Published in final edited form as:
J Youth Adolesc. 2012 October ; 41(10): 1312–1324. doi:10.1007/s10964-012-9766-7.

Associations Between Suicidal High School Students' Help-Seeking and Their Attitudes and Perceptions of Social Environment

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Abstract

Suicide is a leading cause of death among adolescents, many of whom fail to disclose suicide concerns to adults who might help. This study examined patterns and predictors of help-seeking behavior among adolescents who seriously considered suicide in the past year. 2,737 students (50.9 % female, 46.9 % male; racial distribution 79.5 % Caucasian, 11.9 % Hispanic/Latino, and 3.6 % Black/African-American) from 12 high schools in rural/underserviced communities were surveyed to assess serious suicide ideation (SI) in the past year, disclosure of SI to adults and peers, attempts to get help, attitudes about help-seeking, perceptions of school engagement, and coping support. Help-seeking was defined as both disclosing SI to an adult and perceiving oneself as seeking help. The relationship between adolescents' help-seeking disclosure and (1) help-seeking attitudes and (2) perceptions of social resources was examined among suicidal help-

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seeking youth, suicidal non-help-seeking youth, and non-suicidal youth. Of the 381 (14 %) students reporting SI, only 23 % told an adult, 29 % sought adult help, and 15 % did both. Suicidal help-seekers were similar to non-suicidal peers on all measures of help-seeking attitudes and social environment perceptions. Positive attitudes about help-seeking from adults at school, perceptions that adults would respond to suicide concerns, willingness to overcome peer secrecy requests, and greater coping support and engagement with the school were associated with students' increased disclosure of SI and help-seeking. This study supports prevention strategies that change student norms, attitudes and social environments to promote help-seeking among adolescents with SI. Promising intervention targets include increasing students' perceptions of the availability and capability of adults to help them, and strengthening students' understanding of how existing resources can help them cope.

Keywords

Youth suicide; Help-seeking; Prevention; Youth–adult relationships; Attitudes; Social support

Adolescence is characterized by increased incidence of depression and suicidal behavior (Bridge et al. 2006; Kessler et al. 2001), as well as by major shifts in how youth engage and benefit from social resources in order to cope with adversity. As adolescents begin to interact with greater autonomy in different social fields (e.g. family, school, peers, and community), they have the opportunity to build relationships and competencies (Lerner et al. 2010) that can aid them in times of crisis. For youth at risk for suicide, communicating with trusted adults about their emotional distress, disclosing suicidal thoughts, and seeking help may lead to life saving intervention and also may demonstrate a trajectory toward healthier adaptation in adolescence.

Suicide is the third leading cause of death among 15–19 year olds (Xu et al. 2010) and reducing the rate of adolescent suicide is a national priority (Institute of Medicine Committee on the Prevention of Mental Disorders and Substance Abuse Among Children Youth and Young Adults 2009). Depression and other mental-health disorders, substance-abuse problems, and traumatic events are all robust risk factors for suicidal behavior in this age group (Goldston et al. 2009; Gould et al. 2003). Although thoughts about suicide have the potential to serve as an internal signal to seek help, a minority of suicidal adolescents seek or receive help from adults in their social spheres or from professionals (Biddle et al. 2004; Saunders 1994; McCarty et al. 2011). As a result, less than a third of teen suicide decedents (Brent 1993; Shaffer et al. 1996) or attempters (Wu et al. 2010) were receiving treatment at the time of death/attempt. There is broad consensus that increasing the proportion of suicidal adolescents who seek help from an adult capable of responding appropriately should be a part of any comprehensive suicide-prevention strategy (Aseltine and DeMartino 2004; O'Donnell et al. 2003; Wyman et al. 2010; Freedenthal 2010). However, knowledge about help-seeking among youth with suicide ideation is limited. Studies of suicide-related help-seeking have focused almost exclusively on willingness to seek help (e.g., Wilson et al. 2010) in response to hypothetical suicidal ideation. To develop informed interventions, knowledge is needed about the behaviors and attitudes that lead suicidal youth to engage constructively with resources capable of reducing the risk for suicide.

There is a particular need for research on suicide-related help-seeking among adolescents in rural and underserved communities. In rural communities, youth suicide rates are 2–10 times above the national average (Brown et al. 2007), and suicides are more often associated with social isolation in rural than in urban areas (Hirsch 2006). Mental health problems and mental health services are stigmatized in many rural communities, resulting in lower

utilization of services even where access is available (Cohen and Hesselbart 1993). Mental health services also are underutilized in urban low-income families, due to low acceptability or accessibility to seeking professional help (Bringewatt and Gershoff 2010). Lower help-seeking among rural adolescents in Australia has been linked with lack of information about mental health services (Boyd et al. 2011) and lack of perceived benefit of seeking help (Rughani et al. 2011). However, little is known about help-seeking behavior and correlates among US youth in rural and underserved communities.

Disclosure of suicidal intentions in youth is likely to be an essential part of the help-seeking process (Apter 2001) but may not be sufficient for recruiting adequate help. Prior work on disclosure among individuals with potentially stigmatizing conditions (e.g., HIV-positive status, psychiatric illness) suggests that the goals and motivations that drive disclosure determine the degree of benefit received from disclosure (Chaudoir and Fisher 2010). By definition, seeking help is an approach-focused coping strategy (Seiffge-Krenke and Klessinger 2000), whereas mere disclosure can be approach- or avoidance-focused. For example, disclosing suicide ideation (SI) with the goal of expressing anger or threatening others is likely to have a different outcome than disclosing SI in order to get help. Conversely, seeking help without disclosing SI may fail to alert the adult to the seriousness of one's problem. Retrospective accounts of depressed adults (Epstein et al. 2010) indicate that expressions of distressed behavior without explicit statements about one's thoughts and feelings often escape notice, resulting in missed opportunities to benefit from available help. Thus, effective help-seeking for suicide ideation is likely to require both explicitly disclosing suicidal thoughts and perceiving oneself as intending to get help.

Studies of adolescent service utilization for mental health problems, primarily other than suicide concerns, point to two broad domains as influencing help-seeking initiation: (1) attitudes, which encompass beliefs and perceived norms, and (2) social resources. First, adolescents' negative beliefs about professional help and attitudes promoting exclusive self-reliance are associated with lower intentions to seek and accept professional help (Wilson and Deane 2010; Rickwood et al. 2007). Suicidal youth are more likely to have maladaptive coping attitudes—such as endorsing views that drugs and alcohol use are acceptable solutions to emotional problems (Gould et al. 2004)—and are less likely to accept help from adults at school (Wyman et al. 2008) or other professionals (Carlton and Deane 2000). Similarly, emotional problems, such as depression, hinder help-seeking intentions (Sen 2004; Wilson 2007).

Second, social support and engagement are core domains that influence teens' health behavior (Cohen 2004). Leading theories of youth mental-health service utilization, including the Network Episode Model (Pescosolido 1992; Costello et al. 1998), emphasize the social field in which help-seeking and receiving occurs. The Network Episode Model (NEM) posits that the decision to seek help is a fundamentally social process. Problems get identified and addressed through professional care via interactions within social networks. According to the Family Network Episode Model, which extends the NEM to include the social fields of children and adolescents, school is a key social setting for identifying problems and offering support (Costello et al. 1998). Research based on the NEM (Lindsey et al. 2006; Stiffman et al. 2004) has demonstrated that pathways for adolescents to seek most forms of mental-health assistance begin within existing youth–adult relationships. This finding is congruent with other work showing that communication with adults in natural social settings, including home and school, typically precedes formal mental-health service use (Logan and King 2001; Rickwood et al. 2007; Boldero and Fallon 1995). Engagement at school provides the opportunity for such relationships and communication, as well as the opportunity for adults to monitor and respond to students' concerns. Therefore, adolescents'

positive engagement with adults and within social settings in which adults are present and active, such as school, may influence whether they get help.

Seeking help for suicidal ideation entails a unique set of attitudinal and social factors that may differ from those associated with general emotional distress. These factors include whether the teen feels there are adults available at school who are approachable and can respond effectively to suicide concerns (Schmeelk-Cone et al. 2012; Yakunina 2010). They also include the teen's willingness to overcome barriers, such as a perception that suicide concerns should not be shared outside of close peer groups (Wyman et al. 2010). Thus, help-seeking behavior of suicidal youth is likely to be influenced by general as well as suicide-specific help-seeking norms and attitudes.

Hypotheses

This study examined two components of help-seeking among adolescents with recent suicidal ideation (SI): disclosure of their suicidal thoughts to an adult, and perceiving oneself as seeking help. We were interested in youth who considered suicide seriously, and therefore had a clear internal signal to either conceal or disclose. Because evidence suggests that motivations may influence benefits from disclosure of potentially stigmatizing conditions (Chaudoir and Fisher 2010), we defined help-seeking as a combination of the these two components. In addition to examining patterns and rates of help-seeking among high school students with SI, this study examined associations between help-seeking behavior for SI and (1) adolescents' attitudes about help-seeking acceptability, perceptions that there are adults available who can respond effectively to suicide concerns, and willingness to overcome peer-group secrecy barriers; as well as (2) their perceived support for coping from formal and informal resources and engagement with school. Building on theory and research suggesting that help-seeking is a psychological process that is embedded within a social context (Andersen 1995; Carlton and Deane 2000; Costello et al. 1998; Logan and King 2001; Pescosolido 1992; Stiffman et al. 2004; Rickwood et al. 2007; Wyman et al. 2008; Wilson and Deane 2010), we hypothesized that adolescents' help-seeking for SI would be associated with more positive attitudes in the aforementioned domains and with greater perceived social support and school engagement. Adolescents who experienced SI and sought help were expected to differ systematically from non-help-seeking adolescents with SI, and more closely resemble non-suicidal adolescents. Our analytic models examining the aforementioned associations included depressive symptoms to minimize potential confounding effects.

Method

Participants

Participants were 2,737 students from 12 rural/underserved high schools in New York (8 schools) and North Dakota (4 schools) that participated in a randomized trial of a school-based suicide-prevention program in 2008–2009 (Wyman et al. 2010). Schools were recruited from rural and underserved areas where school administrators identified need for suicide prevention. All schools were in counties with youth suicide rates in the upper tercile of their states, based on 5-year averages. Underserved was defined by low income and based on reports from county mental health departments and school officials that barriers to mental-health service access affected a high proportion of their students. All of the North Dakota schools and four of the New York schools served populations that were classified as rural or small-town according to RUCA scores (WWAMI Rural Health Research Center 2004). The remaining four New York schools served students in a metropolitan region of a small city, which had family poverty rates 160 % above the New York average. School sizes ranged from 67 to 1,007 students. An average of 29.6 and 37.2 % of students in the New

York and North Dakota schools, respectively, qualified for free or reduced-cost lunches[1] (range 1–52.3 %). The students were predominantly Caucasian (mean 90.8 %). In the six smallest schools, all students were invited to complete surveys. To ensure feasibility and high participation rates in the larger schools, one-half of the classrooms were selected to participate through grade-stratified random sampling. Of all students invited, 81 % participated (see Table 1 for sample description).

Procedure

Students were invited to participate in an anonymous, voluntary survey before any school received intervention. Informational letters were sent to parents providing them an opportunity to decline their child's participation (<1 % declined). All surveys were administered by teachers in the selected classrooms. A script and instructions were included to maintain fidelity of survey administration. Students received information forms listing resources available to students who were suicidal or concerned about a peer. The University of Rochester IRB approved the protocol.

Measures

Suicide Ideation (SI)

We selected students who recently had experienced suicide ideation using an item from the Youth Risk Behavior Survey (YRBS) (Eaton et al. 2008). "During the past 12 months, did you ever seriously consider attempting suicide?" (YES/NO). Although not the focus of the present study, participants also responded to the YRBS suicide attempt item, "During the past 12 months, how many times did you actually attempt suicide?" Developed for population-based assessments, the YRBS suicide measure consists of four items that assess suicide ideation, suicide plan, suicide attempt, and suicide attempt with injury. These items form a Guttman scale (Perez 2005), with suicide ideation the most inclusive item. Responses to the suicide ideation item have been reported individually in epidemiological studies (Brener et al. 2000; Eaton et al. 2008) and other empirical studies (Eaton et al. 2005; Swahn and Bossarte 2007). The YRBS has well-established reliability and validity (Eaton et al. 2008; Shaughnessy et al. 2004; Grunbaum et al. 2004), and the reliability of individual items, including the suicide ideation item, has been demonstrated for both high school (Brener et al. 2002) and middle school (Zullig et al. 2006) students.

Disclosure and Help-Seeking

We prompted students who reported that they had seriously considered suicide in the past 12 months with three questions: "Did you tell a friend?," "Did you tell an adult?" and "Did you try to get help?" (YES/NO).

Attitudes about Seeking Help

We had previously developed the following scales with students from 22 schools; all scales had acceptable internal reliability. Chronbach's alphas (α) ranged from .64 to .84; items formed coherent scales using exploratory factor analysis and confirmatory factor analysis in separate samples. The scales also demonstrated concurrent validity; for each one-unit increase on each scale, students were one-third to one-half as likely to report suicidal ideation, suicide attempts and elevated depressive symptoms. The scales were also related negatively to maladaptive coping attitudes. These scales identified related but distinct constructs pertaining to help-seeking in two independent samples of high school students

[1]The United States National School Lunch Program is "a federally assisted meal program operating in public and nonprofit private schools and residential child care institutions. It provides nutritionally balanced, low-cost or free lunches to children each school day." Source: http://www.fns.usda.gov/cnd/lunch/. Accessed January 12, 2012.

using confirmatory factor analysis (Schmeelk-Cone et al. 2012). Internal consistency coefficients (Chronbach's α) presented below are from the present sample.

Help-Seeking Acceptability at School—The Help-Seeking Acceptability at School scale (Schmeelk-Cone et al. 2012; Wyman et al. 2010) assesses students' beliefs and perceived norms about getting help for emotional distress. The scale consists of four items (Chronbach's α = 0.86 for this sample) beginning with the stem, "If I was really upset and needed help…" Students responded to questions covering intentions to seek help ("I would talk to a counselor or other adult at school"), expectations of receiving help ("I believe a counselor or other adult at school could help me"), and perceived norms about seeking help ("My friends…" or "My family……would want me to talk to a counselor or other adult at school"). Students responded to each item using a four-point Likert scale (Strongly Disagree = 1—Strongly Agree = 4).

Adult Help for Suicidal Youth—The Adult Help for Suicide Youth scale (Schmeelk-Cone et al. 2012; Wyman et al. 2010) assesses adolescents' perceptions about the availability of capable adults to help suicidal students (Chronbach's α = 0.69; 3 items). Using the same scale described above, students responded to the following: "I know adults who could help a friend thinking of suicide;" "My school has people who can help students going through hard times;" "I can think of an adult whom I trust enough to help a suicidal friend." Higher scores (item average) reflect student perceptions that capable adults are available, and positive intentions to utilize help.

Reject Codes of Silence—The Reject Codes of Silence scale (Schmeelk-Cone et al. 2012; Wyman et al. 2010) is a 3-item scale designed to assess student attitudes toward overcoming secrecy barriers to engaging adult help for suicidal peers (Chronbach's α = 0.71): "A suicidal teen should be left alone if he/she doesn't want help" (reverse keyed); "I would tell an adult I trusted if I knew that a friend was suicidal;" "I would tell an adult about a suicidal friend, even if that friend asked me to keep it secret." Students responded using the same four-point Likert scale described above. Higher scores (item average) suggest more willingness on the part of youth to engage adults.

Social resources

Informed by Cohen's (2004) core domains of social influences on health (social support and engagement), we measured: (1) students' perceptions of resources supporting their ability to cope with stress and (2) their positive engagement in school.

Coping Resources—The Coping Resources scale (Wyman et al. 2010) was developed to evaluate Sources of Strength, which trains peer opinion-leaders to encourage other students to build formal and informal resources to support coping (Wyman et al. 2010; LoMurray 2005). On this nine-item scale (Chronbach's α = 0.90), students evaluated the extent to which nine types of informal (e.g., family, positive friends) and formal (access to mental health and medical services) resources would help them to "get through a tough time." Students rated each area on the same Likert scale described above. Higher sum scores (item average) on this scale reflected greater perceived social resources.

School Engagement—The School Engagement scale (Wyman et al. 2010) assesses adolescent perceptions of respect by adults and feelings of competence, which are identified as key components of their school connectedness (Whitlock 2007). Students responded to each question using the same four-point Likert scale described above (Chronbach's α = 0.66; 4 items): "I feel successful at school;" "I am involved in music, art, sports, and clubs;"

"I like school;" and "Teachers treat me with respect." Higher scores (item average) reflect more positive engagement.

Depressive Symptoms

We employed the *Short Mood and Feelings Questionnaire (SMFQ)* (Angold et al. 1995; Messer et al. 1995), which has 13 items (Chronbach's $\alpha = 0.93$) assessing core symptoms of depression in adolescence. The measure has well-established content and criterion-related validity, with significant and high correlations between the SMFQ and the longer version (MFQ), the Children's Depression Invention, and Diagnostic Interview Schedule for Children (Angold et al. 1995). Scores range from 0 to 26, with higher scores indicating more depressive symptoms.

Analyses

Chi-square tests were used to examine rates of SI by sex, age and race/ethnicity. Binomial proportion tests compared the frequency of disclosing SI to adults versus friends, and whether a student had tried to get help by sex, age, and ethnicity. We tested for differences in help-seeking between suicidal White and Hispanic students, but not versus Black students due to a small number of suicidal Black students. Attitude and social support variables were moderately correlated ($r = 0.36–0.60$) and negatively associated with SI ($r = −0.19$ to $−0.25$) (Table 2).

Suicidal help-seeking (HS), suicidal non-help-seeking (NoHS), and non-suicidal (NoSui) adolescent groups were created. HS adolescents had disclosed SI to an adult and attempted to get help. NoHS teens reported only one help-seeking component (disclosure or help-seeking) or neither. We conducted multivariate omnibus MANCOVA tests using SAS PROC GLM and the Wilks-Lamda test (Rao 1973; SAS Institute Inc. 2008) to contrast the groups. Finding an overall group effect for group status, we conducted multivariate pairwise comparisons. Next, we conducted univariate omnibus and pairwise comparisons using ANCOVA procedure with PROC GLM (SAS Institute Inc. 2008; Zhang et al. 2011). Linear contrasts were used for pairwise comparisons among the three groups, correcting for multiple comparisons using the Tukey–Kramer test.

To test associations between predictor variables (attitudes, social resources) and each help-seeking component behavior in students with SI, multivariate and univariate models were estimated using a generalized linear mixed model (GLMM) approach, which allows for discrete outcomes (Breslow and Clayton 1993). We used a logit link function for dichotomous outcomes (disclosed SI to adult, tried to get help), using SAS PROC NLMIXED, which has been shown to provide more robust estimates for the standard errors and *p* values than PROC GLIMMIX (Zhang et al. 2011). The models were two-level and allowed for the nesting of subjects by school, with school treated as a random effect. To assess the effects of school-level nested data on the association between predictors and help-seeking, intraclass correlation coefficients (ICCs) were calculated using the linear threshold model method. The ICCs in this study were ≤.08, indicating negligible school-level effects. All models were controlled for sex and age. In models selecting only youth with SI, race/ethnicity was not included as a covariate due to a small number of participants of minority ethnicity reporting SI and help-seeking ($n = 5$).

Results

Sample of Students with Suicide Ideation

Of 2,737 students, 381 (13.9 %) had seriously considered suicide (SI) in the past 12 months (Table 1). Females (17.2 %) were more likely to report SI than males (10.3 %) ($\chi^2(1) =$

26.333, $p < .001$). SI differed among the three largest race/ethnic groups ($\chi^2(3) = 8.753$, $p = .033$); a higher proportion of Hispanic students reported SI than did White or Black students. Fifty students did not answer the question about SI; non-responders did not statistically differ from responders on gender, grade, or age. Due to low numbers of students reporting SI among Black (N = 7) and Hispanic (N = 54) groups, race/ethnicity was not used as a covariate in later analyses.

Among students who reported suicide ideation (n = 381), 116/381 (30.4 %) also reported having made a suicide attempt in the past 12 months. Consistent with Guttman properties of the YRBS (Perez 2005), among students who reported a suicide attempt, 116/136 (85.2 %) also reported suicidal ideation.

Help-Seeking Behavior Among Suicidal Students

Among students reporting SI (n = 381), 22.8 % had told an adult about their SI (Table 1). Disclosing to an adult did not differ by sex, age, or race/ethnicity. As a point of comparison, 53 % of students with SI disclosed their SI to a friend, significantly more than the proportion who disclosed to an adult (preference test t-score = 6.91, $p < .01$). Disclosure to a friend differed significantly by sex, with a greater proportion of female than male students disclosing to a friend ($\chi^2(1) = 4.528$, $p = .033$). White students were more likely to disclose to a friend than Hispanic students ($\chi^2(1) = 4.599$, $p = .032$).

Among students with SI (n = 381), 29.4 % reported that they tried to get help. Perceiving oneself as trying to get help did not differ by sex, age, or race/ethnicity. For the purposes of our analyses, we defined help-seeking for suicide ideation to mean that two conditions were met: (1) the student had disclosed SI to an adult and (2) the student perceived himself or herself as trying to get help. If the adolescent did only one of these but not the other, they were not classified as “help-seeking.” The overlap between disclosure to an adult and self-perceived help-seeking was follows: of the students who had tried to get help, 51.4 % had told an adult; of the students who had told an adult about their SI, 67.1 % had tried to get help. Fifty-seven students (15.1 %) met both conditions (disclosed their SI to an adult and tried to get help.) There were no differences by sex, race/ethnicity or age in this combination of disclosure and help-seeking.

Characteristics of Help-Seeking Students with SI

As Table 3 indicates, students who reported having had SI in the past 12 months and who had disclosed the fact to an adult and sought help (HS group) reported greater help-seeking acceptance, increased perceptions that adults help suicidal youth, and stronger intentions to overcome peer secrecy requests, compared to suicidal students who had not disclosed or sought help (NoHS group). These students were also more engaged at school and perceived more resources that would help them cope. Across attitudinal and social measures, help-seeking adolescents with SI were indistinguishable from their peers without SI (NoSui group). Help-seeking adolescents with SI (HS group) differed from peers without SI (NoSui group) only on depressive symptoms. Suicidal help-seeking and non-help-seeking groups reported comparable levels of depressive symptoms, and both were higher than the non-suicidal (NoSui) group on this measure.

Attitudinal and social variables showed comparable relationships to both disclosure of SI to an adult and seeking help, as shown by both single-variable and multivariable models (Table 4). Students were approximately two to five times more likely to disclose SI to an adult and/or seek help for each point increase in help-seeking acceptance (OR = 1.83—2.66), perceptions that adults would help suicidal youth (OR = 3.12—5.16), and willingness to overcome codes of silence (OR = 2.61—3.05). Students who had disclosed SI to adults and/

or sought help also reported more coping support and greater school engagement (OR = 1.79–4.38 and 1.89–2.94, respectively). Depressive symptoms were not significantly associated with either disclosure of SI to an adult or seeking help, and were excluded from multivariate analyses. There was minimal evidence that sex or age moderated these relationships, with the exception of two significant interactions: coping resources were associated with help-seeking behaviors more for boys than for girls ($p < .05$), and rejecting secrecy requests was more predictive of getting help for older than for younger students ($p < .05$).

In multivariate models within each domain, the pattern of associations was similar; however, few variables were identified as factors uniquely associated with help-seeking. Perceptions of adult help for suicidal youth added significant unique variance in models that estimated predictors of SI disclosure to an adult and help-seeking. Among social variables, perceived support for coping was a significant predictor of adolescents seeking help. Multivariate models that included all variables enhanced model fit; however, no single predictor accounted for a significant portion of the variance.

Discussion

To the best of our knowledge, this study is the first to report on recent help-seeking behavior (in contrast to intentions) among suicidal high school students, and also the first to conceptualize help-seeking as a combination of self-disclosure and intention. This conceptualization is grounded in the contention that help-seeking disclosure of suicide ideation is critical for recruiting appropriate intervention and research demonstrating that approach-focused self-disclosure leads to more positive outcomes (Chaudoir and Fisher 2010). Among 381 suicidal high school students, fewer than 15 % engaged in help-seeking using our definition, and students were twice as likely to disclose their SI to peers (54 %) than to adults (23 %). Given that adults are the primary gatekeepers to mental health services for adolescents (Logan and King 2001; Costello et al. 1998) and often do not, on their own, detect in adolescents signs of depression (Logan and King 2002) or suicide risk (Kerr et al. 2008; Klaus, Mobilio and King 2009), the paucity of teens' explicit help-seeking communication with adults helps to explain why so few suicidal youth receive services (McCarty et al. 2011).

Youth with suicide ideation who disclosed SI and sought help resembled their non-suicidal peers across all attitudinal and social measures, and differed only in terms of having more depressive symptoms. Communicating with trusted adults about emotional distress may be one marker of healthy adaptation in adolescence, especially for youth with significant mental health symptoms and/or suicide risk for whom adult help and intervention are critical. Because patterns of health behavior begun in adolescence often carry to adulthood (Maggs et al. 1997), learning to identify and communicate severe distress to capable and appropriate confidantes could influence the long-term trajectory for youth at risk for mental disorders and suicide. The ability to use internal signals of distress, including but not limited to suicide ideation, to motivate help-seeking and other approach-focused strategies (Seiffgr-Krenke and Klessinger 2000) may be a developmental competency that could be targeted in prevention programs (e.g. Muehlenkamp et al. 2009; Wyman et al. 2010) as well as positive youth development efforts (Lerner et al. 2010).

Building from a Network Episode framework, our findings are congruent with theory and research based on help-seeking and service use for mental-health problems other than suicide, indicating that teenage help-seeking is a psychological process that is embedded within a social context (Pescosolido 1992; Andersen 1995; Costello et al. 1998; Logan and King 2001; Stiffman et al. 2004). Youth with attitudes and perceived norms indicating help-

seeking acceptance, and those with more positive perceptions of their connection to school and access to people and settings that support their coping, were more likely to seek help. Our findings also extend that prior work by linking help-seeking and two potentially modifiable attitudinal factors that are specific to suicide concerns: perception that adults are available to help suicidal youth and willingness to overcome secrecy requests. These suicide-specific norms and attitudes may help to explain the tendency that has been documented among youth with suicide ideation to avoid or reject help that appears to be readily available to them (Wilson et al. 2010).

This study has several implications for research and prevention. First, adolescents' disclosure of SI to an adult and attempting to get help were related but distinct. More examination is needed of the communication behaviors and intentions of suicidal youth who engage with adults to shed light on the apparent disconnect that exists in some youth between disclosure and trying to get help. Second, at present, very little is known about the characteristics of productive help-seeking disclosure among youth with SI or how it unfolds over time and in relation to adolescent development—critical knowledge for professionals who develop interventions to promote more frequent and effective help-seeking on the part of at-risk youth (and responsiveness from adults). Third, and equally important, studies are needed to uncover key junctures in the help-seeking process in which initial motivations to get help for SI either become derailed, leading the vast majority of suicidal youth to keep suicidal thoughts, plans, and behavior to themselves; or are deepened, and lead to constructive engagement that improves functioning and lowers risk.

Building from a Network-Episode framework, our present findings are an initial step in creating a more detailed, developmentally-informed model of the youth help-seeking process, leading up to and continuing through an initial help-seeking interaction, such as recognizing SI as a problem, selecting an adult confidant, interacting with an adult, and evaluating the interaction. This model places adolescents' autonomy in making choices in the context of their continued dependence on adults. For example, knowing adults who are trustworthy and capable of helping with suicide concerns was the most robust predictor of youth help-seeking in this study. More research is needed to understand factors that influence these judgments among suicidal teens. The decisions to disclose SI and seek help also likely are influenced by other developmental tensions not assessed in this study, such as underdeveloped emotion-regulation abilities (Casey et al. 2010), which previously have been linked with lower intentions to seek help for emotional problems and SI, and with less successful prior help-seeking experiences (Ciarrochi et al. 2002). Specific emotion regulation deficits, such as restrictive emotionality (Jacobson et al. 2011), have been linked with suicide ideation and depressive symptoms. The interplay between emotion regulation skills, norms/attitudes, and social support in shaping help-seeking behavior merits further exploration.

In addition to learning more about adolescents' willingness to engage adults for help, research also is needed to determine what prepares adults to be effective in their interactions with suicidal teens, in terms of emotional responsiveness, instrumental support, and encouraging ongoing engagement. System-level factors, such as family preferences and access to care, also influence whether help-seeking results in receipt of appropriate care and improved outcomes; these factors must be considered in comprehensive models of help-seeking and suicide prevention. Along similar lines, the NEM predicts that cultural norms and values profoundly influence help-seeking and other health behavior (Pescosolido 1992). Participants in this study were adolescents from primarily rural and low-income communities. More work is needed to understand the "cultural cartography" (Olafsdottir and Pescosolido 2009) of suicide-related adolescent help-seeking, including how the influence of specific attitudes, norms, and perceptions of social support varies with geography and

socioeconomic status. Finally, the link between social support and help-seeking disclosure in this study should be followed up with research investigating the contours of disclosure in different social settings, such as home, school, and community, each of which has a unique role in shaping help-seeking and service utilization, according to the family-based network episode model (Costello et al. 1998).

Our findings also point to the need to determine how youth attitudes and perceived norms relating to help-seeking are communicated, maintained, and changed. Although depressive symptoms previously have been linked with low help-seeking intentions in a general sample of high school students (Wilson et al. 2007), the lack of a univariate association between depressive symptoms and help-seeking behavior in this sample of students with SI suggests that targeting the alleviation of depressive symptoms alone may not promote help-seeking behavior among at-risk adolescents, unless norms, attitudes and social integration are directly affected. The adolescent risk-behavior literature has demonstrated that adolescents' peer networks influence a broad range of norms, attitudes, and health behaviors (Valente 2010). Since youth are particularly sensitive to modeling about suicidal behavior (Insel and Gould 2008), one fruitful direction for investigation may be to discover whether adolescent norms and attitudes about seeking help, trusting adults, and drawing support for coping in the midst of suicidal crises could likewise be influenced by peers.

Several limitations of this study should be noted. First, suicide ideation was measured with a single dichotomous item. The measure does not define what is meant by "seriously considered attempting suicide," which could be interpreted by students in different ways. However, this item has been found to have test–retest reliability, and the word "seriously" reduces the chances that individuals will respond positively if they have only had fleeting thoughts about suicide ideation. This measure of suicide ideation is well established for defining at-risk groups in population studies, in which a more detailed measure of suicide ideation is not feasible. However, a more precise measurement of suicide ideation and intention would be needed for clinical research seeking to screen a population for clinical risk. Second, due to reliance on retrospective reports of help-seeking behaviors, positive experiences resulting from seeking and receiving help could have increased some adolescents' attitudes, such as the perception that adults are available to help suicidal students and perception of their social resources. Furthermore, adolescents could have been subject to a choice-supportive bias (i.e., reporting beliefs that are consistent with past behavior). Prospective studies are needed to assess the impact of norms and perceptions prior to the adolescents' experiencing SI and potentially deciding to seek help. Third, students' responses to questions about disclosure and seeking help could reflect a variety of interpretations of what it means to "tell an adult" or to "try to get help." Psychometric work is needed to develop reliable and valid measures of the processes within the proposed help-seeking sequence. Nevertheless, this study provides the first measures of students' help-seeking disclosure of SI to adults in a large sample of recently suicidal adolescents. Finally, this study was conducted in high schools serving primarily white students and the findings may not generalize to other populations, including those with greater racial diversity.

Seeking help from adults is a potentially life-saving response for adolescents who consider suicide. We have proposed that help-seeking for the suicidal adolescent involves, at minimum, telling an adult about SI together with the intention to get help. Our findings provide additional empirical rationale for suicide-prevention strategies that focus on changing norms, attitudes, and social environment in order to promote help-seeking (see, for example, Wyman et al. 2010; Aseltine and DeMartino 2004) and suggest targets to investigate through intervention studies. The low prevalence of student SI disclosure and help-seeking highlights an urgent need to understand more about at-risk adolescents who do

and do not seek help, how to identify them, and what might encourage them to reach out for help when they are most in danger.

Acknowledgments

The authors wish to thank Emily Hurley for her help in preparing this manuscript. We gratefully acknowledge support from the Center for Mental Health Services, SAMHSA (SM-05-019), New York State-Office of Mental Health, Locker Family Fund, National Institute of Mental Health (T32MH20061 and K24 MH066252), and the University of Rochester CTSA award KL2 RR024136 from the National Center for Research Resources and the National Center for Advancing Translational Sciences of the National Institutes of Health.

References

Andersen RM. Revisiting the behavioral model and access to medical care: Does it matter? Journal of Health and Social Behavior. 1995; 36(1):1–10. [PubMed: 7738325]

Angold A, Costello EJ, Messer S, Pickles A, Winder F, Silver D. Development of a short questionnaire for use in epidemiological studies of depression in children and adolescents. International Journal of Methods in Psychiatric Research. 1995; 5:237–249.

Apter A. Relationship between self-disclosure and serious suicidal behavior. Comprehensive Psychiatry. 2001; 42(1):70–75. [PubMed: 11154719]

Aseltine RH Jr, DeMartino R. An outcome evaluation of the SOS suicide prevention program. American Journal of Public Health. 2004; 94(3):446–451. [PubMed: 14998812]

Biddle L, Gunnell D, Sharp D, Donovan J. Factors influencing help seeking in mentally distressed young adults: A cross-sectional survey. British Journal of General Practice. 2004; 54(501):248–253. [PubMed: 15113490]

Boldero J, Fallon B. Adolescent help-seeking: What do they get help for and from whom? Journal of Adolescence. 1995; 18(2):193–209.

Boyd C, Hayes L, Nurse S, Aisbett D, Francis K, Newnham K, et al. Preferences and intention of rural adolescents toward seeking help for mental health problems. Rural and Remote Health. 2011; 11:1582. http://1.usa.gov/HQvj8s. [PubMed: 21319934]

Brener ND, Krug EG, Simon TR. Trends in suicide ideation and suicidal behavior among high school students in the United States, 1991–1997. Suicide and Life-Threatening Behavior. 2000; 30(4):304–312. [PubMed: 11210056]

Brener ND, Kann L, McManus T, Kinchen SA, Sundberg EC, Ross JG. Reliability of the 1999 youth risk behavior survey questionnaire. [Evaluation Study]. The Journal of Adolescent Health: Offificial Publication of the Society for Adolescent Medicine. 2002; 31(4):336–342.

Brent DA, Perper JA, Moritz G, Allman C, Friend A, Roth C, et al. Psychiatric risk factors for adolescent suicide: A case-control study. Journal of the American Academy of Child and Adolescent Psychiatry. 1993; 32(3):521–529. [PubMed: 8496115]

Breslow N, Clayton D. Approximate inference in generalized linear mixed models. Journal of the American Statistical Association. 1993; 88(421):9–25.

Bridge JA, Goldstein TR, Brent DA. Adolescent suicide and suicidal behavior. Journal of Child Psychology and Psychiatry. 2006; 47(3–4):372–394. [PubMed: 16492264]

Bringewatt EH, Gershoff ET. Falling through the cracks: Gaps and barriers in the mental health system for America's disadvantaged children. Children and Youth Services Review. 2010; 32(10):1291–1299. Elsevier Ltd.

Brown CH, Wyman PA, Brinales JM, Gibbons RD. The role of randomized trials in testing interventions for the prevention of youth suicide. International Review of Psychiatry. 2007; 19(6): 617–631. [PubMed: 18092240]

Carlton PA, Deane FP. Impact of attitudes and suicidal ideation on adolescents' intentions to seek professional psychological help. Journal of Adolescence. 2000; 23(1):35–45. [PubMed: 10700370]

Casey B, Jones R, Levita L, Libby V, Pattwell S, Ruberry E, et al. The storm and stress of adolescence: Insights from human imaging and mouse genetics. Developmental Psychobiology. 2010; 52(3):225–235. [PubMed: 20222060]

Chaudoir SR, Fisher JD. The disclosure processes model: understanding disclosure decision making and postdisclosure outcomes among people living with a concealable stigmatized identity. Psychological Bulletin. 2010; 136(2):236–256. [PubMed: 20192562]

Ciarrochi J, Deane F, Wilson C, Rickwood D. Adolescents who need help the most are the least likely to seek it: The relationship between low emotional competence and low intention to seek help. British Journal of Guidance & Counselling. 2002; 30(2):173–188.

Cohen S. Social relationships and health. American Psychologist. 2004; 59(8):676–684. [PubMed: 15554821]

Cohen P, Hesselbart CS. Demographic factors in the use of children's mental health services. American Journal of Public Health. 1993; 83(1):49. [PubMed: 8417606]

Costello, EJ.; Pescosolido, B.; Angold, A.; Burns, BJ. A family network-based model of access to child mental health services. In: Morrissey, JP., editor. Research in community and mental health: Social networks and mental illness. Vol. Vol. 9. Stamford, CT: JAI Press; 1998. p. 165-190.

Eaton DK, Kann L, Kinchen S, Shanklin S, Ross J, Hawkins J, Harris WA, Lowry R. Youth risk behavior surveillance—United States, 2007. MMWR Recommendations and Reports. 2008; 57(SS-4):1–131.

Eaton DK, Lowry R, Brener ND, Galuska DA, Crosby AE. Associations of body mass index and perceived weight with suicide ideation and suicide attempts among US high school students. Archives of Pediatric and Adolescent Medicine. 2005; 159(6):513–519.

Epstein R, Duberstein P, Feldman M, Rochlen A, Bell R, Kravitz R, et al. "I Didn't Know What Was Wrong:" How People with Undiagnosed Depression Recognize, Name and Explain Their Distress. Journal of General Internal Medicine. 2010; 25(9):954–961. [PubMed: 20473643]

Freedenthal S. Adolescent help-seeking and the Yellow ribbon suicide prevention program: An evaluation. Suicide and Life-Threatening Behavior. 2010; 40(6):628–639. [PubMed: 21198332]

Goldston DB, Daniel SS, Erkanli A, Reboussin BA, Mayfield A, Frazier PH, et al. Psychiatric diagnoses as contemporaneous risk factors for suicide attempts among adolescents and young adults: Developmental changes. Journal of Consulting and Clinical Psychology. 2009; 77(2):281–290. [PubMed: 19309187]

Gould MS, Greenberg T, Velting DM, Shaffer D. Youth suicide risk and preventive interventions: A review of the past 10 years. Journal of the American Academy of Child and Adolescent Psychiatry. 2003; 42(4):386–405. [PubMed: 12649626]

Gould MS, Velting D, Kleinman M, Lucas C, Thomas JG, Chung M. Teenagers' attitudes about coping strategies and help-seeking behavior for suicidality. Journal of the American Academy of Child and Adolescent Psychiatry. 2004; 43(9):1124–1133. [PubMed: 15322416]

Grunbaum JA, Kann L, Kinchen S, Ross J, Hawkins J, Lowry R, et al. Youth risk behavior surveillance—United States, 2003. MMWR Surveillance Summaries. 2004; 53:1–96.

Hirsch JK. A review of the literature on rural suicide. Crisis. 2006; 27(4):189–199. [PubMed: 17219751]

Insel BJ, Gould MS. Impact of modeling on adolescent suicidal behavior. Psychiatric Clinics of North America. 2008; 31(2):293–316. [PubMed: 18439450]

Institute of Medicine Committee on the Prevention of Mental Disorders and Substance Abuse Among Children Youth and Young Adults. Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities. Washington, DC: National Academies Press; 2009.

Jacobson CM, Marrocco F, Kleinman M, Gould MS. Restrictive emotionality, depressive symptoms, and suicidal thoughts and behaviors among high school students. Journal of Youth and Adolescence. 2011; 40:656–665. [PubMed: 20661633]

Kerr D, Owen L, Pears K, Capaldi D. Prevalence of suicidal ideation among boys and men assessed annually from ages 9 to 29 years. Suicide and Life-Threatening Behavior. 2008; 38(4):390. [PubMed: 18724787]

Kessler RC, Avenevoli S, Ries Merikangas K. Mood disorders in children and adolescents: An epidemiologic perspective. Biological Psychiatry. 2001; 49(12):1002–1014. [PubMed: 11430842]

Klaus N, Mobilio A, King C. Parent–Adolescent agreement concerning Adolescents' suicidal thoughts and behaviors. Journal of Clinical Child & Adolescent Psychology. 2009; 38(2):245–255. [PubMed: 19283602]

Lerner RM, Eye A, Lerner JV, Lewin-Bizan S, Bowers EP. Special issue introduction: The meaning and measurement of thriving: A view of the issues. Journal of Youth and Adolescence. 2010; 39(7):707–719. [PubMed: 20387108]

Lindsey M, Korr W, Broitman M, Bone L, Green A, Leaf P. Help-seeking behaviors and depression among African American adolescent boys. Social Work. 2006; 51(1):49–58. [PubMed: 16512510]

Logan DE, King CA. Parental facilitation of adolescent mental health services utilization: A conceptual and empirical review. Clinical Psychology: Science and Practice. 2001; 8(3):319–333.

Logan D, King C. Parental identification of depression and mental health service use among depressed adolescents. Journal of the American Academy of Child and Adolescent Psychiatry. 2002; 41(3): 296. [PubMed: 11886024]

LoMurray, M. Sources of strength facilitators guide: Suicide prevention peer gatekeeper training. Bismarck, ND: The North Dakota Suicide Prevention Project; 2005.

Maggs, J.; Schulenberg, J.; Hurrelmann, K. Developmental transitions during adolescence: Health promotion implications. In: Schulenberg, J.; Maggs, J.; Hurrelmann, K., editors. Health risks and developmental transitions during adolescence. Cambridge: Cambridge Univ Press; 1997. p. 522-546.

McCarty CA, Russo J, Grossman DC, Katon W, Rockhill C, McCauley E, et al. Adolescents with suicidal ideation: Health care use and functioning. Academic Pediatrics. 2011; 11(5):422–426. [PubMed: 21396897]

Messer SC, Angold A, Costello EJ, Loeber R, Van Kammen W, Stouthamer-Loeber M. Development of a short questionnaire for use in epidemiological studies of depression in children and adolescents: Factor composition and structure across development. International Journal of Methods in Psychiatric Research. 1995; 5:251–262.

Muehlenkamp JJ, Walsh BW, McDade M. Preventing non-suicidal self-injury in adolescents: The signs of self-injury program. Journal of Youth and Adolescence. 2009; 39(3):306–314. [PubMed: 19756992]

O'Donnell L, Stueve A, Wardlaw D, O'Donnell C. Adolescent suicidality and adult support: The reach for health study of urban youth. American Journal of Health Behavior. 2003; 27(6):633–644. [PubMed: 14672394]

Olafsdottir S, Pescosolido BA. Drawing the line: The cultural cartography of utilization recommendations for mental health problems. Journal of Health and Social Behavior. 2009; 50(2): 228–244. [PubMed: 19537462]

Perez VW. The relationship between seriously considering, planning, and attempting suicide in the youth risk behavior survey. Suicide and Life-Threatening Behavior. 2005; 35(1):35–49. [PubMed: 15843322]

Pescosolido B. Beyond rational choice: The social dynamics of how people seek help. American Journal of Sociology. 1992; 97:1096–1138.

Rao, C. Linear statistical inference and it's applications. 2nd ed.. New York: Wiley & Company; 1973.

Rickwood DJ, Deane FP, Wilson CJ. When and how do young people seek professional help for mental health problems? Medical Journal of Australia. 2007; 187(7 suppl):S35–S39. [PubMed: 17908023]

Rughani J, Deane FP, Wilson CJ. Rural adolescents' help-seeking intentions for emotional problems: The influence of perceived benefits and stoicism. Australian Journal of Rural Health. 2011; 19(2): 64–69. [PubMed: 21438947]

SAS. SAS, Version 9.2. Cary, NC: SAS Institute Inc.; 2008.

Saunders SM, Resnick MD, Hoberman HM, Blum RW. Formal help-seeking behavior of adolescents identifying themselves as having mental health problems. Journal of the American Academy of Child and Adolescent Psychiatry. 1994; 33(5):718–728. [PubMed: 8056735]

Schmeelk-Cone K, Pisani AR, Petrova M, Wyman PA. Three scales assessing high school students' attitudes and perceived norms about seeking adult help for distress and suicide concerns. Suicide and Life Threatening Behavior. 2012; 42(2):157–172. [PubMed: 22324773]

Seiffge-Krenke I, Klessinger N. Long-term effects of avoidant coping on adolescents' depressive symptoms. Journal of Youth and Adolescence. 2000; 29(6):617–630.

Sen B. Adolescent propensity for depressed mood and help seeking: Race and gender differences. Journal of Mental Health Policy and Economics. 2004; 7(3):133–145. [PubMed: 15478992]

Shaffer D, Gould MS, Fisher P, Trautman P, et al. Psychiatric diagnosis in child and adolescent suicide. Archives of General Psychiatry. 1996; 53(4):339–348. [PubMed: 8634012]

Shaughnessy L, Doshi SR, Jones SE. Attempted suicide and associated health risk behaviors among Native American high school students. Journal of School Health. 2004; 74(5):177–182. [PubMed: 15283499]

Stiffman AR, Pescosolido B, Cabassa LJ. Building a model to understand youth service access: The gateway provider model. Mental Health Services Research. 2004; 6(4):189–198. [PubMed: 15588030]

Swahn MH, Bossarte RM. Gender, early alcohol use, and suicide ideation and attempts: Findings from the 2005 youth risk behavior survey. Journal of Adolescent Health. 2007; 41(2):175–181. [PubMed: 17659222]

Valente, TW. Social networks and health: Models, methods, and applications. New York: Oxford University press USA; 2010.

Whitlock J. The role of adults, public space, and power in adolescent community connectedness. Journal of Community Psychology. 2007; 35(4):499–518.

Wilson CJ, Deane FP. Brief report: Need for autonomy and other perceived barriers relating to adolescents' intentions to seek professional mental health care. Journal of Adolescence. 2010:1–5.

Wilson CJ, Deane FP, Marshall KL, Dalley A. Adolescents' suicidal thinking and reluctance to consult general medical practitioners. Journal of Youth and Adolescence. 2010; 39(4):343–356. [PubMed: 20229227]

Wilson CJ, Rickwood D, Deane FP. Depressive symptoms and help-seeking intentions in young people. Clinical Psychologist. 2007; 11(3):98–107.

Wu P, Katic B, Liu X, Fan B, Fuller C. Mental health service use among suicidal adolescents: Findings from a us national community survey. Psychiatric Services. 2010; 61(1):17. [PubMed: 20044413]

WWAMI Rural Health Research Center. [Accessed March 13, 2012] 2004 ZIP RUCA Code files. 2004. http://depts.washington.edu/uwruca/ruca-download.php

Wyman PA, Brown CH, Inman J, Cross W, Schmeelk-Cone K, Guo J, et al. Randomized trial of a gatekeeper program for suicide prevention: 1-year impact on secondary school staff. Journal of Consulting and Clinical Psychology. 2008; 76(1):104–115. [PubMed: 18229988]

Wyman PA, Brown CH, LoMurray M, Schmeelk-Cone K, Petrova M, Yu Q, et al. An outcome evaluation of the sources of strength suicide prevention program delivered by adolescent peer leaders in high schools. American Journal of Public Health. 2010; 100(9):1653–1661. [PubMed: 20634440]

Xu J, Kochaneck K, Murphy S, Tejada-Vera B. Deaths: Final data for 2007. National Vital Statistics Reports. 2010; 58(19):1–73.

Yakunina ES, Rogers JR, Waehler CA, Werth JL Jr. College students' intentions to seek help for suicidal ideation: Accounting for the help-negation effect. Suicide & lifethreatening behavior. 2010; 40(5):438–450.

Zhang H, Lu N, Feng C, Thurston S, Xia Y, Tu X. On fitting generalized linear mixed-effects models for binary responses using different statistical packages. Statistics in Medicine. 2011; 30(20): 2562–2572.

Zullig KJ, Pun S, Patton JM, Ubbes VA. Reliability of the 2005 middle school youth risk behavior survey. The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine. 2006; 39(6):856–860. [PubMed: 17116516]

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J Youth Adolesc. Author manuscript; available in PMC 2013 January 02.

Table 1

Sample characteristics and help-seeking behaviors

	Total students	With suicide ideation (SI)	Help-seeking among students with suicide ideation (N = 381)			
			Disclosed SI to a friend	Disclosed SI to an adult	Sought help	Disclosed SI to adult and sought help
N	2,737	381 (13.9 %)	205 (53.8 %)	87 (22.8 %)	112 (29.4 %)	57 (14.9 %)
Sex						
Male	1,283 (46.9 %)	130 (10.1 %)*	60 (46.2 %)*	24 (18.5 %)	37 (28.5 %)	17 (13.1 %)
Female	1,392 (50.9 %)	237 (17.0 %)*	139 (58.6 %)*	58 (24.5 %)	71 (30.0 %)	36 (15.2 %)
Age						
≤14	640 (23.4 %)	75 (11.7 %)	37 (49.3 %)*	19 (25.3 %)	15 (20.0 %)	10 (12.3 %)
15	731 (26.7 %)	126 (17.2 %)	90 (71.4 %)*	28 (22.2 %)	44 (34.9 %)	22 (17.5 %)
16	658 (24.0 %)	92 (14.0 %)	39 (42.4 %)*	17 (18.5 %)	25 (27.2 %)	11 (12.0 %)
≥17	657 (24.0 %)	81 (12.3 %)	36 (44.4 %)*	21 (25.9 %)	27 (33.3 %)	13 (16.0 %)
Race/ethnicity						
Black/African American	95 (3.6 %)	7 (7.4 %)*	3 (42.9 %)*	2 (28.6 %)	1 (14.3 %)	1 (14.3 %)
Hispanic/Latino	318 (11.9 %)	54 (17.0 %)*	23 (42.6 %)*	12 (22.2 %)	12 (22.2 %)	5 (9.3 %)
White/Caucasian	2,127 (79.5 %)	289 (13.6 %)*	167 (57.8 %)*	67 (23.2 %)	88 (30.4 %)	45 (15.6 %)

*Significant Chi-square differences among groups

Table 2

Bivariate correlations among independent variables, suicide ideation, age, and gender (n = 2,678)

		HSA	AHSY	Reject codes	School engagement	SoS	Grouped age[1]	Gender[2]
Suicide ideation	Pearson Correlation	−0.21**	−0.21**	−0.23**	−0.19**	−0.25**	−0.01	0.10**
	Sig. (2-tailed)	0.00	0.00	0.00	0.00	0.00	0.74	0.00
Help-seeking from adults at school (HSA)	Pearson Correlation		0.49**	0.43**	0.36**	0.60**	−0.09**	0.02
	Sig. (2-tailed)		0.00	0.00	0.00	0.00	0.00	0.38
Adult help for suicidal youth (AHSY)	Pearson Correlation			0.55**	0.41**	0.47**	−.05**	0.06**
	Sig. (2-tailed)			0.00	0.00	0.00	0.01	0.00
Reject codes of silence	Pearson Correlation				0.38**	0.49**	−0.01	0.16**
	Sig. (2-tailed)				0.00	0.00	0.62	0.00
School engagement	Pearson Correlation					0.49**	−0.05**	0.09**
	Sig. (2-tailed)					0.00	0.01	0.00
Sources of strength self-evaluation (SoS)	Pearson Correlation						−0.03	0.09**
	Sig. (2-tailed)						0.18	0.00
Grouped age1	Pearson Correlation							−0.03
	Sig. (2-tailed)							0.16

[1] Grouped age categories are 1 = less than or equal to 14, 2 = 15, 3 = 16, 4 = greater than or equal to 17

[2] Gender is coded 0 = male, 1 = female

** Correlation is significant at the 0.01 level (2-tailed)

Table 3

Comparisons among suicidal help-seeking youth, suicidal non-help-seeking youth and non-suicidal youth: Norms/attitudes, social environment, and depressive symptoms

Predictor	Suicidal by help-seeking				Non-suicidal[3] (NoSui)		Group F	*df*	*p*	Tukey–Kramer tests* (contrasts)
	Non-help-seeking[1] (NoHS)		Help-seeking[2] (HS)							
	Mean	SD	Mean	SD	Mean	SD				
Norms/attitudes										
Help-seeking from Adults at School	2.14	0.74	2.70	0.83	2.76	0.76	62.56	(2, 2,463)	<.001	HS = NoSui >NoHS
Adult help for suicidal peers	2.46	0.75	3.02	0.70	3.07	0.61	92.54	(2, 2,540)	<.001	HS = NoSui >NoHS
Reject codes of silence	2.68	0.81	3.21	0.61	3.30	0.61	101.64	(2, 2,513)	<.001	HS = NoSui >NoHS
Social environment										
Sources of strength coping	2.46	0.66	3.00	0.63	3.05	0.41	53.58	(2, 2,510)	<.001	HS = NoSui >NoHS
School engagement	2.37	0.63	2.80	0.72	2.84	0.63	90.4	(2, 2,460)	<.001	HS = NoSui >NoHS
Depressive symptoms										
Short form mood questionnaire	13.62	6.66	10.44	7.37	4.21	4.66	380.53	(2, 2,484)	<.001	HS = NoSui >NoHS

[1] Suicidal Non-help-seeking = suicidal ideation in past year, but did not talk to an adult or try to get help

[2] Suicidal Help-seeking = suicidal ideation in past year, talked to an adult and tried to get help

[3] Non-suicidal = no suicidal ideation in past year

* Contrasts indicated as greater or less than are significant at $p < .01$

Table 4

Associations between help-seeking norms and social integration measures and help-seeking behaviors reported by adolescents with suicidal ideation

Predictor	Disclosed SI to adult versus did not				Sought help versus did not				Disclosed SI to adult and sought help versus neither			
	Univariate		Multivariate		Univariate		Multivariate		Univariate		Multivariate	
	OR	95 % CI	OR	95 % CI	OR	95 %CI	OR	95 %CI	OR	95 %CI	OR	95 %CI
Norms/attitudes												
Help seeking acceptability at school	1.83**	(1.20, 2.78)	1.27	(.79, 2.03)	2.22*	(1.24, 3.95)	1.39	(.89, 2.18)	2.66**	(1.34, 5.27)	1.49	(.81, 2.73)
Adult help for suicidal peers	3 .12***	(1.82, 5.32)	1.90*	(1.02, 3.53)	3.54***	(2.01, 6.22)	1.89*	(1.07, 3.35)	5.16***	(2.41, 11.06)	2.54*	(1.13, 5.67)
Reject codes of silence	2.61**	(1.63, 4.18)	1.66	(1.06, 2.93)	2.35**	(1.50, 3.68)	1.61	(.99, 2.70)	3.05**	(1.65, 5.64)	1.59	(.97, 3.29)
Social environment												
School engagement	1.89*	(1.17, 3.07)	1.47	(.87, 2.50)	2.30**	(1.32, 4.01)	1.44	(.86, 2.39)	2.94**	(1.47, 5.88)	1.74	(.84, 3.59)
Sources of strength coping	1.79*	(1.12, 2.87)	1.58	(.96, 2.60)	2.78**	(1.52, 5.07)	2.29**	(1.38, 3.78)	4.38**	(1.98, 9.65)	3.39**	(1.55, 7.40)
Depressive symptoms	0.98	(.94, 1.03)	NA	NA	0.96+	(0.91, 1.00)	NA	NA	0.97	(0.91, 1.03)	NA	NA

All models include gender, age, and depressive symptoms. Multivariate models include scales from Norm/Attitudes or Social Environment domains

* $p < .05$,

** $p < .01$,

*** $p < .001$