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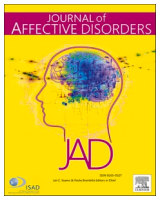

Research paper

CAMS-4Teens, Suicide Index Score typologies, and family factors

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ABSTRACT

Suicide is a leading cause of death for youth and young adults. There is a need for interventions that are suicide-specific, developmentally relevant, and accessible. The current study examines Suicide Index Score (SIS) typologies through the Collaborative Assessment and Management of Suicidality in an adolescent sample (CAMS-4Teens).

Method: 108 participants (59.4 % female, 78.9 % Caucasian, and mean age of 14.9 years) during an ongoing study who participated in up to 4 sessions of CAMS-4Teens were categorized using the SIS typologies: wish to live (WTL), ambivalent (AMB), and wish to die (WTD). Caregiver burden and family connectedness were also assessed. Main outcomes included pre-post differences in CAMS overall suicide risk scores and SSF Core Assessment scores. Two-way mixed repeated measures ANOVAs and their interactions were conducted.

Results: Analyses revealed significant interactions between pre-post differences in CAMS overall suicide risk for the SIS groups, with WTD having the most significant reductions. None of the remaining interactions were significant, yet there were significant main effects over time for all pre-post outcomes regardless of SIS group status. Findings from exploratory analyses involving participants who completed a single session of CAMS are also discussed.

Conclusion: This was the first study to examine SIS typologies among an adolescent sample and demonstrates the benefits of identifying treatment targets for youth receiving CAMS and their family.

1. Introduction

Suicide is the second- and third-leading cause of death for youth between the ages of 10–14 years and 15–24 years respectively (CDC, 2022). Despite these alarming statistics, a meta-analysis in 2017 of the past 50 years of suicide research revealed that the field does not predict suicide outcomes more than chance (Franklin et al., 2017). Thus, Franklin et al. (2017) list several next steps to advance suicide research, including using clear terms of suicide outcomes (i.e., ideation, plans, and attempts). Researchers in the field of suicide prevention have advocated for the use of evidence-based interventions (Goldstein Grumet and Jobes, 2024; Klonsky et al., 2020). Overall, it is argued that the field of suicide needs both effective ways of classifying and intervening for those who are considering suicide. Specifically, having a system that aligns with actual risk and facilitates accuracy in clinical decision making would help the current approach that hinges on clinical judgement, and self- reported plan and intent, and has significant implications for youth care and quality of life. In addition, matching treatment type, dose, based on risk typologies would be of great benefit to allocate resources effectively.

This current project will be the first in an adolescent sample to assess the relationship between a suicide risk typology – Suicide Index Score typologies (SIS; Kovacs and Beck, 1977) – and the application of a suicide-specific treatment, the Collaborative Assessment of Suicidality (CAMS; Jobes, 2023; Jobes et al., 2019). In examining SIS typologies for adolescents, this study will be the first to assess the distribution and relationship of SIS typologies with other suicide-related variables/outcomes among youth endorsing suicidality. Given that CAMS is in the nascent stages of being adapted and implemented for youth, an important developmental consideration for adolescence, the roles of family connectedness and caregiver burden, are included in this study to further efforts in understanding key family targets for intervention to reduce youth suicide risk.

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1.1. Suicide theories

Joiner has identified that feeling like a burden to others – *perceived burdensomeness* – and feeling like one does not belong – *thwarted belongingness* – are the two interpersonal factors emphasized in the ITS in relation to suicide ideation. These factors coupled with acquired capability (e.g., increased pain tolerance and engaging in non-suicidal self-injury) increases the chances for suicide attempts (Joiner, 2005). Taken together, interpersonal processes seem to be a catalyst that may escalate suicide risk and may be especially relevant for adolescents in their developmental stage (Vergara et al., 2023). These theories do not in themselves implicate youth's relationship with their caregivers and family. However, several family experiences such as parental rejection, intrusiveness, and withdrawal may contribute to suicidal youth's sense of perceived burdensomeness and thwarted burdensomeness (Diamond et al., 2022). Moreover, interpersonal stressors may negatively impact parents' reactions and interactions in the parent-child relationship and contribute to youth suicidality (Adrian et al., 2022). In fact, several treatments for suicidal youth also include family members in an effort to aid with attachment, connectedness, and belonging (Diamond et al., 2022).

Edwin Shneidman (1996) posited that the individual grappling with suicidality is plagued by a mental state characterized by pain (*psychache*), and ambivalence toward both life and death may be present when considering suicide (Shneidman, 1996). Kovacs and Beck (1977) assessed this life-death discrepancy in what they referred to as the *internal struggle hypothesis*. The original Suicide Index Score (SIS; Kovacs and Beck, 1977) approach operationalizes the internal struggle hypothesis through establishing the following dominant mental state typologies: *wish to die* (WTD) and *wish to live* (WTL). Kovacs and Beck (1977) found that those in the WTD group, compared to the WTL group, had higher suicide intent among adult patients hospitalized for suicide attempts. The SIS groupings were subsequently adapted in measurement items, and a group was added specifically for *ambivalence* (AMB) about both wanting to live and die (Brown et al., 2005; Bryan et al., 2016).

1.2. Suicide Index Score (SIS)

SIS typologies have predicted suicidality within the context of a suicide-specific treatment that is found to be effective for those who endorse suicidal thinking – Collaborative Assessment and Management of Suicidality (CAMS) – in adult samples (Jobes, 2023). A recent meta-analysis of nine adult CAMS trials found significant support for CAMS at reducing suicidal ideation ($d = 0.25$) and symptom distress ($d = 0.29$) especially hopelessness when compared to control care (Swift et al., 2021). Additionally, CAMs trial for adults have resulted in 7 published randomized control trials, with a recent RCT among suicidal adult inpatients finding CAMS, more so than enhanced treatment as usual, led to less suicide attempts one month after discharge (Santel et al., 2023). There are five key CAMS SSF Core Assessment outcomes that the client and the therapist collaborate to assess: psychological pain, agitation, hopelessness, self-hate, and stress (Jobes, 2023).

In a longitudinal study of adults in an outpatient setting, O'Connor et al. (2012a) found that the SIS typologies, more so than history of suicide attempts, predicted clinical treatment outcomes over a 12-month follow-up period. The AMB group, compared to the WTD group, largely drove the results through significantly predicting suicide ideation across the 12 month period (O'Connor et al., 2012a). Specifically, more so than suicide attempt history, AMB status predicted no longer meeting a clinical threshold of suicide ideation at the 12-month follow up. Such findings suggest that the AMB group is not only distinct from the WTD and WTL, but also that SIS typologies may be particularly important to assess for predicting clinical outcomes for individuals grappling with suicidality (O'Connor et al., 2012a, 2012b). Lento et al. (2013) also assessed SIS typologies in a sample of inpatient adults and found that some groups differed on suicidal ideation at the start of CAMS (WTD and AMB > WTL). Notably, Lento et al. (2013) found that those with a clear WTL or WTD orientation were more likely to have their suicidal ideation resolve by discharge, while those in the AMB group showed no clear pattern. The WTL was the fastest group to have ideation resolve and maintain low, although not statistically significant.

SIS typologies have also been examined in the context of assessing CAMS SSF Core outcomes in adults in one study. Specifically, Corona et al. (2013) conducted a study in which they examined SIS group status on initial and post CAMS sessions in a Danish adult outpatient sample. The authors found that SIS groups differed significantly only on the overall suicide risk scores at initial session and post-treatment (WTD > AMB > WTL). Moreover, there was a significant interaction between the reduction in pre-post CAMS overall suicide risk by SIS groups, with the WTD group reporting the highest suicide risk at intake and the AMB group reporting the highest suicide risk at post-treatment. Despite the small AMB sample, this latter finding is inconsistent with the O'Connor et al. (2012a) finding that a AMB status was associated with a reduction with suicide ideation at the 12 month follow-up, while consistent with the Lento et al. (2013) finding that WTD and WTL groups had greater reductions in suicide ideation at follow-up. Overall, these findings suggest CAMS may be differentially helpful based on SIS typology.

Ambivalence and varying attachments to life and death are important risk indicators in adolescents (Cotton and Range, 1996; Muehlenkamp and Gutierrez, 2004; Toukhy et al., 2024) even with the more fluctuating state of suicidal process. Similar to adult samples, the associations of these attachments with suicidality have been varied in adolescent samples. In particular, lower attachment with life and repulsions to death serve as risk factors for suicidal ideation among some adolescent samples (Cotton and Range, 1996; Muehlenkamp and Gutierrez, 2004). Toukhy et al. (2024), however, found that a stronger attachment with life is associated with increased suicide ideation, although this was mediated by depressive symptoms. Nonetheless, research in this area reveals the importance to further examine how such attachments with life and death may be displayed in Suicide Index Score typologies for adolescents.

1.3. CAMS-4Teens and family factors

Given CAMS effectiveness in adult populations and high rates of suicidality among teens, CAMS has been piloted and rated highly on feasibility, acceptability, and shows promise as an effective treatment framework for adolescents (CAMS-4Teens; Adrian et al., 2022; see clinicaltrials.gov: NCT0507897). Much remains to be understood about how to best match treatment to presenting problems, which SIS groupings may help to address. In conducting this next step, it will also be important to consider developmental factors that may be impact findings, such as family factors (Blossom et al., 2022; Jobes, 2023). Two such factors are *family connectedness*, or feeling close to family members, and *caregiver burden,* or strain parents experience caring for children with emotional difficulties (e.g., financial, guilt).

A growing body of literature indicates that parent inclusion in treatment may contribute to positive outcomes. The key rationale around parent inclusion in treatment is based on research that the quality of the youth-parent relationship is a significant prognostic factor for youth's functioning – high conflict, low cohesion, and ineffective parenting are associated with suicidality (Diamond et al., 2022; Wagner, 2009). There are also unique caregiving experiences for parents during this time compared to other chronic circumstances that may present themselves in the caregiver-child relationship. Caregivers may endorse stress, referred to as *caregiver burden,* including feelings of shame, guilt, or responsibility, in addition to increasing role change accommodations (Chessick et al., 2007; McDonald et al., 2007). There has been emerging research examining family and caregiver expectations, beliefs, and stress related to their youth suicidality and treatment (Ewell Foster et al., 2022). In one study, caregiver confidence regarding their youth suicidality in outpatient crisis clinic significantly impacted their youth's

attendance in clinic and suicide risk at the end of a short-term intervention (Danzo et al., 2024).

In addition, families can serve as tremendous sources of protection from risk (Rubenstein et al., 1998). Arango et al. (2019) found that family connectedness, in addition to school connectedness, was significantly, negatively associated with suicidality and depression across the follow-up period among bully-victimized adolescents in an emergency department. Taken together, these two factors highlight the importance of understanding dimensions of family functioning in predicting treatment response for youth at risk for suicide.

1.4. The present study

This is the first study to examine SIS typologies among an adolescent sample, which is essential to address given the high rates of suicidality among adolescents. Thus, this study is the first to assess whether the distribution of these three typologies is similar to adult samples, and whether the relationship of SIS typologies with other suicide-related variables/outcomes is consistent with what has been observed among adults. Due to the inconclusive findings of SIS typologies with adults and the exploratory nature of this study, we argue that adolescents with higher associations with life might improve best by CAMS-4Teens. **H1.** SIS typologies would differ on demographic, suicidality, and family baseline characteristics, with WTL reporting the least severity followed by AMB and WTD groups. **H2.** SIS typologies would have different changes in CAMS initial to last scores in suicide risk and SSF Core outcomes of Psychological Pain, Stress, Agitation, Hopelessness, Self-Hate, with WTL improving the most followed by AMB and WTD groups. **H3.** The CAMS initial to last session difference scores in suicide risk and SSF Core outcomes would be correlated with baseline family connectedness, caregiver burden, and suicide ideation severity differently by SIS typologies, with WTL reporting the least severity followed by AMB and WTD groups.

In addition, exploratory analyses were conducted to examine differences in initial CAMS SSF Core outcomes and overall family factors for participants who were classified into an SIS typology but only attended the initial session.

2. Method

2.1. Participants

The 108 participants were 59.4 % female, 78.9 % Caucasian, with a mean age of 14.9 years ($SD = 1.9$; range = 10–20 years old) who were referred to outpatient CAMS-4Teens due to past-week suicidal ideation or behavior. Interested individuals were screened for study participation, with the following inclusion criteria: between the ages of 11–20, with a score on the Suicidal Behavior Questionnaire-Revised (SBQ-R; Osman et al., 2001) greater than 7, and a caregiver/trusted adult willing to participate. Exclusion criteria included limited English proficiency, current participation in a higher-level of care treatment (e.g., inpatient), and the following diagnoses: psychosis, life threatening eating disorder, or autism spectrum/intellectual disability.

2.2. Procedure

An IRB waiver was obtained for this study (per Seattle Children's IRB Study00002432). Participants were eligible for treatment based on screening of medical records and consultation with the referral source based on procedures of the outpatient Crisis Consultation Clinic (CCC) at Seattle Children's Hospital (Adrian et al., 2022). Participants received CAMS weekly for up to four sessions. Parents participated at each session and were assigned their own clinician to meet intervention goals of the study. Assessments were administered at baseline and end of treatment.

2.3. Measures

2.3.1. CAMS Suicide Status Form (SSF-II-R; Jobes, 2023)

The CAMS SSF is a therapeutic assessment used to collect quantitative data rated on a 5-point scale from 1 (low) to 5 (high) targeting key outcomes. The CAMS SSF Core outcomes are psychological pain, stress, agitation, hopelessness, and self-hate. Overall self-perceived risk of suicide is also assessed on a 5-point scale from 1 (low risk) to 5 (high risk). Using SSF data from initial and last CAMS sessions, difference scores were calculated to quantify changes from pre-to-post treatment from worsening (−5) to improving (5; see **H3**). The SSF has shown strong convergent and criterion validity in adult samples, and an adolescent inpatient sample (Brausch et al., 2020).

2.3.1.1. Suicide Index Score typologies. The SIS groupings were derived from 9-point rating scales (0 = *not at all* to 8 = *very much*) on the Wish to Live and Wish to Die questions on the CAMS SSF. This SIS typology categorization process is consistent with the process of arriving at SIS typologies developed by Lento et al. (2013). The WTL and WTD scores were each recoded as a low score of 0 (0, 1, 2), middle score of 1 (3, 4, 5), or high score of 2 (5, 7, 8). Difference scores were then calculated by subtracting the converted WTD score from the converted WTL score, which resulted in a Suicide Index Score ranging from −2 to 2. These last scores were categorized into the SIS typologies: WTL (score of −1 or −2), AMB (Ambivalence; score of 0), and WTD (score of 1 or 2).

2.3.2. National Longitudinal Study of Adolescent Health (ADD Health) Family Connectedness (FC) Subscale (Resnick et al., 1997)

The FC subscale included in the current study was an adapted 2-item self-report measure assessing perceived family closeness on a scale from 0 (not at all) to 4 (very much) including: "*how much do people in your family understand you?*" Total scores consisted of summing the two items and then averaging them, such that mean totals scores ranged from 0 to 4, with higher scores indicating greater family connectedness. The ADD health connectedness scales have demonstrated mild moderate associations with emotion well-being measures (Sieving et al., 2001).

2.3.3. Caregiver Strain Questionnaire-Short Form 7 (CGSQ-SF7; Brannan et al., 2012)

The CGSQ-SF7 is a 7-item self-report measure, asking about different forms of strain (e.g., financial, family relationship impact) caregivers endorse due to their experiences with their youth in the past month. Item ratings range on a scale from 1 (not at all) to 5 (very much) such as: *missing work or neglecting other duties because of this youth's problems.* Total scores are derived from summing the average of the subjective internalized strain subscale (three items) and the objective strain subscale (four items), with total scores ranging from 1 to 10. Higher scores indicate greater caregiver burden endorsed, with a score of 7 or higher described as *high caregiver burden* on this scale (Brannan et al., 2012). The CGSQ-SF7 has demonstrated good construct validity (Brannan et al., 2012).

2.3.4. Columbia-Suicide Severity Rating Scale (C-SSRS; Posner et al., 2011)

The C-SSRS is a clinical rating scale used widely for assessing a range of self-injury and suicide outcomes with different time anchors. For the current study, we included suicidal and self-harm items at baseline (i.e., past-week? suicidal ideation, past-month suicide attempt, lifetime suicide attempt, and past-month self-injury) and over the study period (i.e., suicide attempt or self-injury during study participation). All items were assessed dichotomously with a response of (1) yes or (2) no. The C-SSRS has shown moderate convergent validity, and predictive validity of suicide attempts (Posner et al., 2011; Gipson et al., 2015).

2.3.5. Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001)

The PHQ-9 is a 9-item self-report measure assessing current depression severity. All items are on a scale from 0 (not at all) to 3 (nearly every day) asking whether any symptom (e.g., little interest or pleasure, feeling down) occurred during the past two weeks. Total scores ranged from 0 to 27, with higher scores indicating higher depressive symptoms. The PHQ-9 has shown strong construct and criterion validity in various samples (Kroenke et al., 2001).

2.3.6. Demographics

A demographics questionnaire created for this study assessed several participant characteristics (see Table 1).

2.4. Data analyses

To assess **H1**, univariate analyses included chi-square tests for categorical variables and ANOVAs for continuous variables. If Levene's test of homogeneity was significant, a Brown-Forsythe statistic was used. To examine **H2**, two-way mixed repeated measures (RM) ANOVAs with the two time points (initial, post) and SIS groups (WTL, AMB, WTD) as the independent variables and the CAMS SSF outcome scores as the dependent variables. Two-way mixed RM ANOVAs were chosen to assess interactions between SIS group status and assessment time. To account for the multiple tests conducted and reduce the rate of significant false positives, *p*-values from the RM ANOVAs were assessed through a False Discovery (FDR) calculator (Benjamini and Hochberg, 1995). Post-hoc analyses used Bonferroni-corrected statistics for the RM ANOVAs. To examine **H3**, Pearson-correlations were conducted to assess the correlations between baseline family connectedness, caregiver burden, and CAMS SSF outcome scores from initial to last sessions for the three SIS groupings. Exploratory analyses utilized ANOVAs and Pearson-correlations.

3. Results

3.1. H1: SIS typologies will differ on baseline characteristics

Participants were categorized into one of the following groups based on their SIS scores: WTL ($n = 43$), AMB ($n = 38$), or WTD ($n = 27$). Of note for analyses described below, 95 participants completed at least two CAMS sessions in this study (ranged from 2 to 4) while 13 participants completed only a single session. The breakdown of SIS typologies based on the minimum number of sessions completed were categorized as follows: single session attenders (WTL: $n = 7$, AMB: $n = 3$, WTD: $n = 3$) and at least two sessions attenders (WTL: $n = 36$, AMB: $n = 35$, WTD: $n = 24$).

None of the demographic variables significantly differentiated the SIS typologies (all $p_s > .05$) (see Table 1). There was a significant difference among the three groups on mean total depression scores (see Table 1). Brown-Forsythe statistic was used as an adjustment, $F(2, 76.1) = 6.12$, $p < .01$, with a medium effect size of $\eta^2 = 0.11$. Bonferroni post-hoc analyses revealed that only the WTD group significantly differed from the WTL group with a difference of 4.74 points on the depression scale (95 % CI: 1.33–8.16 points, $p < .01$). For baseline presence of suicidal ideation, there appeared to be a non-significant trend such that the WTD and AMB groups experienced more ideation compared to the WTL group, $\chi^2(2) = 4.94$, $p = .08$, with a small effect of $\varphi = 0.130$. The groups did not significantly differ on presence of a suicide attempt or self-injury in the month prior to clinic visit, nor in the total number of lifetime suicide attempts. Additionally, mean family connectedness and caregiver burden total scores did not significantly differ across the three groups (see Table 1).

Suicide attempts and self-injury at any time during participation in the study was also assessed for those who attended more than one session (see Table 1). WTD and AMB groups both had four participants attempt suicide during study participation, while the WTL group did not

Table 1
Baseline characteristics of the sample.

	WTD ($n = 27$)	AMB ($n = 38$)	WTL ($n = 43$)	Test	*p*
Demographics					
Age *M (SD)*	14.7 (1.5)	14.7 (2.3)	15.1 (1.7)	$F(2, 91) = 3.90$	.678
Grade *M (SD)*	9.3 (1.7)	9.2 (2.0)	9.7 (1.7)	$F(2, 91) = 1.02$	.366
Gender % (n)				$\chi^2(10) = 15.10$	.178
Female	63.6 (14)	64.7 (22)	52.5 (21)		
Male	9.1 (2)	23.5 (8)	40.0 (16)		
Transgender Male	9.1 (2)	2.9 (1)	5.0 (2)		
Transgender Female	4.5 (1)	0 (0)	0 (0)		
Nonconforming or nonbinary	13.6 (3)	8.8 (3)	2.5 (1)		
Race % (n)				$\chi^2(8) = 11.29$	.186
Caucasian	80.0 (16)	90.1 (30)	67.6 (25)		
African American	10.0 (2)	3.0 (1)	13.5 (5)		
American Indian	0 (0)	0 (0)	5.4 (2)		
Asian	5.0 (1)	6.1 (2)	13.5 (5)		
Hawaiian Pacific	5.0 (1)	0 (0)	0 (0)		
School Attendance % yes (n)	100 (22)	97.1 (33)	100 (39)	$\chi^2(2) = 1.81$	.404
Caregiver marital status % currently married (n)	65.0 (13)	60.6 (20)	71.8 (28)	$\chi^2(10) = 6.31$	.789
Clinical					
Depression *M (SD)*	19.59 (5.28)	17.21 (3.85)	14.85 (6.23)	$F(2, 76.1) = 6.12^{\wedge}$	.003*
SI % yes (n)	100 (26)	100 (38)	92.5 (37)	$\chi^2(2) = 4.94$	.084+
Past month SA % yes (n)	38.5 (10)	55.3 (21)	47.5 (19)	$\chi^2(2) = 1.75$	.416
Lifetime SA % yes (n)	50 (13)	73.7 (28)	65 (26)	$\chi^2(2) = 3.79$	.150
Past month NSSI % yes (n)	44 (11)	59.4 (22)	45 (18)	$\chi^2(X) = 2.08$	.353
SA during study % yes (n)	16.7 (4)	10.8 (4)	0 (0)	$\chi^2(2) = 5.52$	.063+
NSSI during study % yes (n)	25 (6)	18.9 (7)	5.9 (2)	$\chi^2(2) = 4.31$	.116
Family					
Family Connectedness	2.24 (1.0)	1.93 (0.75)	2.18 (0.94)	$F(2, 92) = 1.04$	.359
Caregiver Burden	3.40 (0.98)	3.05 (0.77)	3.23 (1.04)	$F(2, 88) = 0.89$	.414

* $p < .05$.
\+ Non-significant trend.
^ Levene's test of homogeneity not met, Brown-Forsythe statistic reported for adjustment.

report any attempts; this relationship was a non-significant trend, $\chi^2(2) = 5.52$, $p = .06$, with a small effect of $\varphi = 0.241$. Engagement in self-injury during the study did not significantly differ by SIS group, $\chi^2(2) = 4.31$, $p = .12$.

3.2. H2: SIS typologies will have different changes in CAMS initial to last scores

As Table 2 reveals, the interaction between suicide risk scores from initial to last CAMS session by SIS group status was statistically significant, $F(2, 91) = 8.07$, $p < .001$, with a large effect of $\eta_p^2 = 0.151$, and remained statistically significant with the FDR calculator ($p < .01$). The post-hoc Bonferroni pairwise comparisons of this interaction revealed that at pre-treatment all SIS groups significantly differed from each other on suicide risk (differences ranged from $EM_s = 0.73$ to 1.72 points, $SE_s = 0.19$ to 0.22; $p_s < 0.001$), yet at post-treatment the AMB group did not significantly differ from the WTL group on suicide risk (EM = 0.03 points, SE = 0.17; $p > .05$; see Fig. 1). Moreover, as Fig. 1 reveals, both the WTD and AMB suicide risk reductions from pre- to post-treatment were significant ($EM_s = 0.78$ to 0.96 points, $SE_s = 0.16$ to 0.19; $p_s < 0.001$), while the WTL suicide risk reduction, which was low at pre-treatment and stayed low at post-treatment, was not significant (EM = 0.08 points, SE = 0.15; $p > .05$).

The interaction between psychological pain scores from pre- to post-CAMS session by SIS group status was significant, $F(2, 92) = 3.27$, $p < .05$, with a medium effect of $\eta_p^2 = 0.066$; however, this did not remain significant with the FDR calculator ($p = .126$). The initial post-hoc Bonferroni pairwise comparisons of this interaction revealed that at pre-treatment all of the SIS groups significantly differed on psychological pain (differences ranged from $EM_s = 0.50$ to 1.44 points, $SE_s = 0.25$ to 0.28; $p_s < 0.05$), yet at post-treatment only the WTD group significantly differed from the WTL group (EM = 0.63 points, SE = 0.30; $p < .05$).

None of the remaining interactions between SIS group status and pre- to post-CAMS SSF Core outcome scores (self-hate, stress, agitation, hopelessness) were significant ($p_s < 0.05$; see Table 2). However, there were significant main effects of time for all of the CAMS SSF Core outcomes, wherein participants improved over treatment regardless of SIS group ($p_s < 0.01$–0.001; $\eta_p^2 = 0.089$–0.446).

3.3. H3: Correlations between family factors and CAMS difference scores will vary by SIS typology

Across all typologies, none of the CAMS reductions in suicide risk or SSF Core outcomes were significantly associated with baseline family connectedness or caregiver burden (all $p_s > .05$; see Table 3). In fact, of all the correlations conducted only one correlation was a non-significant trend in an unexpected direction: a positive association between suicide risk reduction and caregiver burden among the WTL group, may suggest that greater caregiver burden was associated with higher reductions in suicide risk from initial to last sessions ($r = 0.33$, $p = .07$). The non-significant associations in the WTD and the WTL groups were in the expected direction.

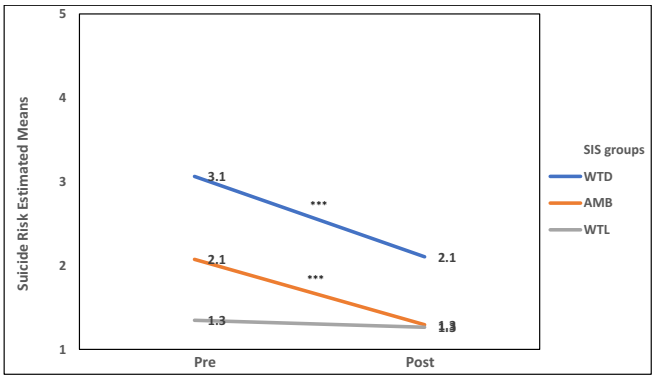

Fig. 1. The CAMS SSF suicide risk pre-post changes by SIS groups.
Note: $^{***}p < .001$; Significant interaction of SIS group × time (pre-post) for CAMS suicide risk displayed. Scores range from 0 (lowest) to 5 (highest).

Table 3
Correlation matrix of CAMS difference scores and family variables by SIS groups (n = 95).

	Psych Pain	Stress	Agitation	Hopeless	Self-hate	SI Risk
WTD (*n* = 24)						
Family Connect	0.19	0.21	0.16	0.35	0.10	0.02
Caregiver Burden	−0.02	−0.08	−0.16	−0.18	−0.12	0.09
AMB (*n* = 35)						
Family Connect	−0.19	0.01	−0.13	−0.04	−0.10	−0.07
Caregiver Burden	0.13	−0.04	0.05	0.02	0.22	0.13
WTL (*n* = 36)						
Family Connect	0.07	0.09	0.01	−0.14	0.02	−0.08
Caregiver Burden	−0.18	−0.14	−0.12	−0.20	0.06	0.33^{+}

$^{+}$ Non-significant trend, $p = .07$.

3.4. Exploratory analyses on initial CAMS SSF core outcomes for single session attenders

As displayed in Table 4, ANOVAs comparing CAMS SSF Core

Table 2
Two-way mixed repeated measures ANOVA testing the interaction of pre-post CAMS SSF scores by SIS groups (n = 95).

Pre-post EM (SE)	WTD	AMB	WTL	Test	*p*
	(*n* = 24)	(*n* = 35)	(*n* = 36)		
Suicide Risk	0.96 (0.19)***	0.78 (0.16)***	0.08 (0.15)	$F(2, 91) = 8.07$	<.001
Psych Pain	1.23 (0.26)***	0.54 (0.21)**	0.42 (0.21)*	$F(2, 92) = 3.27$	.042^
Self-hate	0.92 (0.24)	1.33 (0.20)	0.96 (0.20)	$F(2, 92) = 1.18$	.312
Stress	0.88 (0.29)	0.34 (0.24)	0.39 (0.23)	$F(2, 92) = 1.20$	.305
Agitation	0.69 (0.30)	0.27 (0.25)	0.40 (0.24)	$F(2, 92) = 0.60$	.554
Hopeless	1.08 (0.29)	1.14 (0.24)	0.67 (0.23)	$F(2, 92) = 1.17$	.315

Differences in pre-post CAMS scores presented.
* $p < .05$.
** $p < .01$.
*** $p < .001$.
^ FDR calculator did not find this *p*-value to be significant ($p = .126$).

Table 4
ANOVA analyses testing the differences in initial CAMS SSF core assessment outcomes among SIS groups who only completed one CAMS session (n = 13).

M (SD)	WTD ($n = 3$)	AMB ($n = 3$)	WTL ($n = 7$)	Test	*p*
Suicide Risk	2.67 (0.58)[a]	1.67 (0.58)[b]	1.07 (0.19)[b]	$F(2, 4.26) = 10.16$^	0.024*
Psych Pain	4.33 (0.58)	3.33 (1.53)	2.14 (1.22)	$F(2,10) = 3.78$	0.060+
Self-hate	4.33 (0.58)	4.00 (1.00)	2.64 (1.75)	$F(2, 10) = 1.82$	0.211
Stress	2.67 (1.15)	2.50 (2.12)	2.86 (1.35)	$F(2, 9) = 0.06$	0.945
Agitation	3.17 (0.29)	2.33 (2.31)	1.43 (0.79)	$F(2, 2.35) = 1.50$^	0.380
Hopeless	4.67 (0.58)	3.83 (0.76)	3.00 (1.15)	$F(2, 10) = 3.10$	0.090+

* $p < .05$.
^ Levene's test of homogeneity not met, Brown-Forsythe statistic reported for adjustment.
+ Non-significant trend.
[a,b] Bonferroni post-hoc comparisons in overall suicide risk ANOVA revealed WTD group significantly differed from AMB and WTL groups, while AMB and WTL groups did not significantly differ from each other.

outcomes by SIS groups based on participants who only attended one session ($n = 13$) revealed that the groups significantly differed on initial self-reported suicide risk scores [Brown-Forsythe statistic was used, $F(2, 4.26) = 10.16$]. Bonferroni post-hoc analyses revealed that the WTD group significantly differed ($p_s < 0.05$) from the AMB and WTL groups with a mean difference of 1.00 point (95 % CI: 0.80–1.92 points) and 1.60 points (95 % CI: 0.82–2.37 points) respectively on suicide risk scores. These post-hoc analyses also found that the AMB group did not significantly differ in suicide risk from the WTL group (95 % CI: −0.18–1.37 points, $p > .05$). SIS groups did not significantly differ on initial CAMS SSF Core outcomes of self-hate, stress, and agitation (all $p_s > .05$). However, the differences between the SIS groups on initial psychological pain ($p = .06$) and hopelessness ($p = .09$) were non-significant trends.

None of the initial CAMS SSF Core outcome scores were significantly associated with baseline family connectedness (all $p_s > .05$) among participants who only attended one CAMS session. Only one of the initial CAMS Core outcome scores was significantly associated with caregiver burden, hopelessness ($r = 0.70$, $p < .05$), among the 13 participants.

4. Discussion

This study was the first to evaluate the utility of SIS typologies based on wish to live vs. wish to die in an adolescent clinical sample receiving treatment – CAMS-4Teens. Additionally, it was the first to examine whether there was any relationship of SIS typologies with baseline characteristics, suicide risk status, and caregiver qualities. Specifically, both AMB and WTD groups reported more depression at baseline than the WTL group; and there were trends for baseline suicidal ideation and suicide attempts (WTD and AMB > WTL). The results may suggest that adolescents classified into suicide typologies benefit differentially with relatively few sessions (between 2 and 4) from CAMS-4Teens. In particular, participants with a wish to die orientation benefited most in reducing their overall self-reported suicide risk while those with a wish to live orientation remained low on self-reported suicide risk during the study. The interactions between the groups did not differ significantly on any other SSF Core Assessment scores, although overall the sample showed improvement on these outcomes from pre-to-post-treatment.

4.1. Adolescent Suicide Index Score typologies baseline and pre-post differences

Unlike the outpatient and inpatient studies with adults conducted by O'Connor et al. (2012a, 2012b) that did not find a significant difference for depression among the SIS groups, the significant difference in depression found among adolescent SIS typologies may be more specific to adolescents in a novel crisis outpatient setting. It is noteworthy that the distinction observed is only between WTD and WTL groups in the expected manner, suggesting that the AMB group may share other clinical similarities with both typology groups. Furthermore, none of the other baseline, historical, or current self-injury/suicide outcomes examined were significantly different among the groups in this study. The baseline SIS group differences may suggest these groups have limited distinct patterns of known risk factors and severity, warranting further study (Franklin et al., 2017; O'Connor et al., 2012a).

4.2. Pre-post differences in CAMS SSF core outcomes and Suicide Risk Scores and SIS typologies

In this study there was a significant interaction between the reduction in pre-post CAMS overall suicide risk scores by SIS groups, with WTD reporting the greatest reduction and WTL reporting the least. This builds on baseline differences in overall suicide risk scores among SIS groups found in inpatient and outpatient settings (Corona et al., 2013; O'Connor et al., 2012b). Even with a small sample in the WTD group ($n = 6$), Corona et al. (2013) still found a significant interaction between the reduction in pre-post CAMS overall suicide risk scores by SIS groups. Taken together, this interaction effect in our study potentially demonstrate that adolescents with a WTD orientation have the most opportunity for steeper improvement in suicide risk given their higher overall suicide risk at baseline, while adolescents with a WTL orientation have less room for change given lower levels of suicide risk to begin. Thus, it may be especially helpful to screen adolescents presenting with suicidality for a WTD orientation in order to streamline and match them to a suicide-specific treatment such as CAMS-4Teens.

Another significant interaction effect observed for SIS groups in this study was found for reductions in pre-post psychological pain, although significance was not found when corrections were applied. These initial finding suggested that psychological pain may be particularly important for adolescents with a strong association with death, although significant reductions were also found for the AMB and WTL groups. Corona et al. (2013) did not find a significant interaction between pre-post reductions in psychological pain and SIS group status. There may be many reasons for this difference, including cultural differences in perceptions of suicidality (i.e., participants were Danish adults). Regulating emotions is often the target of interventions for suicidality and self-harm (Rathus and Linehan, 2014), and adolescents endorsing suicidality regardless of SIS group status may continue to benefit from addressing psychological pain in clinical settings.

The lack of interactions of pre-post reductions in CAMS SSF Core outcomes (stress, agitation, hopelessness, and self-hate) by SIS groups in our adolescent sample, reveal that these outcomes may not differ for adolescents based on their orientation to life or death. Additionally, these findings are consistent with more generally targeting factors such as stress and self-hate in intervention efforts for youth suicidality and depression (Tang et al., 2009; Vergara et al., 2023).

At baseline, the SIS groups did not significantly differ from each other on family connectedness or caregiver burden. Although non-significant, there were some unexpected trends for these factors. Specifically, while it was predicted that the WTL group would have the highest family connectedness and lowest caregiver burden, the WTD group actually had the highest family connectedness in addition to the highest caregiver burden while the AMB group had the lowest caregiver burden. Such differences potentially demonstrate that the AMB group may be better served by addressing family connectedness while the WTD

group may benefit from drawing on the high family connectedness when addressing caregiver burden. Additionally, these findings suggest that other variables examining family context may aid in understanding the nuances in working with families of each distinct SIS group specifically and youth endorsing suicidality more generally (e.g., caregiver expectations and mental health; Danzo et al., 2024; Smith et al., 2023). The differences in pre-post CAMS outcomes were also not significantly correlated with baseline caregiver burden and family connectedness for any SIS groups.

4.3. Exploratory findings from single session adolescents

Overall, the distribution of participants across SIS typologies was similar for those who only attended a single session, and SIS typology groups did not differ based on demographics, despite trend differences on SSF core constructs of pain and hopelessness (which need to be interpreted with caution given the small numbers per group). As CAMS-4Teens continues to be implemented, the findings based on single-session attenders may reveal that the distinct SIS groups and associated treatment targets can be identified even in a single session (Oakey-Frost et al., 2023). Among the 13 participants who attended only one session, none of the initial CAMS SSF Core outcomes were significantly associated with family connectedness; although caregiver burden and hopelessness were positively, significantly associated.

4.4. Clinical implications

There are several clinical implications that can be gathered from these findings. We found support for heterogeneity in youth's orientation to life and death. For the WTD group, they consistently reported higher overall self-reported suicide risk and greater reductions from initial to last session in suicide risk, contrary to the idea that suicidality is "entrenched" (or chronic; O'Connor et al., 2012a). For the WTL group, they present with lower CAMS SSF Core outcomes at baseline and thus have fewer changes over treatment, so adolescents endorsing a WTL orientation at baseline may benefit from other specific treatment targets more in line with establishing a life worth living such as problem-solving skills (Kovacs and Beck, 1977). The AMB group reported numerically, although non-significant, differences from the WTL and WTD groups with the highest number of lifetime suicide attempts and non-suicidal self-injury, may suggest the benefit of targeting the combination of self-hate and non-suicidal self-injury (Klonsky and May, 2014).

As CAMS-4Teens continues to be refined and implemented, the findings here are consistent with a brief version of CAMS involving 1 to 4 sessions that can be effective in reducing key constructs of suicidality (Oakey-Frost et al., 2023). With only one week in between sessions for those who attended more than a single session, reductions in all the CAMS constructs were observed over short periods of time. The presence of caregiver burden, more so than family connectedness, was relevant in this study (although minimally), warranting further exploration of caregiver burden on youth's own perceived burdensomeness and suicidality (Joiner, 2005). Future research can further examine the direct role of family and caregivers in impacting their adolescent's suicidality and SIS orientations in order to determine how to best include and target youth-caregiver relationships in treatment.

4.5. Limitations

There are several limitations to this study that are important to consider. First, this study did not account for several clinical characteristics, such as psychiatric diagnoses beyond depression that may be relevant to the observed findings and contributing to self-harm and suicidality outcomes severity. Second, the SIS groups were created by asking participants during their first session for their current wish to live and wish to die; however, others have argued for creating such groups by asking about the wish to live/die at a "worst point" (O'Connor et al., 2012a, 2012b). Third, this study did not examine causality among the variables assessed and was short in duration. Thus, future research is needed to examine temporal relationships over longer courses of treatment. Fourth, the exploratory analyses were based on only 13 participants and therefore must be interpreted with caution. As a future steps, it will be helpful to examine these findings in a randomized control trial design, with the inclusion of a control group to address any regression to the mean concerns.

4.6. Conclusion

With the rising rates of suicidal ideation, self-harm, and suicide among youth, there is a pressing clinical need to develop accessible and effective assessment and treatments. This study is the first to examine the impact of SIS typologies on treatment outcomes for adolescents receiving a brief suicide-focused treatment, CAMS. Although preliminary, the present study also provides initial support for the feasibility of a single session format of CAMS-4Teens (i.e., CAMS-BI). CAMS-4Teens may be differentially helpful for youth endorsing suicidality, especially for those with a strong WTD orientation.

CRediT authorship contribution statement

Genesis A. Vergara: Writing – review & editing, Writing – original draft, Conceptualization. **Abby Adler Mandel:** Writing – review & editing, Conceptualization. **Molly C. Adrian:** Writing – review & editing, Project administration, Conceptualization. **David A. Jobes:** Writing – review & editing, Project administration, Conceptualization.

Declaration of competing interest

Dr. Jobes receives book royalties from Guilford Press and is founder and co-owner of CAMS-care (a professional training and consultation company).

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References

Adrian, M.C., Blossom, J.B., Chu, P.V., Jobes, D.A., McCauley, E., 2022. Collaborative assessment and management of suicidality for teens: a promising frontline intervention for addressing adolescent suicidality. Pract. Innov. 7 (2), 154–167. https://doi.org/10.1037/pri0000156.

Arango, A., Cole-Lewis, Y., Lindsay, R., Yeguez, C.E., Clark, M., King, C., 2019. The protective role of connectedness on depression and suicidal ideation among bully victimized youth. J. Clin. Child Adolesc. Psychol. 48 (5), 728–739. https://doi.org/10.1080/15374416.2018.1443456.

Benjamini, Y., Hochberg, Y., 1995. Controlling the false discovery rate: a practical and powerful approach to multiple testing. J. R. Stat. Soc. B 57, 289–300. https://doi.org/10.1111/j.2517-6161.1995.tb02031.x.

Blossom, J.B., Ridge-Anderson, A., Adrian, M.C., Jobes, D.A., 2022. A developmentally informed approach to the Collaborative Assessment and Management of Suicide (CAMS) for adolescents (CAMS-4Teens) and engaging parents in treatment. Pract. Innov. 7 (4), 303–312. https://doi.org/10.1037/pri0000189.

Brannan, A.M., Athay, M.M., de Andrade, A.R.V., 2012. Measurement quality of the Caregiver Strain Questionnaire-Short Form 7 (CGSQ-SF7). Adm. Policy Ment. Health Ment. Health Serv. Res. 39 (1–2), 51–59. https://doi.org/10.1007/s10488-012-0412-1.

Brausch, A.M., O'Connor, S.S., Powers, J.T., McClay, M.M., Gregory, J.A., Jobes, D.A., 2020. Validating the suicide status form for the collaborative assessment and management of suicidality in a psychiatric adolescent sample. Suicide Life Threat. Behav. 50 (1), 263–276. https://doi.org/10.1111/sltb.12587.

Brown, G.K., Steer, R.A., Henriques, G.R., Beck, A.T., 2005. The internal struggle between the wish to die and the wish to live. Am. J. Psychiatry 162 (10), 1977–1979. https://doi.org/10.1176/appi.ajp.162.10.1977.

Bryan, C.J., Rudd, M.D., Peterson, A.L., Young-McCaughan, S., Wertenberger, E.G., 2016. The ebb and flow of the wish to live and the wish to die among suicidal military

personnel. J. Affect. Disord. 202, 58–66. https://doi.org/10.1016/j.jad.2016.05.049.
Centers for Disease Control and Prevention (CDC), 2022. Web-based injury statistics query and reporting system [data file]. Retrieved October 14, 2024 from: https://www.cdc.gov/suicide/facts/data.html#cdc_data_surveillance_section_5-suicide-rate-disparities.
Chessick, C.A., Perlick, D.A., Miklowitz, D.J., Kaczynski, R., Allen, M.H., Morris, C.D., Marangell, L.B., 2007. Current suicide ideation and prior suicide attempts of bipolar patients as influences on caregiver burden. Suicide Life Threat. Behav. 37 (4), 482–491. https://doi.org/10.1521/suli.2007.37.4.482.
Corona, C.D., Jobes, D.A., Nielsen, A.C., Pedersen, C.M., Jennings, K.W., Lento, R.M., Brazaitis, K.A., 2013. Assessing and treating different suicidal states in a Danish outpatient sample. Arch. Suicide Res. 17 (3), 302–312. https://doi.org/10.1080/13811118.2013.777002.
Cotton, C.R., Range, L.M., 1996. Suicidality, hopelessness, and attitudes toward life and death in clinical and nonclinical adolescents. Death Stud. 20 (6), 601–610.
Danzo, S., Adrian, M.C., Twohy, E., Babeva, K., McCauley, E., 2024. Caregiver attitudes and youth suicidality: implications for involving caregivers in outpatient crisis care for adolescents. JAACAP Open 3 (3), 557–566.
Diamond, G., Kodish, T., Ewing, E.S.K., Hunt, Q.A., Russon, J.M., 2022. Family processes: risk, protective and treatment factors for youth at risk for suicide. Aggress. Violent Behav. 64, 1–11. https://doi.org/10.1016/j.avb.2021.101586.
Ewell Foster, C., Magness, C., Czyz, E., Kahsay, E., Martindale, J., Hong, V., Baker, E., Cavataio, I., Colombini, G., Kettley, J., Smith, P.K., King, C., 2022. Predictors of parent behavioral engagement in youth suicide discharge recommendations: implications for family-centered crisis interventions. Child Psychiatry Hum. Dev. 53 (6), 1240–1251. https://doi.org/10.1007/s10578-021-01176-9.
Franklin, J.C., Ribeiro, J.D., Fox, K.R., Bentley, K.H., Kleiman, E.M., Huang, X., Nock, M. K., 2017. Risk factors for suicidal thoughts and behaviors: a meta-analysis of 50 years of research. Psychol. Bull. 143 (2), 187–232. https://doi.org/10.1037/bul0000084.
Gipson, P.Y., Agarwala, P., Opperman, K.J., Horwitz, A., King, C.A., 2015. Columbia-suicide severity rating scale: predictive validity with adolescent psychiatric emergency patients. Pediatr. Emerg. Care 31 (2), 88–94.
Goldstein Grumet, J., Jobes, D.A., 2024. Zero suicide: what about "treat"? Crisis. https://doi.org/10.1027/0227-5910/a000958.
Jobes, D.A., 2023. Managing Suicidal Risk: A Collaborative Approach, 3rd Ed. Guilford Press, New York.
Jobes, D.A., Vergara, G.A., Lanzillo, E.C., Ridge-Anderson, A., 2019. The potential use of CAMS for suicidal youth: building on epidemiology and clinical interventions. Child. Health Care 48 (4), 444–468. https://doi.org/10.1080/02739615.2019.1630279.
Joiner, T., 2005. Why People Die by Suicide. Harvard University Press, Cambridge, MA.
Klonsky, E.D., May, A.M., 2014. Differentiating suicide attempters from suicide ideators: a critical frontier for suicidology research. Suicide Life Threat. Behav. 44 (1), 1–5. https://doi.org/10.1111/sltb.12068.
Klonsky, E.D., Pachkowski, M.C., Shahnaz, A., 2020. Understanding suicide to prevent suicide. Behav. Ther. 43 (8), 339–343.
Kovacs, M., Beck, A.T., 1977. The wish to die and the wish to live in attempted suicides. J. Clin. Psychol. 33 (2), 361–365. https://doi.org/10.1002/1097-4679(197704)33:2<361::AID-JCLP2270330207>3.0.CO;2-H.
Kroenke, K., Spitzer, R.L., Williams, J.B.W., 2001. The PHQ-9: validity of a brief depression severity measure. J. Gen. Intern. Med. 16 (9), 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x.
Lento, R.M., Ellis, T.E., Hinnant, B.J., Jobes, D.A., 2013. Using the Suicide Index Score to predict treatment outcomes among psychiatric inpatients. Suicide Life Threat. Behav. 43 (5), 547–561. https://doi.org/10.1111/sltb.12038.
McDonald, G., O'Brien, L., Jackson, D., 2007. Guilt and shame: experiences of parents of self-harming adolescents. J. Child Health Care 11 (4), 298–310. https://doi.org/10.1177/1367493507082759.
Muehlenkamp, J.J., Gutierrez, P.M., 2004. An investigation of differences between self-injurious behavior and suicide attempts in a sample of adolescents. Suicide Life Threat. Behav. 34 (1), 12–23.
Oakey-Frost, N., Crapanzano, K.A., Gerner, J., Cowan, T., Jobes, D.A., Tucker, R.P., 2023. An observational pilot of the collaborative assessment and management of suicidality brief intervention (CAMS-BI) for adult inpatients. Gen. Hosp. Psychiatry. https://doi.org/10.1016/j.genhosppsych.2023.09.009. S0163-8343.
O'Connor, S.S., Jobes, D.A., Comtois, K.A., Atkins, D.C., Janis, K., Chessen, C.E., Landes, S.J., 2012a. Identifying outpatients with entrenched suicidal ideation following hospitalization. Suicide Life Threat. Behav. 42 (2), 173–184. https://doi.org/10.1111/j.1943-278X.2012.00080.x.
O'Connor, S.S., Jobes, D.A., Yeargin, M.K., FitzGerald, M.E., Rodríguez, V.M., Conrad, A. K., Lineberry, T.W., 2012b. A cross-sectional investigation of the suicidal spectrum: typologies of suicidality based on ambivalence about living and dying. Compr. Psychiatry 53 (5), 461–467. https://doi.org/10.1016/j.comppsych.2011.09.007.
Osman, A., Bagge, C.L., Gutierrez, P.M., Konick, L.C., Kopper, B.A., Barrios, F.X., 2001. The Suicidal Behaviors Questionnaire-Revised (SBQ-R): validation with clinical and nonclinical samples. Assessment 8 (4), 443–454. https://doi.org/10.1177/10731911010080040.
Posner, K., Brown, G.K., Stanley, B., Brent, D.A., Yershova, K.V., Oquendo, M.A., Mann, J.J., 2011. The Columbia–Suicide Severity Rating Scale: initial validity and internal consistency findings from three multisite studies with adolescents and adults. Am. J. Psychiatry 168 (12), 1266–1277. https://doi.org/10.1176/appi.ajp.2011.10111704.
Rathus, Miller, A. L., Linehan, M.M., 2014. DBT Skills Manual for Adolescents, 1st ed. Guilford Publications.
Resnick, M.D., Bearman, P.S., Blum, R.W., Bauman, K.E., Harris, K.M., Jones, J., et al., 1997. Protecting adolescents from harm: findings from the National Longitudinal Study on Adolescent Health. JAMA J. Am. Med. Assoc. 278, 823–832. https://doi.org/10.1001/jama.278.10.823.
Rubenstein, J.L., Halton, A., Kasten, L., Rubin, C., Stechler, G., 1998. Suicidal behavior in adolescents: stress and protection in different family contexts. Am. J. Orthopsychiatry 68 (2), 274–284.
Santel, M., Neuner, F., Berg, M., Steuwe, C., Jobes, D.A., Driessen, M., Beblo, T., 2023. The Collaborative Assessment and Management of Suicidality compared to enhanced treatment as usual for inpatients who are suicidal: a randomized controlled trial. Front. Psych. 14. https://doi.org/10.3389/fpsyt.2023.1038302.
Shneidman, E.S., 1996. Suicide as psychache. In: Maltsberger, J.T., Goldblatt, M.J. (Eds.), Essential Papers on Suicide. New York University Press, pp. 633–638.
Sieving, R.E., Beuhring, T., Resnick, M.D., Bearinger, L.H., Shew, M., Ireland, M., Blum, R.W., 2001. Development of adolescent self-report measures from the National Longitudinal Study of Adolescent Health. J. Adolesc. Health 28 (1), 73–81.
Smith, T., Magness, C., Arango, A., Finkelstein, S., Kahsay, E., Czyz, E., Hong, V., Kettley, J., Smith, P.K., Ewell Foster, C., 2023. Worsening symptoms of anxiety, depression, and sleep problems in caregivers following youth's suicide-related emergency department visit. Arch. Suicide Res. https://doi.org/10.1080/13811118.2023.2166439.
Swift, J.K., Trusty, W.T., Penix, E.A., 2021. The effectiveness of the collaborative assessment and management of suicidality (cams) compared to alternative treatment conditions: a meta-analysis. Suicide Life Threat. Behav. 51 (5), 882–896. https://doi.org/10.1111/sltb.12765.
Tang, T.C., Jou, S.H., Ko, C.H., Huang, S.Y., Yen, C.F., 2009. Randomized study of school-based intensive interpersonal psychotherapy for depressed adolescents with suicidal risk and parasuicide behaviors. Psychiatry Clin. Neurosci. 63, 463–470. https://doi.org/10.1111/j.1440-1819.2009.01991.x.
Toukhy, N., Raviv, B., Haruvi-Catalan, L., Fennig, S., Barzilay, S., 2024. Ambivalent attitudes toward life and death and suicide ideation among adolescents—the mediating role of depression. Suicide Life Threat. Behav. 54 (5), 878–887.
Vergara, G.A., Jobes, D.A., Brausch, A.M., 2023. Self-injury functions, romantic relationship stress, and suicide attempts in adolescents. J. Contemp. Psychother. 53, 191–199. https://doi.org/10.1007/s10879-023-09579-6.
Wagner, B.M., 2009. Chapter 4: Social relationships. In: *Suicidal behavior in children and adolescents*. Yale University Press, New Haven, CT.