Proximally-Occurring Life Events and the First Transition from Suicidal Ideation to Suicide Attempt in Adolescents

Elise Paul *

Department of Human Development, Cornell University

* Corresponding author: Elise Paul, PhD. Email: ekp39@cornell.edu, G78 Martha van Rensselaer Hall, Department of Human Development, Cornell University, Ithaca, New York, 14853, Telephone: 1 (607) 216-8772

Declarations of interest: none.

Keywords: Adolescence; interpersonal conflict; suicide attempt; suicidal ideation

Introduction

Suicide is currently the third leading cause of death in U.S. adolescents (Centers for Disease Control and Prevention (CDC), National Center for Injury Prevention and Control, 2017). Risk for death by suicide is often conceptualized as occurring on a continuum of severity from passive death wishes to suicidal ideation, planning, and attempt, with a prior suicide attempt being the most robust risk factor for suicide death (Ribeiro et al., 2016). Because only approximately one-third of adolescents who have thought about suicide will progress to a suicide attempt, increasing attention has been paid to identifying factors which discriminate these two groups of adolescents (Glenn and Nock, 2014; Nock et al., 2013). Factors posited by diathesis stress models of suicide risk to increase this progression include aggression, impulsivity (Bridge et al., 2006; Hawton et al., 2012; O'Connor et al., 2012), and interpersonal loss or discord (Bridge et al., 2006). Dating violence victimization and self-injury (Taliaferro and Muehlenkamp, 2014) and the suicidal behavior of others (Dhingra et al., 2015; Mars et al., 2018; O'Connor et al., 2012) have been found to empirically distinguish these two groups of adolescents.

However, when adolescents are asked directly about the most important trigger for their suicide attempt, the most common reasons given are conflicts with parents and romantic partners which had been recently been escalating (Dieserud et al., 2010) and family relationship problems (Hawton and Harriss, 2008; Jacobson et al., 2013; Rice and Tan, 2017), while mental health concerns rank second (Dieserud et al., 2010). Previous research also shows that adolescents who have attempted suicide report more negative life events than control groups (Liu and Miller, 2014). Fewer studies have directly examined how interpersonal stressors distinguish adolescents with suicidal ideation from those who attempt. For example, stressful life events in the past 12 months distinguished adolescents who had recently (past 6 months) progressed to a suicide

attempt from those with ideation only (King et al., 2001). However, analyses did not account for covariates. In their large multi-country study of European secondary school students, Madge and colleagues (2011) found that adolescents who had engaged in past-year self-harm (including intentional overdose and other methods typically deemed to be "suicide attempts") were distinguished from those who had only thought of self-harm by past year life events of physical abuse or sexual abuse, sexual orientation concerns, and knowing someone who had self-harmed or committed suicide. Given the stated importance of interpersonal conflicts for suicide attempts from adolescents' own perspectives, a deeper understanding of the circumstances which influence the transition from suicidal ideation to an attempt is needed.

Diathesis-stress models of suicide risk specify several underlying vulnerabilities (Bridge et al., 2006; Brodsky, 2016; Mann et al., 1999) which may interact with recent stressful life events to increase the likelihood of transitioning to a suicide attempt. However, few empirical tests of the interactions of these factors have been carried out and results have been mixed. In their longitudinal sample of inpatient adolescents, Daniel et al. (2016) unexpectedly reported that the association of major loss life events in the prior 3 months with subsequent suicide attempts increased when levels of depressive symptoms were low. However, aggression and impulsivity, key vulnerabilities for transitioning from ideation to an attempt (Hawton et al., 2012; O'Connor et al., 2012) in adolescents, were not assessed. Similarly, a clinical study of adults reported that the presence of a current major depressive episode (MDE) did not influence the relationship between the number of recent stressful life events and a suicide attempt (Oquendo et al., 2014). Bagge and colleagues (2013) also found that in their clinical sample of adults, alcohol problems, drug problems, or borderline personality disorder (BPD) diagnosis neither increased nor decreased the likelihood of a negative life event triggering a suicide attempt. These findings conflict with what is posited by leading theories of suicide risk, namely, that recent stressors

should combine with vulnerabilities such as a depressive disorder and impulsive aggression (Brodsky, 2016). More research in adolescent samples is also needed.

Study Aims

This research paper examines proximally-occurring relational conflicts and life stressors which increase the likelihood of transitioning from thinking about suicide to a first attempt. First, it is expected that a greater number of recent stressful life events (King et al., 2001) and interpersonal life stressors involving loss and conflict, particularly in the family (Dieserud et al., 2010; Rice and Tan, 2017), will discriminate these two groups of adolescents. Conversely, negative life events in the past year that do not involve disruptions and serious problems in close interpersonal relationships will not associate with this transition. Second, among adolescents with lifetime suicidal ideation, the presence of a psychiatric disorder, particularly those involving substance use, impulsivity, and aggression, will potentiate the risk for past year interpersonal stressors in transitioning to a first suicide attempt.

Methods

Data

Data are from the National Comorbidity Survey- Adolescent Supplement (NCS-A). The NCS-A is nationally representative survey of adolescents ages 13-18 in the United States (N = 10,148) (Kessler et al., 2009). The NCS-A used a dual-frame sampling procedure composed of: a) a household sub-sample of adolescents (n = 904) selected from NCS-R households, and b) a school sub-sample of adolescents (n = 9,244) selected from schools in the same nationally representative counties as those in the NCS-R. The overall response rate was 82.9%. Adolescents who participated in the study provided informed written consent, as did one parent. The interview took

on average 2.5 hours to complete. NCS-A data were made available by the Interuniversity Consortium for Political and Social Research ("ICPSR," 2017). Further information on the NCS-A is available at http://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/28581/version/2. Approval for the original data collection was obtained from the human subjects' committees of Harvard Medical School, Boston, Massachusetts, and the University of Michigan, Ann Arbor. For the current secondary analysis, approval was granted from the Internal Review Board (IRB) of Cornell University.

Sample selection

Sample selection for the present analyses was as follows. Of the 1,166 (11.5% of the total NCS-A sample) adolescents who had lifetime suicidal ideation, 316 (27.1%) had ever attempted suicide, and 124 of these suicide attempts occurred within the past year and 81 were first past year suicide attempts. The analytic sample for this study (N = 928) was therefore restricted to the adolescents with lifetime suicidal ideation without ever attempting suicide (n = 847) and those with lifetime suicidal ideation who had transitioned to a first attempt within the year before the study (n = 81).

Measures

Suicidal thoughts and behaviors

Suicidal ideation, suicide plan, and suicide attempt were assessed with a modified version of the Suicidal Behavior Module of the World Health Organization Composite International Diagnostic Interview (CIDI; Kessler & Üstün, 2004; Merikangas, Avenevoli, Costello, Koretz, & Kessler, 2009). In this assessment, adolescents are asked from one to twenty-nine questions about their suicidal thoughts and behaviors, depending on the extent of their history. This module

begins with an assessment of the presence or absence of lifetime suicide ideation ("You seriously thought about committing suicide"). Those who endorsed this item were asked about lifetime suicide plans and suicide attempts ("You attempted suicide") over the lifetime and in the past 12 months.

Past year stressful life events

Negative life events. Adolescents were asked: *In the past 12 months, did you have any of the following stressful experiences?* and presented with a list of 16 stressful life events to which adolescents answered either yes or no (Merikangas et al., 2009). Of these 16 events, only five had sufficient cell sizes (> 15) to be analyzed individually (Table 1). Examples of excluded events were: being sexually attacked or raped, getting someone else or getting pregnant, and being fired from a job or kicked out of school. These items were examined individually and also as an index. Dichotomous variables for all 16 events were summed to create the index of the number of past year stressful life events. Internal reliability for the scale was adequate ($\alpha = 0.76$).

Serious ongoing conflicts. Second, adolescents were asked: "Did you have serious ongoing disagreements or problems getting along with any of the following people in the past 12 months?" (Merikangas et al., 2009). The list included 7 possible interpersonal relations: spouse/romantic partner, brother or sister, one of your parents or other close relatives, any of your friends, a supervisor or teacher at work or school, anyone else at work or school, and any of your neighbors. Of these 7 relationships, all but two (neighbors and anyone else at work or school) had cell sizes greater than 15 and were therefore examined individually. These 7 items were also summed to create an index of the number of people with whom the adolescent had serious ongoing disagreements in the past year (Cronbach's $\alpha = 0.72$).

Past year psychiatric disorders

To obtain past-year psychiatric diagnoses as defined by the Diagnostic and Statistical Manual–Fourth Edition (American Psychiatric Association, 1994), a modified version of the World Health Organization Composite International Diagnostic Interview (CIDI) was administered to adolescents (Kessler and Üstün, 2004; Merikangas et al., 2009). The CIDI is a structured diagnostic interview with demonstrated concurrent validity, high inter-rater reliability, and test–retest reliability (Kaufman et al., 1997). The following diagnostic categories were used: a) mood (e.g. major depressive disorder, dysthymia); b) anxiety (e.g. panic disorder, agoraphobia without panic disorder); c) disruptive behavior (e.g. attention deficit/hyperactivity disorder, conduct disorder) and c) substance use (e.g. alcohol abuse, drug abuse) disorders (Merikangas et al., 2009). Diagnoses were obtained without hierarchy rules.

Covariates

Gender (male, female), age (years), race/ethnicity (non-Hispanic White; Hispanic; non-Hispanic Black/other), highest level of parent education (less than high school; high school; some college or higher), poverty index ratio, the number of biological parents with whom the adolescent lives (0, 1, 2), and adolescent reports of whether either parent (biological or a parent figure) had ever attempted suicide were examined as covariates. The poverty index ratio was based on family size and derived from the ratio of family income to the family's poverty threshold (≤ 1.5 = low income; > 1.5 to 3 = low-middle income; >3 to ≤ 6 = high-middle income; and > 6 = high income). Adolescents were asked directly about parental suicide attempts as part of the WHO CIDI Family Environment module (Merikangas et al., 2009). Endorsement of a suicide attempt in at least one parental figure was coded 1 (versus not = 0).

Statistical analyses

Descriptive differences on all study variables between adolescents with lifetime suicidal ideation but who had never attempted suicide (ideation only) and those with lifetime suicidal ideation but who had transitioned to a first suicide attempt in the past year (case group) were compared using binary logistic regressions. Subsequent multivariate models examined the direct relationships between recent stressful life events and the transition to a first suicide attempt while adjusting for covariates and DSM-IV disorder classes which were statistically significant at the 0.05 level in bivariate analyses. Finally, to examine factors which may moderate the impact of recent stressful life events on transitioning to a first suicide attempt, statistical interactions between life event and DSM-IV disorder class variables were computed. Statistically significant interaction terms were probed with pairwise comparisons. Here, stressful life event variables were held constant. For example, a significant interaction between past year romantic break-up and past year mood disorder was followed up by calculating the odds ratio for transitioning to a suicide attempt for adolescents with a romantic break-up and a mood disorder versus adolescents with a romantic break-up but no mood disorder. Logistic regression coefficients were reported as odds ratios (OR) along with 95% confidence intervals (95% CI). Statistical tests were evaluated at $p < 0.05$.

Results

Descriptive statistics

Bivariate differences in all study variables between adolescents with lifetime suicidal ideation and no suicide attempt versus those with a past year first suicide attempt are presented in Table 1. Four covariates significantly distinguished these two groups of adolescents: gender, age, family

income, and parental education. As expected, female adolescents were more than twice as likely as males (Odds Ratio (OR) = 2.64; 95% Confidence Interval (CI) = 1.50 - 4.65) to have transitioned from suicidal ideation to a first suicide attempt within the past year. Adolescents in the attempt group were also significantly younger. Family income and parent education also differentiated these two groups, such that adolescents from high income households and whose parents had attended at least some college were less likely to have transitioned from suicidal ideation to suicide attempt. Having a biological parent or parent figure who had attempted suicide did not distinguish these two groups. Adolescents who had progressed to a first suicide attempt had significantly greater proportions of all four past-year DSM-IV disorder classes and three times as many had made a suicide plan.

Insert Table 1 about here

The only past-year stressors and conflicts associated with an increased likelihood for transitioning from suicidal ideation to suicide attempt involved close personal relationships rather than casual relations (e.g. teachers) (Table 1). These were a romantic break-up (58.8% vs. 38.2%) and the death of a close family member (40.0% vs. 26.8%), serious ongoing conflicts with parents or a close relative (OR = 2.04; 95% CI = 1.28-3.25) and with siblings (OR = 1.75; 95% CI = 1.09-2.82). Adolescents in the attempt group also had significantly more recent stressful life events and serious/ongoing interpersonal conflicts.

Multivariate relationships between stressful life events and the first transition to a suicide attempt

Multivariate logistic regressions indicated that only a romantic break-up (AOR = 1.88; 95% CI =1.11-3.18) and more past year life events (AOR = 1.52; 95% CI = 1.02-1.35) continued to influence the transition from suicidal ideation to a first suicide attempt. The number of past year

stressful life events finding held in a sensitivity analysis which excluded the romantic break-up indicator. Thus, the observed relationship between the number of past year stressful life events and the transition from suicidal ideation to a first suicide attempt was not simply due to the presence of a romantic break-up.

Moderation analysis of factors influencing the transition from ideation to a first suicide attempt

Next, the associations of a past year romantic relationship break-up and risk for transitioning to a suicide attempt were examined as a function of having a suicide plan and past year DSM-IV disorder classes. Significant interactions were only found between a recent romantic break-up and past year DSM-IV disruptive behavior disorder (b = -1.31, SE 0.51, p = 0.01). Probing this interaction indicated that among adolescents with lifetime suicidal ideation who had experienced a romantic break-up in the past year, those who also met criteria for a DSM-IV disruptive behavior disorder were not significantly less likely (AOR = 0.57; 95% CI = 0.28-1.16) to have made the transition to a suicide attempt than those with a romantic break-up and no disruptive behavior disorder.

There was also a significant interaction between the number of past year stressful life events and a past year DSM-IV substance use disorder (b = -0.36, SE = 0.15, p = 0.02). However, while holding the level of past year stressful life events at high (1 SD above the mean), adolescents with a past year DSM-IV substance use disorder were not significantly more likely than those without a substance use disorder to have transitioned to a first suicide attempt (OR = 1.66; 95% CI = 0.74-3.71). No other interactions were statistically significant, indicating that risk for transitioning to a suicide attempt in adolescents who had already thought about suicide and who had also recently had stressful life events did not vary as a function of DSM-IV disorder or having a suicide plan.

Discussion

The aim of this study was to better understand the role of proximally-occurring stressful life events in the transition from suicidal ideation to a first suicide attempt in adolescence. Adolescents who had made this progression in the past year were distinguished from their peers with suicidal ideation only by a greater number of recent interpersonal stressors and a romantic break-up. The former finding extends the work of King and colleagues (2001) by showing that more recent stressful life events continue to distinguish adolescents with suicidal ideation versus those with an attempt when accounting for covariates and comorbid psychiatric disorders. This result also builds upon research from Borges et al. (2008) and O'Connor et al. (2012) by examining stressful life events in a closer time period to the index transition from suicidal ideation to a first suicide attempt. This is important because research on proximally-occurring factors which associate with progressing to more serious suicidal behavior has the potential to better inform short-term suicide prediction (Glenn and Nock, 2014).

A past year romantic break-up was the only individual life event which distinguished the two groups of adolescents once conflicts and other life events, covariates, and psychiatric disorders were controlled. That a romantic break-up would differentiate these two groups of adolescents was expected, given that prior research in adolescents (Beautrais et al., 1997; Dieserud et al., 2010; Johnson et al., 2002) and adults (Bagge et al., 2013; Oquendo et al., 2014) underscores interpersonal conflicts and losses as being particularly salient for suicide attempts. The findings from the current study extend prior work with adolescents who have attempted suicide and endorse romantic relationship problems as among the most significant contributors to their behavior (Hjelmeland and Grøholt, 2005; Keyvanara and Haghshenas, 2011). A recent systematic review suggested that a younger cohort (under 35 years) may tend to reactive more impulsively to

relationship discord and separation and experience a greater sense of hopelessness which may lead to suicidal behavior (Kazan et al., 2016). The prominence of romantic relationship separation as a risk factor for suicide also supports findings from another systematic review which asserts that the acute stage of separation and relationship difficulties in general, are risk factors for suicide (Ide et al., 2010). This is in line with a recent systematic review which found that the most widely cited reasons for self-harm other than to die are to deal with distress and exert interpersonal influence (Edmondson et al., 2016).

In contrast, no connection was found between recent life stressors which were not interpersonal (e.g. unwanted change in appearance, had health problems) and progression from ideation to attempt. Even when examined in cross-tabulations, only serious ongoing problems in familial relationships (siblings and parents/close relative), the loss through death of a close friend or family member, and a romantic break-up distinguished adolescents with suicidal ideation from those with a suicide attempt. Similarly, only 5 of the 16 possible past year stressful life events had sufficient numbers for initial analyses, four of which had to do with conflict and loss in interpersonal relationships. Among these were physical and sexual assault, accidents/injuries, and trouble with the law. This contradicts results from Madge et al. (2011) which found that physical or sexual abuse did distinguish these two adolescent groups. These dissimilarities could be due to differences in question wording or the larger sample size in the Madge et al. (2011) study. Similarly, suicide or self-harm of others (friends or family) also has been found to distinguish these two groups in adolescent community samples (Madge et al., 2011; Mars et al., 2018; O'Connor et al., 2012; Taliaferro and Muehlenkamp, 2014), but the current study found no such association. This could be because the data used in the present study, NCS-A, only inquired about the suicide or self-harm of family but not friends, the latter of which has been shown to distinguish these two groups of adolescents (Bearman and Moody, 2004).

Etiological theories of suicide contend that life stressors precipitate suicide attempts in the presence of underlying vulnerabilities (e.g. Bridge et al., 2006; Brodsky, 2016; Mann et al., 1999). However, the current study found no evidence that having a suicide plan, mood disorder, substance use disorder, disruptive behavior disorder, nor an anxiety disorder interacted with recent interpersonal stressors to potentiate the risk of transitioning to a suicide attempt. The only other study of adolescents to examine psychiatric symptoms as a moderator of stressful life events on transitioning from ideation to attempt reported reduced risk when elevated depressive symptoms were also present (Daniel et al., 2016). Research in adults has documented similarly unexpected findings, the most similar being that a diagnosis of borderline personality disorder (BPD) reduced suicide attempt risk when combined with recent stressful life events (Oquendo et al., 2014). Also contrary to conventional wisdom suggesting that suicidal behaviors occur along a continuum of severity, having a suicide plan decreased the odds of a negative life event triggering a suicide attempt (Bagge et al., 2013). The current analyses found null interactions between mood disorders and recent stressful life events with the transition to a suicide attempt, which is in line with other research in adults (Bagge et al., 2013; Oquendo et al., 2014).

Similarly, adolescents with high levels of past year stressful life events and a substance use disorder were also not significantly more likely to have transitioned to a first suicide attempt than those with this latter characteristic and no substance use disorder. Although data limitations preclude the determination of whether the adolescents in this sample had engaged in acute substance misuse at the time of their attempt, acute substance abuse may facilitate suicidal behavior by lowering inhibitions and restraint for doing so (Turecki and Brent, 2016). Adolescents with substance use disorders and misuse are also less likely to access mental health services (Merikangas et al., 2011), and endorse more negative attitudes about seeking professional help (Gould et al., 2004). Not seeking treatment is associated with wanting to handle

problems on one's own (Sylwestrzak et al., 2015), which is itself associated with more severe suicidal ideation and depression in adolescents (Labouliere et al., 2015).

The association of a romantic break-up with the first transition from suicidal ideation to a suicide attempt varied as a function of current DSM-IV disruptive behavior disorder. However, when specific combinations of these variables were probed, results were again insignificant. These findings suggest that negative life events as a vulnerability factor for transitioning from thinking about suicide to a suicide attempt is likely more complex than simply the presence or absence of psychiatric disorders characterized by depression, impulsivity, or aggression. It could be that the unbearable affects, thoughts, and feelings associated with the loss or conflict are experienced as they were in earlier unresolved trauma (Maltsberger et al., 2011). Future research should could therefore investigate interactions between earlier trauma and recent life events. Clinicians in contact with adolescents who are suicidal may also benefit from incorporating the thoughts, feelings, and psychosocial context that accompany negative life events to bring about suicidal thinking and behavior from the perspective of the suicidal person (Fowler, 2012; Jobes, 2012; Leenaars, 2004).

Limitations

Although all negative life events and suicidal outcomes in this study occurred in the past year, the precise ordering of these events could not be determined due to data limitations. It is therefore possible that the stressful life events did not precipitate the index suicide attempt. Second, data limitations precluded the analysis of factors demonstrated elsewhere to influence the transition from thinking about suicide or self-harm to acting, such as the suicide or self-harm of a friend (Bearman and Moody, 2004). Therefore, associations between stressful life events and suicide attempt may have been overestimated. Third, stressful life events were assessed categorically and

the circumstances influencing their personal meaning and significance to the adolescent were not derived from the adolescents themselves. Finally, analyses did not take into account whether the adolescents in the sample had made multiple suicide attempts in the past year and therefore relationships between life events and repeat suicide attempts may have differed (Joiner and Rudd, 2000).

Conclusions

Relational conflicts are consistently the most commonly cited precipitant for suicide attempts in adolescents (Rice and Tan, 2017). Treatment and clinical assessment of suicidal adolescents would therefore benefit from inquiring about adolescents' individual needs regarding these conflicts (Dieserud et al., 2010). The life events most strongly associated with the transition to suicide attempt from suicidal ideation were seemingly commonplace events such as romantic relationship break-ups and serious problems with parents or family members. The nature and personal meaning of these conflicts to the adolescent is therefore likely to be highly personal, and obtaining the suicidal individual's personal experience with the life events may be key in understanding and treating individuals at high risk for suicide (Jobes, 2012; Kõlves et al., 2006; Maltsberger et al., 2011). Future research should also explore a wider range of potential vulnerability factors which predispose some individuals to react catastrophically to loss or conflict.

Acknowledgements

The data used in this publication were made available by the National Comorbidity Survey-Adolescent (NCS-A) Supplement and have been used with permission. The NCS-A data were originally collected by Ronald C. Kessler and the NCS-A research team. The author thanks John

Eckenrode, PhD, Gary W. Evans, PhD, and Maureen Waller, PhD, of Cornell University for their helpful comments on this paper. The author also thanks the adolescents who participated in the NCS-A study.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

References

American Psychiatric Association, 1994. Diagnostic and statistical manual of mental disorders: DSM-IV (4th ed.).

Bagge, C.L., Glenn, C.R., Lee, H.-J., 2013. Quantifying the impact of recent negative life events on suicide attempts. J. Abnorm. Psychol. 122, 359.

Bearman, P.S., Moody, J., 2004. Suicide and friendships among American adolescents. Am. J. Public Health 94, 89–95.

Beautrais, A.L., Joyce, P.R., Mulder, R.T., 1997. Precipitating factors and life events in serious suicide attempts among youths aged 13 through 24 years. J. Am. Acad. Child Adolesc. Psychiatry 36, 1543–1551.

Borges, G., Benjet, C., Medina-Mora, M.E., Orozco, R., Molnar, B.E., Nock, M.K., 2008. Traumatic events and suicide-related outcomes among Mexico City adolescents. J. Child Psychol. Psychiatry 49, 654–666.

Bridge, J.A., Goldstein, T.R., Brent, D.A., 2006. Adolescent suicide and suicidal behavior. J. Child Psychol. Psychiatry 47, 372–394.

Brodsky, B.S., 2016. Early childhood environment and genetic interactions: The diathesis for suicidal behavior. Curr. Psychiatry Rep. 18, 86.

Centers for Disease Control and Prevention (CDC), National Center for Injury Prevention and Control, 2017. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. [WWW Document]. URL www.cdc.gov/injury/wisqars

Daniel, S.S., Goldston, D.B., Erkanli, A., Heilbron, N., Franklin, J.C., 2016. Prospective study of major loss life events and risk for suicidal thoughts and behaviors among adolescents and young adults. Suicide Life. Threat. Behav.

Dhingra, K., Boduszek, D., O'Connor, R.C., 2015. Differentiating suicide attempters from suicide ideators using the Integrated Motivational–Volitional model of suicidal behaviour. J. Affect. Disord. 186, 211–218. https://doi.org/10.1016/j.jad.2015.07.007

Dieserud, G., Gerhardsen, R.M., Van den Weghe, H., Corbett, K., 2010. Adolescent suicide attempts in Bærum, Norway, 1984–2006. Crisis 31, 255–264.

Edmondson, A.J., Brennan, C.A., House, A.O., 2016. Non-suicidal reasons for self-harm: A systematic review of self-reported accounts. J. Affect. Disord. 191, 109–117.

Fowler, J.C., 2012. Suicide risk assessment in clinical practice: Pragmatic guidelines for imperfect assessments. Psychotherapy 49, 81–90.

Glenn, C.R., Nock, M.K., 2014. Improving the prediction of suicidal behavior in youth. Int. J. Behav. Consult. Ther. 9, 7–10.

Gould, M.S., Velting, D., Kleinman, M., Lucas, C., Thomas, J.G., Chung, M., 2004. Teenagers' attitudes about coping strategies and help-seeking behavior for suicidality. J. Am. Acad. Child Adolesc. Psychiatry 43, 1124–1133.

Hawton, Harriss, L., 2008. Deliberate self-harm by under-15-year-olds: Characteristics, trends and outcome. J. Child Psychol. Psychiatry 49, 441–448.

Hawton, K., Saunders, K.E., O'Connor, R.C., 2012. Self-harm and suicide in adolescents. The Lancet 379, 2373–2382.

Hjelmeland, H., Grøholt, B., 2005. A comparative study of young and adult deliberate self-harm patients. Crisis 26, 64–72.

ICPSR [WWW Document], 2017. URL http://www.icpsr.umich.edu/icpsrweb/index.jsp (accessed 11.8.17).

Ide, N., Wyder, M., Kolves, K., De Leo, D., 2010. Separation as an important risk factor for suicide: A systematic review. J. Fam. Issues 31, 1689–1716.
Jacobson, C., Batejan, K., Kleinman, M., Gould, M., 2013. Reasons for attempting suicide among a community sample of adolescents. Suicide Life. Threat. Behav. 43, 646–662.
Jobes, D.A., 2012. The Collaborative Assessment and Management of Suicidality (CAMS): An evolving evidence-based clinical approach to suicidal risk. Suicide Life. Threat. Behav. 42, 640–653.
Johnson, J.G., Cohen, P., Gould, M.S., Kasen, S., Brown, J., Brook, J.S., 2002. Childhood adversities, interpersonal difficulties, and risk for suicide attempts during late adolescence and early adulthood. Arch. Gen. Psychiatry 59, 741–749.
Joiner, T.E., Rudd, M.D., 2000. Intensity and duration of suicidal crises vary as a function of previous suicide attempts and negative life events. J. Consult. Clin. Psychol. 68, 909.
Kaufman, J., Birmaher, B., Brent, D., Rao, U.M.A., Flynn, C., Moreci, P., Williamson, D., Ryan, N., 1997. Schedule for affective disorders and schizophrenia for school-age children-present and lifetime version (K-SADS-PL): initial reliability and validity data. J. Am. Acad. Child Adolesc. Psychiatry 36, 980–988.
Kazan, D., Calear, A.L., Batterham, P.J., 2016. The impact of intimate partner relationships on suicidal thoughts and behaviours: A systematic review. J. Affect. Disord. 190, 585–598.
Kessler, R.C., Avenevoli, S., Costello, E.J., Green, J.G., Gruber, M.J., Heeringa, S., Merikangas, K.R., Pennell, B.-E., Sampson, N.A., Zaslavsky, A.M., 2009. National Comorbidity Survey Replication Adolescent Aupplement (NCS-A): II. Overview and design. J. Am. Acad. Child Adolesc. Psychiatry 48, 380–385.
Kessler, R.C., Üstün, T.B., 2004. The world mental health (WMH) survey initiative version of the world health organization (WHO) composite international diagnostic interview (CIDI). Int. J. Methods Psychiatr. Res. 13, 93–121.
Keyvanara, M., Haghshenas, A., 2011. Sociocultural contexts of attempting suicide among Iranian youth: a qualitative study. East. Mediterr. Health J. 17, 529.
King, R.A., Schwab-Stone, M., Flisher, A.J., Greenwald, S., Kramer, R.A., Goodman, S.H., Lahey, B.B., Shaffer, D., Gould, M.S., 2001. Psychosocial and risk behavior correlates of youth suicide attempts and suicidal ideation. J. Am. Acad. Child Adolesc. Psychiatry 40, 837–846.
Kõlves, K., Värnik, A., Schneider, B., Fritze, J., Allik, J., 2006. Recent life events and suicide: A case-control study in Tallinn and Frankfurt. Soc. Sci. Med. 62, 2887–2896.
Labouliere, C., Kleinman, M., Gould, M., 2015. When self-reliance is not safe: Associations between reduced help-seeking and subsequent mental health symptoms in suicidal adolescents. Int. J. Environ. Res. Public. Health 12, 3741–3755.
Leenaars, A.A., 2004. Psychotherapy with suicidal people: A person-centred approach. John Wiley & Sons, England.
Liu, R.T., Miller, I., 2014. Life events and suicidal ideation and behavior: a systematic review. Clin. Psychol. Rev. 34, 181–192.
Madge, N., Hawton, K., McMahon, E.M., Corcoran, P., De Leo, D., De Wilde, E.J., Fekete, S., Van Heeringen, K., Ystgaard, M., Arensman, E., 2011. Psychological characteristics, stressful life events and deliberate self-harm: findings from the Child & Adolescent Self-harm in Europe (CASE) Study. Eur. Child Adolesc. Psychiatry 20, 499.
Maltsberger, J.T., Goldblatt, M.J., Ronningstam, E., Weinberg, I., Schechter, M., 2011. Traumatic subjective experiences invite suicide. J. Am. Acad. Psychoanal. Dyn. Psychiatry 39, 671–693.

Mann, J.J., Waternaux, C., Haas, G.L., Malone, K.M., 1999. Toward a clinical model of suicidal behavior in psychiatric patients. Am. J. Psychiatry 156, 181–189.

Mars, B., Heron, J., Klonsky, E.D., Moran, P., O'Connor, R.C., Tilling, K., Wilkinson, P., Gunnell, D., 2018. What distinguishes adolescents with suicidal thoughts from those who have attempted suicide? A population-based birth cohort study. J. Child Psychol. Psychiatry. https://doi.org/10.1111/jcpp.12878

Merikangas, Avenevoli, S., Costello, E.J., Koretz, D., Kessler, R.C., 2009. National Comorbidity Survey Replication Adolescent Supplement (NCS-A): I. background and measures. J. Am. Acad. Child Adolesc. Psychiatry 48, 367–379.

Merikangas, K.R., He, J., Burstein, M., Swendsen, J., Avenevoli, S., Case, B., Georgiades, K., Heaton, L., Swanson, S., Olfson, M., 2011. Service utilization for lifetime mental disorders in U.S. adolescents: Results of the National Comorbidity Survey–Adolescent Supplement (NCS-A). J. Am. Acad. Child Adolesc. Psychiatry 50, 32–45.

Nock, M.K., Green, J.G., Hwang, I., McLaughlin, K.A., Sampson, N.A., Zaslavsky, A.M., Kessler, R.C., 2013. Prevalence, correlates, and treatment of lifetime suicidal behavior among adolescents: Results from the National Comorbidity Survey Replication Adolescent Supplement. JAMA Psychiatry 70, 300–310.

O'Connor, R.C., Rasmussen, S., Hawton, K., 2012. Distinguishing adolescents who think about self-harm from those who engage in self-harm. Br. J. Psychiatry 200, 330–335.

Oquendo, M.A., Perez-Rodriguez, M.M., Poh, E., Sullivan, G., Burke, A.K., Sublette, M.E., Mann, J.J., Galfalvy, H., 2014. Life events: A complex role in the timing of suicidal behavior among depressed patients. Mol. Psychiatry 19, 902–909.

Ribeiro, J.D., Franklin, J.C., Fox, K.R., Bentley, K.H., Kleiman, E.M., Chang, B.P., Nock, M.K., 2016. Self-injurious thoughts and behaviors as risk factors for future suicide ideation, attempts, and death: a meta-analysis of longitudinal studies. Psychol. Med. 46, 225–236.

Rice, J.L., Tan, T.X., 2017. Youth psychiatrically hospitalized for suicidality: Changes in familial structure, exposure to familial trauma, family conflict, and parental instability as precipitating factors. Child. Youth Serv. Rev. 73, 79–87.

Sylwestrzak, A., Overholt, C.E., Ristau, K.I., Coker, K.L., 2015. Self-reported barriers to treatment engagement: Adolescent perspectives from the National Comorbidity Survey-Adolescent Supplement (NCS-A). Community Ment. Health J. 51, 775–781.

Taliaferro, L.A., Muehlenkamp, J.J., 2014. Risk and protective factors that distinguish adolescents who attempt suicide from those who only consider suicide in the past year. Suicide Life. Threat. Behav. 44, 6–22.

Turecki, G., Brent, D.A., 2016. Suicide and suicidal behaviour. The Lancet 387, 1227–1239.