Emotional trust in mothers serves as a buffer against suicide attempts in inpatient adolescents with depressive symptoms

Amanda Venta, Ph.D.
Sam Houston State University

Claire Hatkevich, M.A., Carla Sharp, Ph.D.
University of Houston

Ken Rotenberg, Ph.D.
Keele University
Abstract

Emotional trust is conceptualized as an individual’s belief that others are not critical of personal disclosures and will maintain their confidentiality. Accordingly, adolescents who hold high emotional trust in their parents are inclined to disclose troubling thoughts (e.g., those related to depression or suicide), and in turn receive emotional support as well as practical assistance in managing these thoughts, thereby mitigating the risk of suicide attempts. To date, emotional trust has not been examined as a protective factor against depression and subsequent suicidal behaviors; the broad aim of the present study was to examine this relationship. One hundred and forty five adolescents were administered measures of emotional trust in their mothers, depressive symptoms, and suicide attempts. Hierarchical regression analyses indicated that adolescents’ emotional trust in their mothers moderated the relation between depressive symptoms and suicide attempts. When emotional trust in mothers was low or medium, depressive symptoms were positively associated with suicide attempts, but, when emotional trust in mothers was high, there was not a significant relation between depressive symptoms and suicide attempts. These findings indicate that emotional trust in mothers serves as a buffer of the effects of depression on suicide attempts. Conversely adolescents experiencing elevated depressive symptoms who had low emotional trust in mothers were at high risk of suicide attempts, presumably because their low trust has precluded self-disclosure and, thus, suicidal and depressive thoughts could not be resolved by maternal discussion and support. Results suggest that interventions promoting adolescents’ emotional trust in their mothers may be effective in reducing the risk of suicide attempts for adolescents with psychiatric disorders, particularly depression.

Key words: depression, suicide, trust, mother, adolescent
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Depression and suicide are major public health concerns among adolescents, for whom suicide is the 3rd leading cause of death (CDC, 2013). Among adolescents, relations between depressive symptoms and suicide attempts have been clearly established and depression has been highlighted as one of the strongest predictors of suicide attempts (e.g., Fordwood, Asarnow, Huizar, & Reise, 2007; Spirito, Valeri, Boergers, & Donaldson, 2003). However, it should certainly be noted that not all adolescents experiencing depressive symptoms will make a suicide attempt—highlighting the importance of examining moderating, protective factors in this relation. A number of studies (Bostik & Everall, 2006; Bearman & Moody, 2004; Prinstein, Boergers, Spirito, Little, & Grapentine, 2000; Venta, Mellick, Schatte, & Sharp, 2014) and theoretical models (e.g., Joiner, 2005) have pointed to the importance of examining interpersonal variables when considering links between depressive symptoms and suicide attempts. The broad aim of the present study was to add to this literature base by examining the role of trust in mothers as a moderating variable in the relation between depressive symptoms and suicide attempts in a sample of adolescents in an inpatient psychiatric hospital.

In the present study, we were particularly interested in examining the role of emotional trust in mothers in relation to depression and suicide attempts. Emotional trust beliefs are defined as believing that another will refrain from causing emotional harm and will maintain one’s confidentiality (Rotenberg, 2010; Rotenberg et al., 2010). According to the emotional trust belief hypothesis, children’s emotional trust beliefs in others are associated with their disclosure of personal information, based on the belief that self-disclosure will be both non-harmful and potentially helpful (Rotenberg, Petrocchi, Lecciso, & Marchetti, 2014). In turn, self-disclosure
promotes reciprocal exchanges between the child and the trusted individual, which can serve to scaffold the development of theory of mind abilities (Rotenberg et al., 2014) as well as provide emotional support and practical assistance in times of need. For adolescents, it may be that being able to place emotional trust in a caregiver plays an important role in mitigating the effect of depressive symptoms on suicide attempts; that is, adolescents who hold high emotional trust in their parents are inclined to disclose depressive and suicidal thoughts to them, and in turn these thoughts are resolved through discussion and support, thereby mitigating the risk of suicide attempts.

No prior research has examined emotional trust in relation to depression and suicide attempts among adolescents. However, research on adolescent-caregiver relationships, more generally, suggests that relational variables are critical in understanding adolescent depression and suicide attempts. For instance, Lester and Gatto (1990) demonstrated that considering interpersonal trust improves the degree to which depressive symptoms predicted suicide ideation in a small sample of community adolescents. Further support for the importance of caregiver relationships in adolescent depression and suicide can be found in the broader literature bases on interpersonal trust and attachment security. For example, higher interpersonal trust has been associated with reduced internalizing symptoms in adolescents (Rotenberg, Sharp, & Venta, under review), and secure attachment relationships with caregivers have been linked with reduced depression (Armsden, McCauley, Greenberg, Burke, & Mitchell, 1990) and suicidality (de Jong, 1992) among adolescents. Moreover, adolescents with psychiatric symptoms who perceive their caregivers as unavailable engage in more suicidal behaviors (West, Spreng, Rose, & Adam, 1999). Lack of emotional connectedness to caregivers is also commonly reported among individuals experiencing suicidality in adolescence (Bostik & Everall, 2006). Together,
these studies indicate that interpersonal factors are important variables in uncovering relations between adolescent depression and suicide.

Despite this foundational work, focused research on interpersonal trust, depressive symptoms, and adolescent suicidality remains scarce. To our knowledge, only one direct empirical investigation of this relation exists (Lester & Gatto, 1990). Overall, this study found that generalized interpersonal trust and depressive symptoms interact to predict suicidal ideation in a sample of adolescents. While pointing to an important area of future investigation, Lester and Gatto’s (1990) study is limited in that their conceptualization of interpersonal trust was generalized, and therefore cannot describe how depression and suicide relate to trust in specific relational domains (e.g., parental, peer, and romantic). Moreover, the study sample was recruited from a high school course and their outcome variable was limited to thoughts about suicide as captured on the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). To our knowledge, no empirical work has yet considered the relation of interpersonal trust to depressive symptoms and adolescent suicide attempts and, moreover, nothing is currently known about how these variables relate in a clinical sample of adolescents. Further, no prior research has specifically examined links between emotional trust in caregivers and depression or suicide attempts among adolescents. These represent especially notable limitations, given that diminished trust may well be an interpersonal factor that places adolescents experiencing depressive symptoms at greater risk of making a suicide attempt.

Against this background, the aim of the current study was to examine relations between trust, depression, and suicide attempts in an ethnically diverse sample of psychiatric inpatient adolescents. The present study chose to specifically examine the role of emotional trust (i.e., believing that the other will refrain from causing emotional harm and will maintain
confidentiality, Rotenberg, 2010) in mothers as a potential buffer against suicide attempts among inpatient adolescents. Adolescents in an inpatient unit were administered standardized measures of emotional trust in mothers; depression and suicide attempts were assessed. It was expected that emotional trust in mothers would serve as a buffer of the effects of depression on suicide attempts. Specifically, we hypothesized that emotional trust in mothers would serve as a moderator in the relation between depression and suicide attempts, expecting that adolescents with high levels of emotional trust in their mothers would not demonstrate a significant relation between depression and suicide attempts. Evidence of a significant moderation would suggest that emotionally trusting adolescents disclose and therefore resolve depressive and suicidal thoughts and, thus, are protected from suicide attempts.

Method

Participants

Consecutive admissions to the 16-bed adolescent unit of a county psychiatric hospital were approached for parental consent on the day of admission. Recruitment was from an acute psychiatric unit that serves the local community including the impoverished population of a large metropolitan area in the United States. Of those with parental consent, 64 declined, 143 were discharged prior to completion of the assessments (given the acute, brief stay nature of most admissions to the unit), 7 revoked consent, 58 were erroneously consented, and 39 were excluded from the study (see Procedures). Therefore, the original sample was reduced to 145 adolescents with proper consent/assent, inclusion, and completion of main study measures. Approximately 63.4% of the sample (n = 92) was female and the average age was 14.779 years (SD = 1.441). The sample was ethnically diverse and the breakdown was as follows: 40.0%
Hispanic, 29.7% African-American, 24.8% Caucasian, 2.8% Multiracial, 1.4% Southeast Asian, and 1.4% who identified as “Other” or chose not to respond.

**Procedures**

This study was approved by the appropriate institutional review boards. At admission, parents were given the opportunity to consent in English or Spanish and, following parent consent, adolescents were approached for assent. Because the study procedures required English fluency, adolescents could only consent in English. The inclusion criteria adopted were English fluency, voluntary admission to the hospital, age between 12 and 17 years, and capacity to participate in research. Capacity to participate was determined by the attending psychiatrist and adolescents with severe psychosis, Intellectual and Developmental Disabilities, and those who posed a physical danger to research assistants were not determined to have adequate capacity. Adolescents were excluded if they failed to meet all inclusion criteria. Assessments were administered in a quiet private room with a graduate research assistant in clinical psychology present. Training on all study measures included observing the protocol being administered by senior doctoral psychology students and then being observed by the principle investigator (CS). Periodic site visits by the principle investigator were conducted in order to curtail deviations from protocol. In all instances, interviewers were blind to the diagnostic status of the adolescent being assessed.

**Measures**

**Depression.** The Beck Depression Inventory was used as an indicator of depression. The Beck Depression Inventory II (BDI-II; Beck, Steer, & Brown, 1996) is a 21-item self-report inventory to assess the severity of depressive symptoms. Each item is rated on a 0-3 scale and, thus, total scores range from 0-63. The internal consistency, factor structure, and validity of BDI-
II have been previously evaluated (Beck et al., 1996) and the measure has been used with adequate validity among inpatient adolescents (e.g., Cronbach’s alpha = .92 in Grover, Green, Pettit, Monteith, Garza, & Venta, 2009 and Cronbach’s alpha = .92 in Venta et al., 2014). In the present study, Cronbach’s alpha for the BDI-II was .930.

**Emotional trust in mothers.** Participants completed the 12-item Children’s Generalized Trust Belief scale (CGTB; Rotenberg et al., 2005) which is designed to assess the extent to which they believe that significant others (e.g., mothers) have emotional trustworthiness. Items assessing emotional trust are as follows: “Christina tells her mother that she held hands with a boy…but asks her mother not to tell anyone. How likely is it that Christina’s mother will not tell others[?]” and “Angela’s mother accidentally rips Angela’s favorite blouse…How likely is it that Angela’s mother will tell Angela about what happened?” (Rotenberg et al., 2005). The CGTB has been found to show construct validity by factor analyses and correlations with other comparable measures of trust beliefs (Rotenberg et al., 2005). The scale has been found to show construct validity by factor analyses and correlations with other comparable measures of trust beliefs (Rotenberg et al., 2005). Higher scores denote greater trust beliefs.

**Suicide Attempts.** Lifetime and past number of suicide attempts were assessed with a sociodemographic questionnaire including items pertinent to hospital admission and history of suicidal thoughts and behaviors. Suicide attempt history was assessed with frequency, dates, and a narrative description of attempts elicited by the assessor. Appropriate probing and follow-up questions were used to gather relevant information. For the current study, an untransformed, continuous frequency count of lifetime suicide attempts was used for each participant.

**Data Analytic Strategy**
Descriptive and bivariate analyses were conducted to examine relations between emotional trust with mothers, depression, and suicide attempts. Hierarchical linear regression analyses were conducted to test whether emotional trust with mothers moderated the relation between adolescent depression and number of suicide attempts. The steps of the hierarchical regression were as follows: Step 1: depression, Step 2 emotional trust in mothers, and Step 3 interaction term. The dependent variable was suicide attempts.

Results

Descriptive Statistics

Descriptive statistics for all key study variables were as follows: depression $M = 22.290$, $SD = 13.612$, $min = 0$, $max = 55$; suicide attempts $M = 1.083$, $SD = 1.451$, $min = 0$, $max = 10$; and emotional trust with mothers $M = 5.814$, $SD = 2.167$, $min = 2$, $max = 10$.

Bivariate analyses revealed significant relations between main study variables such that suicide attempts were positively correlated with depression ($r = .365$, $p < .001$). However, at the bivariate level, the moderating variable, emotional trust with mothers, did not demonstrate statistically significant relations with depression ($r = -.155$, $p = .064$) or suicide attempts ($r = -.101$, $p = .226$).

Moderation Analyses

Hierarchical regression analyses were conducted to explore the effects of depression and adolescents’ emotional trust beliefs in mothers on suicide attempts. Analyses showed that adolescents’ emotional trust beliefs in mothers moderated the relation between depression and suicide attempts ($B = -.007$, $SE = .004$, $\beta = -.488$, $t = -2.121$, $p = .036$). The step-wise results of the hierarchical regression are reported in Table 1. The slopes of the relation between depression and suicide attempts as a function of three levels of emotional trust beliefs in mothers
are shown in Figure 1. When emotional trust in mothers was low or medium, depression was positively associated with suicide attempts (low: \( n = 21, r = .678, p = .001 \); medium: \( n = 91, r = .294, p = .005 \)), but when emotional trust in mothers was high, no statistically significant relation between depression and suicide attempts was noted (\( n = 33, r = .287, p = .105 \)).

**Table 1**

**Figure 1**

**Discussion**

The aim of the current study was to examine relations between emotional trust, depressive symptoms, and suicide attempts in an ethnically diverse sample of psychiatric inpatient adolescents. Findings of the present study indicate that emotional trust in mothers serves as a buffer of the effects of depressive symptoms on suicide attempts, such that there is no statistically significant link between depressive symptoms and suicide attempts among adolescents who are high in emotional trust beliefs with their mothers. This finding suggests that high emotional trust in mothers buffers against the expected effect of depression on suicide attempts risk among adolescents. On the other hand, adolescents who reported elevated depressive symptoms but had low emotional trust in their mothers were at high risk of suicide attempts. Although self-disclosure was not directly assessed in the present study, the emotional trust belief hypothesis suggests that these adolescents likely did not disclose their depressive and suicidal thoughts to their mothers, due to low emotional trust beliefs, and, thus, suicidal and depressive thoughts could not be resolved by maternal discussion and support, leading to suicide attempts. This explanation remains an important area for future research, as several other possible mechanisms (described below) may also have driven the protective effects of high emotional trust noted in this study.
The fact that interpersonal trust seems to protect adolescents from making suicide attempts in the presence of depressive symptoms is consistent with several models of suicide risk. Joiner’s interpersonal-psychological theory of suicidal behavior (2005), a widely accepted conceptualization of suicide risk, suggests that the desire for death is driven by negative interpersonal beliefs (i.e., perceived burdensomeness and thwarted belongingness). Venta and colleagues (Venta, Mellick, Schatte, & Sharp, 2014) built upon Joiner’s (2005) theory, by demonstrating that, in inpatient adolescents, these negative interpersonal beliefs are associated with depression, suicide-related thoughts, and maternal attachment insecurity—providing tentative evidence that insecure attachments produce interpersonal beliefs that, in turn, increase vulnerability for depression and suicide-related thoughts in teens. In the context of these models, the findings of the present study suggest that perhaps emotional trust beliefs in mothers serve as an antidote to the interpersonal beliefs implicated in both models (i.e., perceived burdensomeness and thwarted belongingness). In Cognitive Behavioral terms, perhaps emotional trust beliefs are adaptive cognitions that protect adolescents from developing maladaptive interpersonal cognitions that would place them at greater risk of suicide attempts.

The findings of the present study are also consistent with models suggesting that social support acts as a buffer against stress and thereby reduces the deleterious effects of stress (e.g., suicide attempts). Support for this stress-buffering model of social support has been found among adolescents (e.g., Cohen & Wills, 1985) and, moreover, trust beliefs have recently been identified as serving a stress-buffering role among inpatient adolescents. Indeed, Rotenberg, Sharp, and Venta (under review) reported that inpatient adolescents high in trust beliefs displayed lower internalizing maladjustment in the context of interpersonal stress. Adolescents with lower levels of trust beliefs did not evidence the same buffering effect. It may well be that,
in this study, adolescents with high emotional trust beliefs experienced this stress-buffering effect and that therefore their experience of depressive symptoms (or other stressors) was less intense, rendering the link between depression and suicide attempts non-significant. Research on Interpersonal Psychotherapy for adolescent depression (Mufson, Dorta, Moreau, & Weissman, 2004) provides support for this hypothesis by demonstrating the effective reduction of adolescent depressive symptoms when the interpersonal domain is targeted in psychotherapy. This evidence-based treatment for depression is built upon the theory that mental health is contingent upon positive interpersonal relationships (Jacobson & Mufson, 2010)—a proposition that is supported by the current study’s results.

The findings of this study should be interpreted tentatively at this time, given that analyses were based on a cross-sectional design that precludes causal interpretations and conclusions regarding the true relation of emotional trust beliefs to suicide risk prospectively. Several other limitations should be noted. First, emotional trust with mothers may not fully reflect the extent of an adolescent’s emotional trust with their caregiver. In other words, inpatients in the current study may have other important interpersonal relationships (e.g., biological father, grandparents, older siblings) in whom they place emotional trust. Future research should explore trust beliefs with regard to these other individuals in relation to suicide and depression. Second, our study cannot speak to the mechanism by which emotional trust beliefs buffer against the effects of depressive symptoms on suicide attempt risk. A likely mechanism for exploration in future research is the aforementioned emotional trust belief hypothesis related to self-disclosure; that is, adolescents with higher levels of emotional trust may disclose more personal information to their mothers, which may have acted as a third variable buffering the effects of depression on suicide attempts. Future research should explore
the effect of adolescent self-disclosure as it may be critically important in enabling the adolescent’s mother to seek immediate mental health support for their adolescent or assist in resolving troubling thoughts associated with depression and/or suicide, preventing a subsequent attempt. Understanding both the emotional and instrumental benefits of emotional trust beliefs requires further exploration of these variables in relation to adolescent self-disclosure and parental reactions to that disclosure.

Despite these limitations, the study is strengthened by a focused investigation of the buffering effects of maternal emotional trust on the relation between depression and suicide attempts in inpatient adolescents. Revealing that adolescents’ emotional trust with mothers mitigates the effect of depression on suicide attempt risk, the current study sheds light on an important possible protective factor to be examined in prospective studies. Findings likewise hold important implications for the interpersonal theory of suicide (Joiner, 2005), suggesting that emotional trust may lessen the impact of maladaptive interpersonal beliefs (i.e., thwarted belongingness, perceived burdensomeness) underlying depression on subsequent suicide risk. Moreover, the present study suggests that emotional trust beliefs may be an important, malleable treatment target, which may be helpful to target in existing clinical interventions for depression and suicidality. Support has indeed accumulated for family focused interventions for youth self-injurious thoughts and behaviors (Glenn, Franklin, & Nock, 2015); for instance, attachment-focused treatments (e.g., Attachment-Based Family Therapy; Diamond, Reis, Diamond, Siqueland, & Isaacs, 2002; Diamond et al., 2010) focus on strengthening rapport between adolescent and caregiver, and fostering disclosure in the context of a supportive, empathic environment in order to decrease depression and suicidality. Acute care interventions may
further benefit from bolstering emotional trust between adolescent and caregiver, and identifying active barriers to self-disclosure and the belief that confidentiality will be maintained.
References


Rotenberg, K., Sharp, C., & Venta, A. (under review). The relationship among trust beliefs in significant others, stress, and internalized maladjustment for adolescent in an inpatient psychiatry unit.


Table 1

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<td>-.488</td>
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Notes. High trust = 1SD above the mean, Medium = mean, Low = 1SD below the mean.

Depression variable has been centered for illustrative purposes. Correlations between suicide attempts and depression by level of emotional trust in mother are as follows: low $r = .678$, $p = .001$; medium $r = .294$, $p = .005$; high $r = .287$, $p = .105$. 