

## Suicide Ideation among the Adolescents: An Exploratory Study

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**Abstract:** Despite the plethora of research on adolescents suicidal ideation, it is still not clear whether suicidal thoughts are common during the developmental period of adolescence. This study was undertaken to determine the lifetime prevalence, frequency and intensity of suicide ideation in a random sample of undergraduate university students (n = 97). Based on developmental theory, it was hypothesized that ideation would be common and that it would not vary by socio-demographic or psychological variables. Among ideators, it was expected that the intensity and frequency of ideation would vary much in the same as more serious forms of suicidal behavior. Although, ideation was common among the respondents and there were no demographic or psychosocial differences between ideators and non-ideators, the findings related to intensity and frequency of ideation did not follow the expected pattern. Gender and race were not associated with frequency or intensity of ideation and the only significant psychological predictor of both frequency and intensity of ideation was hopelessness. Tolerance towards suicide and an experience with a family or friend's suicidal behavior were also significantly correlated with intensity of ideation.

**Key words:** Adolescents, prevalence, psychological variables, suicidal behavior, respondents, intensity

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### INTRODUCTION

#### Is suicide ideation a common experience of adolescence?

A threefold increase in the rate of suicide among adolescents since 1950 has spawned a number of studies aimed at explaining this phenomenon (Holinger *et al.*, 1988; Smith and Crawford, 1986). However, the study of suicidal behavior has been plagued with problems of prediction (Leenaars, 1995). Although, some have argued that suicidal behavior should be conceptualized as a continuum from thoughts to completion (Paykel *et al.*, 1974), there is evidence that even among adolescents with severe ideation, most do not actually make attempts (Glanz *et al.*, 1995). Therefore, suicidal thoughts do not predict more serious suicidal behavior and ideation alone does not involve lethal behavior. Later estimates of the prevalence of suicidal ideation among adolescents range from a high of 70% (Rich and Bonner, 1987) to a low of 6% (Wright, 1985). These disparate findings can be attributed to difference in measurement, sampling and the time frame in which ideation is considered. Consistently, self-administered or anonymous questionnaires have yielded higher rates of ideation than face to face interviews (Schotte and Clum, 1982). Sampling issues, including the use of convenience samples of psychology students and non-random selection, pervade the ideation literature. Finally, studies which have queried lifetime ideation (Bolger *et al.*, 1989) arrive at much higher rates than those that ask about a more limited timeframe. For instance in the CDC (1991) Youth Risk Behavior Study

researchers found that 27.3% of all students in grades 9 through 12 reported that they had thought seriously about suicide in the past 12 months. When respondents have been queried about lifetime ideation, the proportion who admit to ideation increases to approximately 60% (Friedman *et al.*, 1987; Strang and Orlofsky, 1990).

Despite the plethora of research on the topic, it is still not clear whether suicidal thoughts are typical or atypical of adolescence. Given the sensitive nature of and the stigma attached to suicide, it is more likely that ideation is under reported rather than over-reported among young people. Placing the discussion of suicidal thoughts within the context of the adolescent stage of development may offer a fuller understanding of why ideation and other forms of suicidal behavior increase dramatically at this point in the life span (Bolger *et al.*, 1989; Holinger *et al.*, 1988; Erikson, 1980) asserts that the adolescent experiences biological and psychosocial changes which create a developmental crisis. Coupled with these biological and psychosocial changes is the adolescent's capacity to engage in abstract thought (Inhelder and Piaget, 1958). Hacker (1994) contends that the focus of the adolescent's abstract thinking is on gaining a deeper and more profound self awareness. The further purports that adolescent behavior can be viewed as a defence mechanism in response to conflict arising from the existential concerns of isolation, death, meaninglessness and choice. Among the possibilities or alternatives adolescents are cognitively capable of considering in

response to their developmental crisis is suicide. Not only are they cognitively able to imagine their own death but the adolescent's search for identity and preoccupation with the meaning of life may lead the young person to consider suicide.

Based on the available literature regarding suicide ideation and the developmental issues of adolescence, the following research questions are posed:

- Is suicide ideation common (>50%) during adolescence?
- Among ideators what is the severity of the ideation in terms of intensity and frequency?
- Do ideators and non-ideators differ significantly on the following socio-demographic or psychological variables; gender, ethnicity, self-esteem and hopelessness?

In this study, ideation is conceptualized as a multidimensional construct consisting of both the thought of suicide and the degree of intensity and frequency accompanying the thought. Intensity and frequency can range from fleeting thoughts occurring one time to obsessive thoughts accompanied by serious planning. Since those on the severe of the ideation continuum are likely to resemble adolescents who engage in more serious suicidal behavior, it is instructive to utilize the existing body of literature to identify factors that may explain intensity and frequency. In this study it is suggested that variables such as hopelessness (Morano *et al.*, 1993; Schotte and Clum, 1982), self-esteem (Bonner and Rich, 1987; Horowitz *et al.*, 1994) and a prior experience with a family member's suicidal behavior are among the most important factors in explaining adolescent suicidal behavior. In terms of demographic variables given that suicidal attempts are more frequent than completions and girls are more likely to make attempts than boys (Ellis and Range, 1989), it follows that white adolescents should have higher levels of intensity and frequency of ideation. The next set of questions relate to differences within the population of ideators:

- Is there a negative correlation between self esteem and intensity as well as frequency?
- Is there a positive relationship between hopelessness and intensity and frequency of ideation
- Do females report higher levels of ideation intensity and frequency than males?
- Is there differences in levels of ideation intensity and frequency between Whites non-Whites?

These questions were explored in a randomly selected population of undergraduate university students, who due to their status as young adults have had full exposure to adolescence. This population of young people is therefore, close enough to adolescence to have good recall but old enough to have the full experience of this developmental stage. This exploratory study potentially contributes to the suicide and the developmental literature in the following ways. First, absent from the literature are studies which have used developmental theories as a basis upon which to explore the possible normative aspects of suicide ideation during adolescence.

Secondly, the conceptualization of ideation as a multidimensional construct consisting of both the thought of suicide as well as its intensity and frequency has not been widely applied in the field.

Finally, use of developmental theory in tandem with the concept of ideation as a multi-dimensional construct provides a theoretical foundation for answering the question of whether suicide ideation is typical or atypical of adolescence. Approaching the question of suicide ideation from this perspective has implications for both future research and interventions with adolescents. For instance, Noppe and Noppe (1991) point out that death education programs are an appropriate place to deal with the adolescent tension between life and the option of suicide. However, data regarding the degree to which ideation is typical during adolescence are important to the design and development of these programs. Finally that these questions were explored in a random sample of undergraduate students sets this study apart from other university based studies which have mainly relied on convenience samples of students in particular courses.

## **MATERIALS AND METHODS**

**Sample selection:** The study was conducted at a private urban university with a student body of approximately 10,000 undergraduates. A random sample of one percent of the under-graduate student population was selected, excluding foreign students ( $n = 100$ ). A complete listing of students, including addresses and phone numbers was obtained from the University Student Directory. About 1% of students with a last name in each letter of the alphabet was randomly selected.

The subjects were contacted by telephone by graduate students who were knowledgeable about the aims of the study and had been trained in the use of the questionnaire. The interviewers explained the purpose of the study and arranged to meet the potential subjects at a mutually convenient time and place. On meeting the

respondent, the interviewer reviewed the purpose of the study, obtained informed consent and conducted a face to face interview which lasted for approximately 25 min. Subjects were reimbursed in the amount of \$10.00 in appreciation of their time.

**Description of the sample:** A total of 100 students were interviewed although three were subsequently dropped from the analysis because they were in their late twenties and therefore beyond the usual undergraduate age. The sample was evenly distributed between males (50%) and females (50%). The majority were Caucasian (66%) with the remainder either Asian (18%), Latino (8%) or African American (8%). Over a third were freshmen (41%), approximately a quarter were sophomores (25%) or juniors (21%) and (13%) were seniors. The average age was 20.1 with a range from 18.3-22.9 and over half (57%) had obtained a loan, grant or job in order to make it possible for them to attend the university.

There were no statistically significant differences between the sample and the university's under graduate population in terms of race or gender. Undergraduates are comprised of 56% males and 71% Caucasian followed by 19% Asian, 6% African American and 4% Hispanic. The distribution by class seniority consisted of 25% freshmen, 25% sophomores, 23% juniors and 27% seniors.

**Instruments:** The data were obtained through a structured questionnaire which included demographic data such as age, gender, ethnicity, grade point average, college major, SAT scores and college year. Students were also asked if they required a loan, grant or job to attend the university. Given that college students are usually financially dependent upon their parents, this question was asked in order to obtain a proxy measure of income. In addition to these demographic variables, the questionnaire included standardized measures of self-esteem and hopelessness and questions regarding all types of suicidal behavior, recent experiences of loss and tolerance toward suicide.

**Weighing procedure:** Although, it is generally assumed that each item on a scale has equal importance, this supposition is empirically as well as theoretically questionable. Therefore, in order to make the scales more reflective of the study population's true construct measures, a procedure which weighs each item in the scale according to its relative importance was employed. The scale items were factors analyzed and the factor coefficient was used to weigh the items in each of the

scales. This procedure was used with the tolerance, self esteem and hopelessness scales. These scales were weighted using the following equation:

$$S = (x_i - \bar{x}) * C / Q$$

S = Weighted scale scores

$\bar{x}$  = Item mean

$x_i$  = Item score

C = Factor score coefficient

Q = Standard deviation of item x

**Suicide ideation:** Ideation prevalence, frequency and intensity were measured as well as prior suicide plans and attempts. This section of the questionnaire was introduced by a statement in which the purpose of the study was reiterated, respondents were assured that thoughts of suicide do not necessarily indicate abnormality and the stigma of suicide was acknowledged. Given the negative feelings respondents may have individuals who engage in suicidal behaviors and the objective of the research which was to measure the full continuum of ideation from transient thoughts to preoccupation with suicide, we felt it was important to both acknowledge the stigma of suicide and to assure respondents that it is not necessarily abnormal to ideate. Since respondents were not told that ideation was normal, the risk that non-ideators would feel compelled to admit to ideation was considered minimal.

Suicidal ideation was measured by a yes or no response to the following question: Have you ever thought about your own death from suicide? If the subject admitted to ideation, the interviewer then asked on a scale of 1 = infrequently to 10 = very frequently, how often the subject had these thoughts. The respondent was also asked about how intense these thoughts were from 1 = fleeting to 10 = very intense. Finally, those who admitted to ideation were asked, when your thoughts of suicide were at their strongest, did you; 1 = just think about it; 2 = think about the method; 3 = get the means = attempt suicide. In any retrospective study, the degree of recall is a question. In this study, the subject is such that one is not likely to easily forget and if there is some loss due to poor recall, it would work against the hypothesis that ideation is a common experience of adolescence.

**Self esteem:** The Hare Self-Esteem Scale (HSS) is a 30 items instrument that measures self-esteem in the areas of peer, school and family relationships. Items are measured on a four-point Likert-type scale from 1 = strongly disagree to 4 = strongly agree with higher scores indicating higher self-esteem. Test-retest correlations

indicate fair stability, ranging at three month retest from the 0.56-0.65 for the subscales and 0.74 for the general scale. The HSS scale correlated at 0.83 with both the Coopersmith Self-Esteem Inventory (Coopersmith, 1981) and the Rosenberg Self-Esteem Scale (Rosenberg, 1965) indicating good concurrent validity. The weighted range was 3.08-2.03 with median of 0.02.

**Hopelessness:** The Beck Hopelessness scale (Beck and Steer, 1993) consists of 20 true or false statements that assess the extent of negative expectancies about the future. The Kuder Richardson 0.20 was 0.91 indicating high internal consistency. The correlation between 1 week test-retest scores in a clinical population was 0.69. Concurrent validity is good based on correlations between the scale and clinical ratings of hopelessness which ranged from the 0.74-0.62. The weighted range was -1.95-3.96 with a median of -0.30.

**Tolerance toward suicide:** Attitudes about suicide were measured by eight items which included statements indicating a non-judgmental attitude toward suicide victims such as it is not my place to judge whether someone is wrong in committing suicide or under certain conditions it makes sense to commit suicide and statements that clearly attribute negative value such as suicide is a sin. Each of the eight items was scaled on a Likert-type scale from 1 = strongly disagree to 5 = strongly agree and factor analyzed. This produced two distinct factors one containing four variables with high factor scores for the variables indicating tolerance toward suicide behavior and another comprised of four variables with high factor scores for those variables indicating intolerance. The factor with high factor scores for tolerance and lower factor scores for intolerance items was selected. The weighted scale yielded a range between -2.66 and 2.19 with a median of -0.14. Higher scores indicate greater tolerance.

**Previous experience with suicidal behavior:** To determine the extent to which respondents had been exposed to the suicidal behavior of others in their network, respondents were asked: To your knowledge have any friends or family members threatened, attempted or committed suicide? This item was measured as a dichotomous variable with a 1 = yes or 2 = no response format.

## RESULTS

**Is suicide ideation common experience of adolescence?** Ideation proved to be a common experience among the young adults sampled. Over two-thirds (66.7%) admitted to suicidal ideation at some point in their lives. The age of ideation ranged from 8-21 years of age with a mean of 15.8.

Almost three quarters (74%) of those who admitted to ideation indicated that they ideated between the ages of 14 and 19 years. Only 1.5% reported ideation before the age of 10 and <6% of the respondents reported ideation before the age of 12. Overall, 93% of the ideation occurred between the ages 12 and 21.

**What is the degree of severity of ideation?** Among the ideators, 51% just thought about it, 44% thought about the means, 4% made suicide attempts. In terms of intensity, on a scale from 1-10, the mean level of intensity was 4.14 while the mean frequency on a ten point scale was 3.97.

**Do ideators and non-ideators differ?** Ideators are compared to non-ideators along demographic variables. There were no statistically significant differences between the two groups on gender, ethnicity, age, school seniority, grade point average or whether the student required a grant, loan or job to attend the university. To explore the relation between suicide ideation and various psychosocial variables, independent t-tests were performed. The analysis revealed that there were no significant differences between ideators and non-ideators on standardized measures of self-esteem and hopelessness nor was the student's level of tolerance toward suicide related to ideation. Also of interest was the extent to which the suicidal behavior of a relative or close friend influenced ideation. Again, there was no significant relationship between suicide ideation and any past experience with suicide behavior.

**Multivariate analysis:** Since the dependent variable, suicide behavior is dichotomous (1 = yes, 0 = no), logistic regression was employed to examine the contribution of the various independent variables to ideation. Gender, race, school seniority, self-esteem, hopelessness and the level of tolerance towards suicide were regressed on ideation. As shown in Table 1, none of the parameter

Table 1: Summary of logistic regression analysis for variables contributing to suicidal ideation (N = 97)

Variables	Parameter estimate	Odds Ratio (OR)	95% confidence interval
Gender	-0.090	0.91	(0.35, 2.38)
Self-esteem	-0.270	0.76	(0.44, 1.31)
Hopelessness	-0.010	0.99	(0.57, 1.71)
Race	0.620	1.86	(0.70, 4.96)
Tolerance	0.420	1.53	(0.91, 2.55)
School seniority	0.470	1.61	(0.36, 7.13)
Suicidal behavior among friends of family members	-0.003	1.00	(0.39, 2.55)
Age	0.230	1.26	(0.66, 2.42)
Loan, job or grant	-0.040	0.97	(0.37, 2.49)
Constant	-3.540	-	-

None of the parameter estimates were found to be statistically significant

Table 2: Summary of multiple regression analysis for variables predicting intensity of suicidal ideation (N = 97)

Variables	B	SE	B
Tolerance	0.99	0.35	0.303**
Suicidal behavior among friends or family members	1.71	0.60	0.267**
Hopelessness	0.72	0.31	0.247**
Constant	3.24	0.38	

Adjusted R<sup>2</sup> = 0.27; N=1.5; \*p<0.05, \*\*p<0.001

estimates was statistically significant indicating that the independent variables did not differentiate between those students who had experienced and those who had not experienced suicidal ideation.

**What variables explained the intensity or frequency of ideation?** Although, it was expected that the prevalence of ideation would not be explained by demographic or psychosocial variables, it was thought that among ideators the frequency and intensity of ideation would vary much in the same way as more serious forms of suicidal behavior. To test this hypothesis two separate multiple regression analyses were performed with frequency and intensity as the dependent variables and the same independent variables as used previously in the logistic regression. In this analysis however, the regression was performed with only those who admitted to ideation. Regarding the frequency of ideation, 15% of the variance was explained by the full model and the only significant variable was hopelessness. Attempts to identify a better fitting model did not result in a significantly higher R<sup>2</sup>.

The analysis of intensity was initially treated in the same way. First, all of the independent variables were regressed on intensity which explained 29% of the variance. Variables which not significant were dropped one at a time and various combinations of variables were tried until the most parsimonious model was achieved (Table 2). This process resulted in a model which explained 27% of the variance and included three significant independent variables, tolerance towards suicide, hopelessness and whether someone in the family or friend network had engaged in suicidal behavior. Respondents who were more tolerant of suicide and scored higher on hopelessness tended to have more episodes of suicidal ideation. Those who had a close friend or family member threaten, attempt or complete suicide reported significantly lower intensity of ideation. Contrary to the expectation, self-esteem, gender and race were not significantly correlated with intensity or frequency of ideation.

## DISCUSSION

Most research strives to explain a phenomenon by identifying variables that significantly correlate with the dependent variable however, in this study, non-

significant findings affirm the theoretical contention that suicide ideation among youth is a common occurrence. Furthermore, it may not be possible to predict based on the socio-demographic and psychological variables who will or will not ideate. Caution however should be exercised in generalizing the results of this study to all adolescents since the sample consisted of university students at a southwest institution. Further research is needed with other population of students to determine the extent to which these findings can be generalized to other ethnic and socio-economic groups.

In addition to the issues of generalization, the study was retrospective, thereby presenting a question of temporal ordering. That is did the measures on the independent variables which are potentially subject to change (self-esteem and hopelessness), represent the measure at the time the dependent variable (ideation) occurred? Since the average age of ideation was 15.8 and the mean age of the sample was 20.1 on average there was approximately a 4 years difference between the point of ideation and the measurement of the psychological variables of interest. There is substantial evidence in the literature that many personality characteristic are well formed by adolescence. For instance, longitudinal studies of adolescent self-esteem have found that this trait is stable over time (Wade *et al.*, 1989; Demo, 1983). Furthermore, in a prospective study with a community sample of adolescents, Noppe and Noppe (1991) found that self-esteem and hopelessness did not vary longitudinally. Studies of optimism/pessimism which is thought to measure a quality similar to hopelessness have also reported that this characteristic is stable over time and context. Although, there is no way to definitely address the question of temporal ordering, there is support for the assumption that hopelessness and self-esteem are not likely to vary significantly particularly after mid-adolescence. The findings related to frequency and intensity of ideation indicate that those who admitted to ideation reported relatively mild intensity and limited frequency. It was posited that among ideators, the socio-demographic and psychological variables that predict suicide attempts or completions would also be significant correlates of frequency and intensity of ideation. These hypotheses were built on the assumption that most adolescents think about suicide but those with frequent and intense feelings of suicide are more similar to those who either attempt or complete suicide. Therefore, it was expected that girls would report more frequent and intense experiences of ideation as would White students. Contrary to these suppositions, the findings showed that demographic characteristics were not associated with frequency or intensity of ideation. Furthermore, the only psychological variable which was a significant predictor of frequency and intensity was hopelessness.

That hopelessness was not a predictor of whether or not a young person ideated indicates that adolescents are likely to ideate regardless of how hopeless they feel. This finding supports the development explanation of ideation in which ideation is viewed as a typical experience of adolescence. Further, the finding that hopelessness was significantly correlated with intensity and frequency of ideation shows that individuals who score high on hopelessness are likely to experience more intense and frequent ideation than those who are prone to high levels of hopelessness. Consequently, those who are prone to high levels of hopelessness and experience suicidal ideation could represent a group at increased risk for suicide attempts. There were two other significant correlates of intensity which are neither demographic nor psychological but reflect attitudes and life experiences. These measures are the degree of tolerance toward suicide and whether a friend or family member has attempted suicide. The fact that tolerance was positively correlated with ideation may be related to a willingness to admit very intense feelings of suicide. Those who believe that suicide is wrong or a sin may actually admit to thoughts of suicide but dismiss the intensity of these feelings. On the other hand, those who have had more intense feelings of suicide may believe that such feelings and thoughts are understandable and therefore do not reflect negatively on them.

The relation between intensity and whether a close friend or family member has attempted suicide is more difficult to interpret. Since this was introduced as a dummy variable in the regression, a negative linear relationship cannot be inferred. Consequently, this is a correlation which could be explored in future studies to determine the extent to which such an experience influences the intensity of suicidal ideation.

The findings of this study have both policy and practice implications. Based on this and other studies, there is substantial evidence that suicidal ideation is a common experience of adolescence and that the gender, racial and psychological variables believed to distinguish ideators from non-ideators may not be valid predictors. These findings argue for a perspective and approach on the part of parents and professional who work with young people which is grounded in a normative or developmental framework. If transient ideation that has a limited duration occurs in the majority of young people, then it should be viewed as a normative experience of adolescence. This does not minimize the importance of taking suicidal thoughts seriously and assessing the level of risk, however creating an environment where young people can express feelings openly without fear of stigmatization.

The challenge is to develop mechanisms which first destigmatize ideation and secondly provide a setting where young people feel comfortable discussing their

thoughts about suicide. Broad-based public health approaches aimed at educating the public about a particular health problem may be the most effective way to change attitudes. At the same time, it would be important to educate the public about warning signs of more ideation which could indicate risk for suicide attempts. In order to promote open discussion of suicidal thoughts with adults and peers, it seems that more targeted interventions are appropriate. Teachers, parents and others who have ongoing contact with adolescents, need both help dealing with their own feelings about suicide and the skills to assist young people to talk about and cope with their suicidal thoughts. Supportive peer groups, in normative settings such as schools and recreational centers may also provide an outlet for the adolescent's struggle with the meaning of life and the suicide option. Although, it is premature to launch a public health campaign based on the available research, it is reasonable to assume that many young people grapple with their suicidal thoughts alone because sufficient attention has not been paid to this issue.

## CONCLUSION

It was concluded that among the sampled population, ideation was typical during adolescence and that hopelessness was the best predictor of frequency and intensity. The implications for policy, interventions and research with adolescents are discussed.

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