goal disengagement with SCI-2 and suicidal ideation, found in our results, are consistent with these issues.

In the present study, perceived burdensomeness, thwarted belongingness, humiliation, defeat, goal reengagement, entrapment, and perfectionism subscales of the SNI-38 were significant and positively correlated with stressful life events (past-week/past-3-month). These results are consistent with previous literature linking important life events to suicide-related outcomes. Suicidal behaviors are often preceded by stressful events, including family and romantic conflicts, and financial and legal problems [10, 49, 50]. Through the lens of the Narrative Crisis Model of suicide, stressful life events may trigger the suicidal narrative in individuals with trait vulnerability for suicide [16, 29]. Thus, stressful events seem to interact with psychiatric and psychological factors to increase the risk of suicide.

Furthermore, except for the goal disengagement subscale, all subscales of the SNI-38 were consistently correlated with suicide-related outcomes (i.e., lifetime/past-month suicidal ideation and lifetime suicidal attempt), and suicide crisis syndrome symptoms. These results are in line with previous studies. The subscales of the interpersonal factor (comprised of thwarted belongingness, perceived burdensomeness, humiliation, and social defeat) were significantly associated with the SCI and with past month, lifetime and past suicidal phenomena [18]. Additionally, a previous study demonstrated that adult psychiatric inpatients who had high scores on the interpersonal component of

the suicidal narrative at intake were significantly more likely to develop suicide crisis syndrome symptoms at discharge [16].

Also, we found that the goal disengagement subscale had inconsistent correlations with SCI-2, stressful life events, suicidal ideation, and suicidal attempts. These results are consistent with previous findings. The goal orientation factor incorporates individuals' tendencies to commit to constructive change despite obstacles. Previous studies showed that the goal orientation factor assessed at admission did not significantly predict suicide crisis syndrome at discharge [16] nor correlate with suicidal phenomena [18]. There are more benefits to disengaging from unattainable goals and focusing on other attainable goals. O'Connor et al. suggested that suicidal individuals disengage from unattainable goals, but they do not engage in the simultaneous new goal pursuit [51]. Herein, the goal disengagement subscale items may relate to the grit and perseverance required to remain engaged rather than from unrealistic goals disengaging. Persistence and courage in remaining engaged in goals may be associated with resilience and the ability to face challenges. They may act as a protective factor against suicide, which could explain the inconsistent patterns of correlations found in our sample. In addition, it can be suggested that the low reliability/internal consistency of the goal disengagement subscale contributes to its inconsistent correlations with the evaluated constructs.

The potential theoretical and clinical implications of these findings are considerable. From a theoretical perspective, prior empirical evidence suggested that people with trait vulnerability to suicide that experience stressful life events develop a suicidal narrative which leads a significant path to suicidal phenomena [16, 28]. The suicide crisis syndrome is an acute pre-suicidal state characterized by affective dysregulation, loss of cognitive control, and hyperarousal [14]. Cohen et al., propose that the suicidal narrative, by itself, is insufficient to precipitate suicidal behavior; rather, the suicidal narrative provides negative cognitive content which increases the risk of short-term suicidal behavior by triggering the suicide crisis syndrome [18]. Overall, our findings showed that the psychometric properties of the Brazilian version of the SNI-38 are valid for assessing the construct of the suicidal narrative in Brazilian adults.

Concerning clinical implications, identification of individuals with activation of the suicidal narrative — which as mentioned earlier may represent progress to the acute stage suicide crisis syndrome — can enable intervention for suicide outcomes. Hence, this identification would offer opportunities for clinical interventions aimed at fostering reintegration and emotional bonding. Moreover, cognitive interventions that challenge the rigidity of the narrative and other suicide-specific cognitive therapies, such as cognitive behavior therapy for suicide, may be useful, as indicated by Cohen and colleagues [28]. Therefore, the validation in Brazil of SNI-38 can contribute to research and clinical approaches to treating suicidal behavior.

Some limitations must be noticed in this study. The main limitation is the cross-sectional and retrospective design. The cross-sectional design, as well as the retrospective data collection, do not allow for determining the direction of the relationship between the suicidal narrative and suicide crisis syndrome, nor the temporality of relationships with stressful life events and suicide-related outcomes. Additionally, data collection took place during the COVID-19 pandemic. We do not know how exactly this situation may have influenced the results, given that individuals were experiencing, on average, exacerbations of stressors during this time. We used an online survey, and our assessments relied on self-report. Although the research was open, individuals were predominantly highly educated and self-selected. Future replication studies with diverse Brazilian samples are necessary to establish the generalizability of these findings. Finally, in our sample, the age range was 18 to 70 years old, which would concern whether the CFA model fit would remain the same stratified by age. However, the median age was 28 years, which, together with the positive skew and overall age distribution of our sample, suggests that there were relatively fewer older adults who completed the study. Therefore, we decided not to perform measurement invariance analyses by age in this sample, but we recommend future research to examine the Brazilian version of the SNI-38 in older populations.

Conclusions

Our findings are similar to prior data. The results showed that the eight-factor CFA of the SNI-38 obtained a good model fit, and excellent internal consistency and most subscales of the SNI-38 showed consistent convergent validity. Additionally, these findings provide preliminary support that the SNI-38 eight-factor model works and can be used in research to assess suicidal narrative construct in the Brazilian population.

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Conflicts of Interest

The authors declare no conflict of interest.

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