Role of Social Support in Adolescent Suicidal Ideation and Suicide Attempts

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ABSTRACT

Purpose: The present study examined the relative contributions of perceptions of social support from parents, close friends, and school on current suicidal ideation (SI) and suicide attempt (SA) history in a clinical sample of adolescents.

Methods: Participants were 143 adolescents (64% female; 81% white; range, 12–18 years; M = 15.38; standard deviation = 1.43) admitted to a partial hospitalization program. Data were collected with well-validated assessments and a structured clinical interview. Main and interactive effects of perceptions of social support on SI were tested with linear regression. Main and interactive effects of social support on the odds of SA were tested with logistic regression.

Results: Results from the linear regression analysis revealed that perceptions of lower school support independently predicted greater severity of SI, accounting for parent and close friend support. Further, the relationship between lower perceived school support and SI was the strongest among those who perceived lower versus higher parental support. Results from the logistic regression analysis revealed that perceptions of lower parental support independently predicted SA history, accounting for school and close friend support. Further, those who perceived lower support from school and close friends reported the greatest odds of an SA history.

Conclusions: Results address a significant gap in the social support and suicide literature by demonstrating that perceptions of parent and school support are relatively more important than peer support in understanding suicidal ideation and behavior. Results suggest that improving social support across these domains may be important in suicide prevention efforts.

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Suicidal ideation (SI) and suicide attempts (SAs) are the most common mental health emergencies among adolescents [1]. Indeed, suicide is the third leading cause of death among individuals aged 10–24 years [2]. For each completed suicide, it is estimated that 100–200 adolescents make nonlethal SAs [3]. Data from the 2013 National Youth Risk Behavior Survey, administered to high school students across the United States, suggests that 17% of high school students seriously considered suicide in the prior 12 months, 13.6% made a suicide plan, and 8% attempted suicide [2]. Thus, research efforts aimed at addressing this significant public health concern are warranted. The present study examined the relative contributions of perceptions of parent, school, and close friend support in relation to SI and SAs in an adolescent clinical sample.

The importance of social support is consistent across multiple theories of suicidal behavior and developmental psychopathology research. The sociological theory of suicide [4], the psychache
theory of suicide [5], and the interpersonal—psychological theory of suicide (IPTS) [6] suggest that inadequate social support and strong interpersonal relationships increase risk for SI and SAs. The need to belong, in particular, is a central theme in Joiner’s IPTS. These theories complement developmental research, which suggests that the maintenance of strong relationships with parents while concurrently establishing an independent network of close friends and close community connections (often within school settings) [7] is needed for normative socioemotional growth. When this key developmental task is not successfully navigated and youth perceive low social support, they are at heightened risk for depression [8], SI, and SAs [9].

Recent literature reviews conclude that perceived social support from parents and peers plays an important role in the development of adolescent SI and SAs [10]. In general, lower perceived support from parents and peers has been associated with higher SI and greater risk for SAs in cross-sectional [11,12] and longitudinal [9,13] research with community and clinical samples. Results of studies examining school support have been less consistent. In school-based samples drawn from the Longitudinal Study of Adolescent Health (Add Health), lower perceived teacher support has been associated with greater odds of an SA in one study [14], whereas others failed to find an association between perceptions of school connectedness and SI or SAs [13,15]. Inconsistency in results across these studies appear to be related to differences in covariates included in the models under investigation (e.g., depression, other support variables, school size, and so forth [13–15]) and the measure of social support used (i.e., teacher support vs. school connectedness).

The relative contributions of peer, family, and school support have been less well studied in the adolescent suicide literature. Some studies find that both peer and parental support maintain independent associations with adolescent SI when included in the same model in both community [16,17] and clinical [18] samples. Other studies with clinical samples find that perceptions of family support may be somewhat more important than peer support in understanding SI severity and SA risk [9,19]. In two school-based studies that included all three sources of support, parent support but not school or close friend support was independently associated with SI or an SA [13,15]. As is evident, the relative importance of various types of support to adolescent SI and SAs is not clear and warrants further investigation, particularly in clinical samples.

Given that the maintenance of healthy interpersonal relationships across social networks (parent, peer, and school) is important for healthy adolescent socioemotional development [20], the confluence of low support across multiple domains (i.e., low parent support and low peer support) may be associated with the greatest levels of SI and SAs. To our knowledge, only two studies have examined the interactive effects of perceptions of social support from various sources. Kidd et al. [15] examined the interactive effects of connectedness to parents, peers, and school in predicting the odds of SAs within the last year among 12,105 adolescents drawn form Add Health. Only greater school and parent connectedness were associated with lower odds of SAs among a subgroup of boys with a previous SAs history (n = 96) who reported lower connectedness. Kerr et al. [19] examined the relation between perceptions of support from three sources (parents, nonparent adults, and peers) and SI in a sample of 220 psychiatrically hospitalized adolescents. They found no interactions between these various sources of support. The present study will build on this literature to examine the relative importance of adolescent perceptions of parent, close friend, and school support in relation to current SI and SA history, as well as whether lower support across two of these social domains increases this risk in a clinical sample of adolescents. Knowledge of the relative importance of various types of social support to SI and behavior may help inform suicide risk assessment and treatment strategies with clinically distressed adolescents.

Hypotheses

Drawing from interpersonal theories of suicide and prior empirical research, the following hypotheses were offered:

1. We hypothesized that lower perceived support across three separate domains—parent, close friend, and school—will each be independently associated with higher SI. Further, the relationship between lower perceived school support and SI would be stronger among youth who report lower (vs. higher) parent support. Similarly, the relationship between lower perceived school support and SI would be stronger among youth who report lower (vs. higher) perceived close friend support. Finally, the relationship between lower perceived close friend support and SI would be stronger among youth who report lower (vs. higher) perceived parent support.

2. We hypothesized that lower perceived support across three separate domains—parent, close friend, and school—will each be independently associated with higher odds of an SA history. The relationship between lower perceived school support and higher odds of an SA history would be stronger among youth reporting lower (vs. higher) perceived parent support. The relationship between lower perceived school support and higher odds of an SA history would be stronger among youth reporting lower (vs. higher) perceived close friend support. Finally, the relationship between lower perceived close friend support and higher odds of an SA history would be stronger among youth reporting higher (vs. lower) perceived parent support.

Methods

Participants

Participants were 143 adolescents (range, 12–18 years; M = 15.38; standard deviation [SD] = 1.43) consecutively admitted to a partial hospitalization program (PHP) in an outpatient behavioral health facility in the Mid-Atlantic area. The PHP is a short-term crisis stabilization program for adolescents. The behavioral health center is located in a large suburban area outside a major city and accepts patients who are uninsured, privately insured, or on Medicaid. Patients present to the PHP with a variety of severe symptomatology including SI and behavior, nonsuicidal self-injury, school refusal, severe depression and anxiety, and/or externalizing behavior.

As part of standard care, patients and caregivers complete a clinical assessment battery designed to inform the patients’ treatment plan in the PHP. They are also asked for permission to include their responses to the assessment battery in a clinical research data bank maintained by the behavioral health facility. Data for the present study was drawn from this clinical research data bank. A total of 156 patients were assessed over an 11-month period, and 143 (92%) patients and caregivers provided informed assent/consent to include their information in
the clinical research data bank. All assessments were completed by trained clinical research staff and were uninvolved with the participants’ treatment. Study procedures were approved by the affiliated hospital and university institutional review boards.

Inclusion criteria for the current sample were (1) English speaking adolescents (ages 12–18 years) and (2) at least one caregiver to provide consent. Exclusion criteria included youth with (1) current psychosis and (2) those cognitively unable to provide assent. Participants were 64% female and identified as 81% white, 4% black, 6% Asian, or 9% from other racial backgrounds. Approximately 8% of the sample identified themselves as Hispanic or Latino in ethnicity. Mean family income was between $80,000 and $90,000, with a range of $0–$10,000 and $10,000–$100,000 or more.

Measures

**Child and Adolescent Social Support Scale.** The Child and Adolescent Social Support Scale (CASSS) [21] measures social support from parents, close friends, and school. For each scale, there are 12 items that measure emotional, informational, appraisal, and instrumental support. Items on the CASSS consist of statements such as “My parent(s) help me make decisions”; “People in my school nicely tell me when I make mistakes”; and “My close friend helps me when I’m lonely.” Participants rate how frequently they receive support using a six-point Likert scale (1 = never to 6 = always). Reliability for the CASSS is excellent in validation samples (α = .92 to .96; [22]) and the current sample (α = .94 to .96).

**Scale for Suicidal Ideation.** The Scale for Suicidal Ideation [23] is a 19-item self-report scale, which assesses the intensity of a person’s specific attitudes, behaviors, and plans in relation to committing suicide in the last week. Items are rated on a three-point Likert scale, with higher scores reflecting more intense thoughts about suicide. The Scale for Suicidal Ideation has strong psychometric properties, including excellent internal consistency (α = .90; [23]). Internal consistency in the current sample was excellent (α = .94).

**Self-Injurious Thoughts and Behaviors Interview—short form.** The Self-Injurious Thoughts and Behaviors Interview [24] is a structured clinical interview that assess SI, suicide plans, gestures, and attempts, as well as nonsuicidal self-injury. Each content area begins with a screening question that assesses lifetime presence of self-injurious thoughts or behavior. SAs with intent to die were coded as present/absent. Only actual (not aborted or interrupted) SAs were examined. The Self-Injurious Thoughts and Behaviors Interview has strong convergent validity, inter-rater reliability (K = .90), and test–retest reliability (K = .70+) [24].

**Youth Inventory-4.** The Youth Inventory-4 (YI-4; [25]) is a self-report rating scale that assesses symptoms of DSM-4 emotional and behavioral disorders in youths between 12 and 18 years old. The YI-4 has excellent psychometric properties and has shown strong reliability and convergent validity [25]. The YI-4 contains 120 items that assess symptoms of 18 disorders. The YI-4 yields Symptom Count scores that are summed to derive criteria for diagnosis. Major Depressive Disorder (MDD) diagnosis (yes/no) was used in the present study. Internal consistency for the MDD symptom count scale was acceptable (α = .83).

Data analytic strategy

All analyses used the SPSS statistical package (IBM SPSS Statistics for Windows, version 22.0; IBM Corporation, Armonk, NY). Preliminary bivariate analyses were conducted to examine distributional assumptions for linear and logistic regression analyses. Given that SI and SAs have been shown to consistently vary by depression [26] and sex [27], these factors were statistically controlled in main study analyses when significantly correlated with SI or SAs. Multivariate analyses were restricted to individuals with valid responses on all study variables (n = 125). To test Hypothesis 1, Beck Scale for Suicidal Ideation (BSS) scores were regressed onto sex and MDD diagnosis (Step 1), perceptions of parent support, school support, and close friend support (Step 2), and their interactions (Step 3). To test Hypothesis 2, SA history was regressed onto perceptions of parent support, school support, and close friend support (Step 1) and their interactions (Step 2). Consistent with recommendations by Cohen et al. [28], predictors were mean centered before forming their interaction term. Significant interactions were probed with simple slopes analyses to examine the strength of relationships between independent variables (X) and dependent variables (Y) at higher (1 SD above the mean) and lower (1 SD below the mean) values of the moderator (M).

Results

**Descriptive statistics**

Means and SDs of study variables were within the expected ranges for a clinical population (Table 1). All continuous variables were normally distributed with skewness and kurtosis values less than 1. Eighty-five percent of individuals in the present study reported some degree of SI in the past 7 days. Forty-three individuals (30%) reported a history of at least one SA with intent to die. Of the 43 SAs, 80% (n = 34) occurred within the prior year, 40% (n = 17) were within the last month, and 12% (n = 5) were within the prior week. Only 20% of the 43 (n = 9) SAs occurred before the last year. Methods of SAs included overdose (n = 27), sharp object (n = 7), hanging (n = 4), poison (n = 2), suffocation (n = 1), train/car (n = 1), and jumping from a significant height (n = 1).

**Preliminary bivariate analyses**

Pearson’s bivariate correlation coefficients (r) were computed to examine the relationships among SI, history of SAs, demographic variables, MDD diagnosis, and parent, close friend, and school support. Adolescents who were female (vs. male) and depressed (vs. nondepressed) reported significantly higher BSS scores. Sex and MDD diagnosis were not correlated with a history of SAs. Age was not correlated with either SI or SAs. Perceived parent support was significantly negatively associated with both SI and SAs. Perceived school support was significantly and negatively associated with SI, but not SAs. Perceived close friend support was not correlated with SI or SAs.

**Regression analyses testing moderators**

**Social support and suicidal ideation (Hypothesis 1).** In the model testing, the main effects (parent, close friend, and school) and interactions among types of perceived social support controlling for covariates (sex and MDD diagnosis; Table 2), there was a main effect of MDD diagnosis and perceived school support on severity
of SI. Specifically, individuals with versus without an MDD diagnosis reported significantly more severe SI. Furthermore, higher perceived school support was associated with less severe SI. There was no unique effect of perceptions of parent support or close friend support on SI. The only significant interaction was between perceived parent and school support on SI. A simple slopes analysis of this interaction revealed that lower perceived school support was associated with greater severity of SI among youth who reported lower (vs. higher) perceived parent support. When youth reported higher levels of perceived parent support, levels of school support were not associated with severity of SI. While lower perceived levels of school support were not associated with severity of SI reported lower but not higher perceived close friend support. Younger youth who reported lower levels of perceived school support did not report significantly different levels of SI based on perceived parent support (Figure 1). Overall, this model accounted for about 40% of the variance in SI.

Social support and suicide attempts (Hypothesis 2). Results from the logistic regression suggested a unique effect of perceived parent support, but not perceived close friend or school support on odds of an SA history. Specifically, lower perceived parent support increased the odds of an SA history. The only significant interaction across the three types of social support on an SA history was between perceived school support and close friend support (Table 3). A simple slopes analysis of the significant interaction revealed that lower perceived school support was associated with greater odds of an SA history among youth who reported lower but not higher perceived close friend support. Specifically, under lower levels of perceived close friend support, the relationship between perceived school support and odds of an SA history was significantly negative (slope = −1.06; z = −2.76; p < .01; 95% CI, −1.81 to −.31). Conversely, under higher levels of perceived close friend support, the association between perceived school support and odds of SA history was not significant (slope = .22; z = .97; p = .33; 95% CI, −.22 to .66) (Figure 2).

Discussion

This study is among the first to examine the relative importance of perceptions of school, parent, and close friend support in understanding SI and the odds of SA history in a clinical adolescent sample. Results suggest that perceptions of school support are independently and negatively associated with SI even after controlling for MDD diagnosis and sex. Moreover, this relationship is particularly strong among adolescents who also report perceptions of lower parent support. Notably, results also suggest that perceived parent support was independently associated with greater odds of an SA history in the sample as a whole and that perceptions of lower school and lower close friend support distinguished adolescents with versus without an SA history. These findings build uniquely on existing literature and suggest that perceptions of school, parent, and close friend support are important to understanding adolescent SI and SA history in a clinical sample.

**Suicidal ideation**

In partial support of the first hypothesis, lower perceived school support was independently associated with higher SI.
after controlling for MDD and sex. The association between school support and SI is consistent with some prior research in community samples [14]. Notably, lower perceived school and parent support was particularly salient in understanding SI. Individuals who perceived lower support from school and parents reported the highest levels of SI compared with all other individuals.

These results may be best understood when considered within the context of the current sample. Adolescents were assessed at intake into a PHP and were in a socioemotional or behavioral crisis (e.g., suicidal, school refusal, severe depression), which is often precipitated by negative interpersonal events. These adolescents also live in school districts with a national reputation for being academically rigorous and demanding. It can be difficult for adolescents with socioemotional difficulties to meet these academic demands. It is conceivable that adolescents with socioemotional difficulties who experience significant academic stress and perceive lower support within the school system may contemplate suicide as a means of escape. These suicidal thoughts are further heightened when adolescents do not perceive that their parents offer support to help with academic problems or other forms of stress. Such an explanation is consistent with the cognitive–behavioral theory of adolescent SI [29], which suggests that predisposed adolescents (i.e., those with socioemotional difficulties) who experience a significant stressor may have SI when their thoughts patterns (i.e., no one cares about me) and coping strategies (e.g., isolation or acting out behavior) are negative or unhelpful.

Surprisingly, perceptions of close friend support and parent support were not independently associated with concurrent SI after controlling for MDD and sex. Thus, these study results suggest that school support may play a larger direct role in SI than other forms of support. Further, there were no interactions of perceived school support and close friend support or perceived parent support and close friend support. This finding is consistent with one prior study that also failed to find interactions between perceived parent and peer support and adolescent SI [19].

### Suicide attempts

A different pattern of findings emerged when examining correlates of an SA history. In partial support of Hypothesis 2, perception of lower parent support was independently associated with the odds of SA history in the sample as a whole. These

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N = 125.

*p < .05.

CI = confidence interval; OR = odds ratio; SE = standard error.
results are consistent with prior research that has also found an association between lower perceived parent support and SAs [9,23]. Unique to the literature, perceptions of lower school support when paired with lower perceived close friend support was associated an SA history. In general, these results may suggest that adolescents in the present clinical sample have home environments that are low in warmth and/or high in conflict [30], which may negatively affect their perceptions of support. Against this backdrop, the addition of lower perceived school support and lack of close friends to confide in may leave adolescents feeling alone and isolated. This potential explanation is particularly concerning, given the social support [10] and past SA history [31] increase risk for future SAs. This conceptualization is consistent with the IPTS, which suggests that lack of support and isolation (i.e., thwarted belongingness) is associated with SI and SAs, especially when paired with painful and provocative experiences [32]. Indeed, many youth requiring a PHP level of care have a history of painful and provocative events (e.g., traumas, nonsuicidal self-injury, and so forth), which, according to this theory, increases the likelihood that SI will progress to SAs.

**Limitations**

Results from the present study should be interpreted within the context of methodological limitations. First, data from the present study were cross-sectional and thus do not address causality. Future prospective studies should be conducted to examine timing of the constructs under investigation. Second, the current sample included clinically distressed adolescents in a PHP. Although this is one of the highest risk groups for suicide and thus warrants significant attention, the results of this study should be considered context dependent until replicated with community-based samples. Third, this sample was predominantly female, white, and socioeconomically advantaged. Results may not generalize to heterogenous samples. Fourth, the sample size for the present study was relatively small and may have been underpowered to detect multiple significant interactions. Future studies with larger and more diverse samples may be sufficiently powered to test three-way interactions among all three types of perceived support. Fifth, this study examined history of SAs rather than prospective SAs. Although the majority of SAs in the current sample were relatively recent (within the last month to year), future research is needed to examine whether study results are replicated using a longitudinal design. Finally, adolescent reports of their perceptions of social support could have been biased by concurrent depressive symptoms [33]. However, prior research suggests that perceptions of social support yield variance unique of concurrent psychopathology [19,34].

**Clinical implications**

Results highlight the importance of assessing for perceptions of social support from close friends, family, and school staff among clinical youth. Moreover, all three areas of social support should be targeted in the context of intervention when indicated. This may include family work, such as attachment-based family therapy [35], to facilitate improved communication, positive family interactions, and greater cohesion. Individual work to improve interpersonally focused problem solving, affect regulation, and assertive communication skills may also help to enhance positive and supportive connections with others. Within the school setting, adolescents may require psychoeducational evaluations or academic accommodations to assess for and address academic problems that may contribute to school stress and lack of perceived support [36]. Moreover, mental health and school staff must work together to develop and implement successful transition plans for youth who re-enter school after a period of absence because of an SA or period of heightened SI. More generally, it will be important for school staff to be trained to recognize warning signs for youth suicide, approach youth in a supportive and nonjudgmental manner, and clinical make referrals as necessary. Psychoeducation to dispel myths and stigma associated with mental health problems will also yield a more supportive school environment [36]. Finally, efforts to build and promote positive prosocial peer support networks through community organizations, service-oriented organizations, and appropriately monitored extracurricular activities may also help to prevent future suicidality.

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