

The Suicidal Process and Self-Esteem

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Abstract. *Background:* It has not been made clear whether self-esteem is associated with the severity of suicidal behavior. *Aims:* To test the association between responses to a self-esteem inventory and levels of suicidal behavior as conceptualized in the notion of the suicide process. *Methods:* Questions on the severity of suicidal behavior over the lifespan (death wishes, ideation, plans, and attempts), as well as a self-esteem inventory, were administered to 227 university undergraduates. *Results:* A negative relationship was found between the level of suicidality and self-esteem. As hypothesized, there were fewer cases in each succeeding level of seriousness of suicidal behavior. However, nearly all cases from any particular level were contained in the cohort of individuals who had displayed suicidal behavior at a less serious level. *Conclusions:* This suggests a possible progression through each of the stages of suicidal behavior, with very few cases showing a level of suicidal behavior that was not associated with a previous, less serious, form. It was hypothesized that early entry into the suicidal process may be indicated by low self-esteem, thus, allowing for a more timely preventive intervention.

Keywords: suicide, ideation, attempts, self-esteem, suicide process

Self-esteem has been one of the most widely studied concepts in the mental health field and has been linked to a wide variety of mental health conditions and behaviors. Many studies have demonstrated strong connections between self-esteem and both suicidal ideation and suicide attempts (Bhar, Ghahramanlou-Holloway, Brown, & Beck, 2008; Marciano & Kazdin, 1994; Overholser, Adams, Lehnert, & Brinkman, 1995; Roberts, Roberts, & Chen 1998; Wild, Flisher, & Lombard, 2004). Other investigations into this relationship have focused on more specific aspects of suicidal behavior such as death wishes, suicidal ideation and making a suicide plan, as well as on suicide attempts. These particular behaviors are commonly viewed as comprising an orderly progression. That is, suicidal ideation is generally thought to precede a suicide attempt (Beck, Kovacs, & Weissman, 1979) and movement from a death wish through to a suicide attempt has been discussed under the concept of “the suicide process” (Portzky, Audenaert, & van Heeringen, 2005; Runeson, Beskow, & Waern, 1996; van Heeringen, Hawton, & Williams, 2000) or interpreted as a hierarchy of intent (Mościcki, 1989). However, few studies have systematically examined the relationship between these levels of suicidal behavior and any measure of mental health. Recently, however, it has been observed that those with early-onset depression progressed to more serious levels of suicidality than those with later onset (Thompson, 2008).

Self-esteem is generally regarded as a stable personality characteristic that reflects a sense of personal worth (Rosenberg, 1965). The concept is not to be confused with self-efficacy or self-confidence, which are related to a belief in one’s ability to perform. Although self-esteem correlates with depression and may, thus, be causally linked, these

conditions also need to be distinguished since the former is a self-rating and the latter a description of mood. Indeed, Thompson, Barnsley, and Battle (2004) have suggested that low self-esteem may generally precede depression, indicating that the link may be functional but not necessarily contemporaneous.

Not surprisingly, then, self-esteem is frequently noted as a correlate, and often as a predictor, of one or another of the components of the suicidal process (e.g., Hidaka et al. 2008; Martin, Richardson, Bergen, Roeger, & Allison, 2005; McAuliffe, et al. 2005; McGee & Williams, 2000; McGee, Williams, & Nada-Raja, 2001; Park, Schepp, Jang, & Koo, 2006; Reinherz, Tanner, Berger, Beardslee, & Fitzmaurice, 2006). In spite of this, and even with the interest in both self-esteem and the suicidal process, there have been no studies that have arranged these suicidal behaviors in order of seriousness and examined changes in self-esteem across the resulting dimension.

This study, then, was designed to examine the relationship between self-esteem and suicidality, with the expectation that progressive decreases in self-esteem would be associated with increases in the seriousness of suicidal behavior.

It should be noted that there are still some definitional issues pertaining to the suicidal process. Researchers in this area (e.g., Portzky et al., 2005; Runeson et al., 1996; van Heeringen et al., 2000) have described the progression through the levels of the suicide process in terms of “severity,” “seriousness,” “lethality,” or “intent.” However, not all individuals exhibiting suicidal behavior may actually wish to die, including even some who have made a suicide attempt (Kreitman, Phillip, Greer, & Bagley, 1969). Therefore, terms like “lethality” or “intent,” could be misleading.

Van Heeringen (2001) has provided more on this definitional issue. At present, it appears prudent to view the concept of the suicide process as a working hypothesis that will allow us to work toward further refinements. Until consensus is reached on the most useful way to describe movement through the suicide process, the commonly used terms should be viewed with a certain allowance for imprecision.

In this study, the terms “seriousness” and “suicidality” have been adopted to address variations in the level of suicidal behavior to avoid debatable claims about severity and/or lethality.

Method

Subjects

Participants were students in two nonintroductory undergraduate psychology classes at a Canadian university. Participation was voluntary, but it appeared that all, or nearly all, of the students present completed the questionnaire. There were a total of 227 participants; 80 (35%) were male. Ages ranged from 17.8 to 46.3 years. The age distribution showed a positive skew, with a mode of 19 years, median of 21.4 years, and a mean of 23.4 years ($SD = 5.70$).

An information statement was placed at the beginning of the questionnaire to explain that participation was voluntary and that a decision to participate or to not participate would have no bearing on marks or any other aspect pertaining to studies at the university. Students were asked to supply their university identification number to allow linkage with their course marks (not used in the present study). It was made clear that all information would be kept confidential and that the identification numbers would be deleted as soon as the linkage was made. This study was approved by the Ethics Committee of the Department of Psychology at the University of Alberta.

Measures

The items used to assess the level of suicidality were adapted from the Diagnostic Interview Schedule (Robins, Helzer, Croughan, Williams, & Spitzer, 1981), and are similar in nature to items introduced in an epidemiologic study by Paykel, Myers, Lindenthal, and Tanner (1974). The purpose was to create a scale representing meaningful increments in suicidal intent. The four resultant questions, respectively representing a death wish (without suicidal content), suicidal ideation (thoughts of taking one's own life), making a plan, and making an attempt, are as follows:

1. Has there ever been a period when you felt like you wanted to die?
2. Have you felt so low you thought of committing suicide?

3. Have you ever made definite plans to commit suicide (even though you did not actually make an attempt)?
4. Have you ever attempted suicide?

Self-esteem was measured with the Culture-Free Self-Esteem Inventory (CFSEI; Battle, 1981). An important consideration in the selection of this instrument was the fact that it was developed on a Canadian sample (Battle, 1981), thus providing norms that were well suited to the participants in the present study. The adult form (AD) of this paper and pencil test produces a total self-esteem score with three component subscales; Social, Personal, and General self-esteem, comprising, respectively, 8, 8, and 16 items. Test-retest reliabilities are high (0.81). However, internal consistency reliabilities were not as strong, showing Cronbach's α values of 0.78, 0.72, and 0.57 for general, personal, and social self-esteem, respectively (Brooke, 1995); with social self-esteem falling below the generally accepted standard of 0.70. Concurrent validity was supported by positive correlations (.71 to .80) between the child/adolescent form of the CFSEI and Coopersmith's (1967) Self-Esteem Inventory (Battle, 1981). No concurrent validity data were shown for the CFSEI adult form. A number of studies have shown positive associations between the CFSEI and a variety of measures of depression, with correlations ranging from 0.34 to 0.75 (Brooke, 1995).

In view of the fact that all of the subjects were students, academic self-esteem was also of interest. Therefore, a 10-item Academic Self-Esteem scale (not included in the adult Form, AD) was adapted from the child/adolescent scale of the same test (Form A), and added to the questionnaire used in the present study. A similar approach to the inclusion of the child/adolescent academic scale in the adult form was successfully undertaken by Mendoza (1995). Since the norms for the child/adolescent CFSEI academic subscale are nonetheless not suitable for use in a study of adults, the results for the academic subscale were calculated as if the sample displayed the same mean and standard deviation as the normative population. Given that this assumption may be incorrect, main effect contrasts of subscale means could be biased. However, comparison of subscale means is of little interest here, and the analyses will, thus, focus on differences in the level of suicidal behavior.

A total self-esteem score was calculated by summing the scores of the four component scales. Raw scores were converted to T-scores (mean = 50, $SD = 10$) for analysis and presentation of results.

Results

The results of an assessment of the internal consistency of the four subscales of the CFSEI showed that three of the scales produced Cronbach's α coefficients that surpassed the 0.70 standard; Personal (0.77), General (0.81), and Academic (0.73). The fourth, Social (0.60), was marginal,

Table 1. Respondents distributed according to the level of severity of suicidal behavior

| | None | Death wish | Ideation | Plan | Attempt |
|---------------------------|-----------|------------|----------|----------|---------|
| Total* | 108 (48%) | 115 (51%) | 80 (35%) | 26 (12%) | 12 (5%) |
| Most serious [#] | | 38 (17%) | 52 (23%) | 16 (7%) | 12 (5%) |

Note. *Many respondents reported more than one type of parasuicidal behavior, thus the row total exceeds 100%. [#]Categories are mutually exclusive. Assignment was determined by each person's most serious level of suicidal behavior.

matching its relatively low performance on the normative sample.

Of first importance, 52% of the students had, at some time in their lives, engaged in some form of suicidal ideation or behavior. As Table 1 indicates, nearly all of these had, at some time, wished to be dead, fewer expressed suicidal ideation, and the number making plans to take their own lives was considerably lower than that. Although a relatively small number had made a suicide attempt, it still stands at a disturbing rate of 1 in 20 persons. This rate lies within the range reported in reviews by Angst, Degonda and Ernst in 1992, Weissman et al. in 1999, and Welch in 2001, but is higher than reported by Bertolote et al. in 2005.

Also shown in Table 1 is the classification of the most serious level of suicidal behavior attained by the respondents. A one-way analysis of variance (ANOVA) showed that total self-esteem varied significantly with changes in

the level of suicidal behavior, $F(4, 191) = 7.61, p < .001$. Figure 1 clearly shows that as the level of suicidal behavior increased, mean total self-esteem scores decreased. Post-hoc polynomial analysis showed that the linear trend was statistically significant, $F(1, 191) = 20.28, p < .001$, but the departure from linearity was not, $F(3, 191) = 0.60$. The absence of a statistically significant nonlinear presence indicates that there is no reason to question the conclusion that the data can best be described as a linear gradient of decreasing self-esteem on increasing suicidality.

Since unequal cell sizes may affect the ANOVA assumption of equal group variance, Levene's test for homogeneity of variance was applied to the raw data. The result was a statistically significant departure from equality, Levene's Statistic $(4/222) = 5.80, p < .001$. However, ANOVA is very robust when it comes to the assumption of homogeneity. The variances of the five severity groups ranged from a high of 93.5 down to 30.7, a ratio of 3.0, which is within the acceptable range (below 4x) suggested by Moore (1995).

The trend analysis of the relationship between severity of suicidal behavior and total self-esteem produced similar results for each of the component subscales of the CFSEI. This was tested posthoc by conducting a one-way ANOVA on each of the four self-esteem subscales (a factorial analysis was not used since the within-subject comparisons across self-esteem levels were not of interest). The significance levels were adjusted upward to compensate for the multiple comparisons involved when evaluating the subscales in this way.

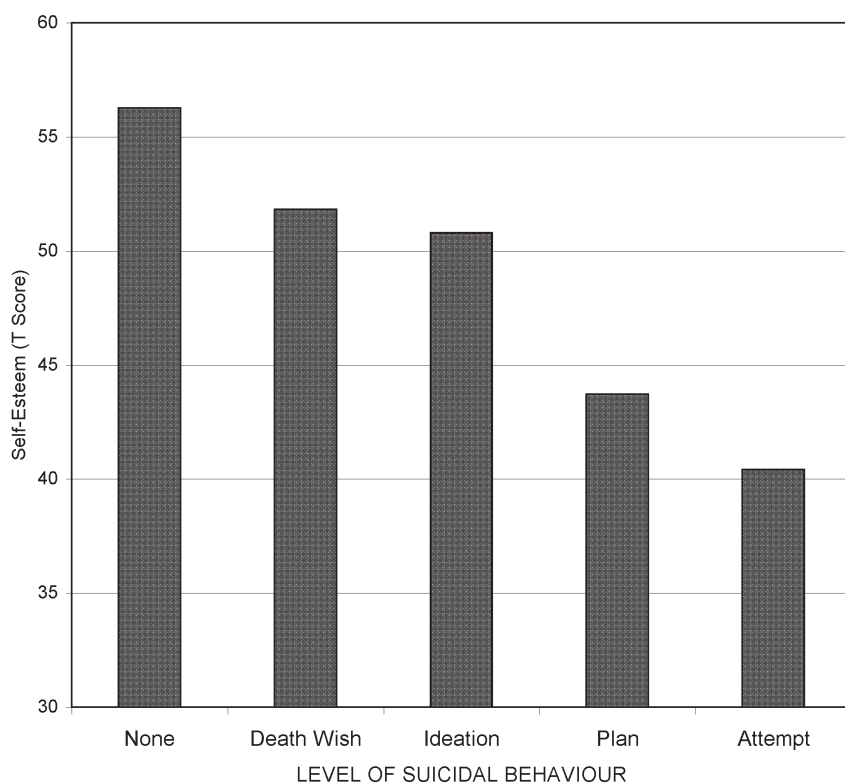


Figure 1. Total self-esteem and suicidal behavior among university students.

Table 2. The proportion of individuals acknowledging a particular level of suicidal behavior who also displayed relatively “lower” levels of severity

| Index level | Lower level relative to index level | | |
|-------------|-------------------------------------|-----------------|---------------------|
| | % with a plan | % with ideation | % with a death wish |
| Attempt | 91% | 100% | 100% |
| Plan | | 100% | 100% |
| Ideation | | | 96% |

A significant linear trend was observed for all four subscales with none showing a statistically significant departure from linearity (for General, Social, Academic, and Personal self-esteem, respectively, the F_{Linear} values were 14.51, $p < .001$; 6.48, $p < .05$; 8.67, $p < .05$; and 10.53, $p < .01$). No further analysis of the subscales was conducted since they mirror the downward trend found for total self-esteem.

Of further interest is the probability that a particular level of suicidal behavior was “preceded” by a less serious level. The results of this analysis are shown in Table 2. Clearly, nearly all of those who exhibited a particular level of suicidal behavior had experienced what are hypothesized to be antecedent suicidal behaviors. That is, 91% of attempts were preceded by plans; plans, in turn, were associated with ideation in all cases; and ideation was associated with a death wish in 96% of cases.

Although these findings appear at first glance to be somewhat banal (i.e., it is difficult to imagine how someone could make a suicide plan without thinking about it beforehand), the results noted in the previous paragraphs make it clear that each level of suicidality has a different meaning – at least in terms of self-esteem. Furthermore, this kind of analysis begs the question of whether the results suggest something different when the levels are viewed in reverse order (their supposed chronological sequence). It turns out that they do – the associations were considerably lower in magnitude when viewed in this way, but remained at meaningful levels. That is, of those with a death wish, 67% exhibited suicidal ideation; only 33% of ideators produced a plan, and just 38% of those who made a plan also made an attempt. These data are in line with the view that the five levels (an absence of suicidal behavior being the first) represent a progression of increasing seriousness, with the number of participants dropping at each level. This inverse relationship between seriousness of behavior and the lifetime prevalence of suicidality is in accord with the findings from a number of community surveys (De Leo, Cerin, Spathonis, & Burgis, 2005; Kessler, Borges, & Walters, 1999; Mościcki et al., 1988; Paykel et al., 1974; Rancans, Lapins, Salander Renberg, & Jacobsson, 2003).

Discussion

The results of this study demonstrate that self-esteem is associated with the seriousness of suicidal behavior and

that the association is linear. The fact that self-esteem goes down as the severity of suicidal behavior goes up does not, however, prove causation. That is, we cannot say that suicidal behavior is a consequence of lowered self-esteem. Nor can we rule out the opposing hypothesis that current self-esteem scores have been affected by previous suicidal behavior. Our understanding of the sequence of events would be enhanced by the inclusion of age data for both variables in future studies of this nature. The primary importance of this finding lies in the association. This extends the previous findings on the self-esteem/suicidal behavior relationship by indicating the existence of a gradient that involves seriousness. That is, one way or the other, there is a clear relationship indicating that increases in the seriousness of suicidal behavior are associated with decreases in self-esteem.

It should be noted that this finding was based on a student sample and generalization to other groups has not yet been demonstrated. Furthermore, there are two caveats that need to be applied to the notion of self-esteem and to the nature of the proposed suicidal process. First, self-esteem is being used here to serve as an important indicator of well-being, not to denote a behavior that can be modified to produce a therapeutic outcome – this latter notion being hotly disputed by many (Burr & Christensen, 1992; Seligman, 1991; Smelser, 1989). Second, a number of investigators have indicated that it would be a mistake to consider the suicidal process to be invariant. For example, Wyder and De Leo (2007) have suggested that the process would be better characterized as fluctuating, rather than smooth; Bertolote et al. (2005) have noted that it varies according to culture; and Fortune, Stewart, Yadav, and Hawton (2007) have identified three types of suicidal processes – not one.

Nevertheless, the fact that each level of suicidal behavior was almost always associated with the adjoining, less serious, level of suicidal behavior supports the hypothesis that end-point suicidality follows a suicidal process of increasing intensity that begins with occasional thoughts of death (Angst et al., 1992) and stops at some point along a single continuum whose last possible position is completed suicide. The reason, then, that prediction forward along this scale is less than perfect appears to be because some individuals move to a certain level of severity and go no further – not because the construct of the suicidal process is faulty or because of measurement error. We are, nonetheless, left with the difficulty of predicting a low probability event (e.g., a suicide attempt) from an early behavior (e.g., a wish to die) that is exhibited at some point by a large proportion of the population. Thus, early suicidal behavior appears to have very high sensitivity for completed suicide (it captures most cases of more serious suicidal behavior), but very low specificity (it also captures many false positives) – a traditional problem in research on risk factors (Leon, Friedman, Sweeney, Brown, & Mann, 1990).

This paper shows a linear relationship between two important variables that lie along a developmental pathway. This indicates that detection of early entry into the suicidal

process can allow the provision of preventive interventions that can, in many cases, be applied well before the advent of more serious suicidal actions. The importance of the relationship with self-esteem lies in the fact that early suicidal behavior (i.e., a death wish, a suicidal thought) is not easily detected unless expressed in a public way. Low self-esteem, on the other hand, is usually manifest in observable behaviors, and its formal (questionnaire) assessment is not deemed to be as intrusive as questions about suicidal thoughts or actions. Thus, among children, evidence of low self-esteem should raise enough concern about future suicidal behavior and other personal difficulties that further investigation, at the least, should be deemed necessary.

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