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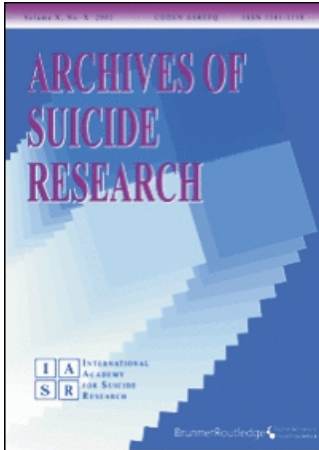
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# Optimism and Suicide Ideation Among Young Adult College Students

Jameson K. Hirsch, Kenneth R. Conner, and Paul R. Duberstein

*Given that college students may be at increased risk for suicide, it is important to conduct research that could guide suicide prevention efforts on college campuses. Although much research has been conducted on the role of hopelessness and depression in suicide ideation, the role of dispositional optimism is unclear. Subjects were 284 college students (185 female, 65%), ages 18 and over. Optimism was assessed with the Life Orientation Test–Revised. The outcome measure was the Beck Scale for Suicide Ideation. A hierarchical, multivariate regression was used to test the hypothesis that optimism is inversely associated with suicide ideation, even after controlling for age, gender, depressive symptoms, and hopelessness. The hypothesis was supported. Optimism holds promise as a cognitive characteristic associated with decreased thoughts of suicide in college students; a better understanding of its putative protective role in this group, and cross-culturally, is needed. Prevention programs designed to enhance optimism in the college setting might decrease suicide risk.*

**Keywords** optimism, suicide ideation, college student

Suicide is a significant, worldwide, public health problem among young people (Breton, Boyer, Bilodeau et al., 2002; Mehlum, 2004; Pearson, Phillips, He et al., 2002; Pfaff, Acres, & McKelvey, 2001; US Public Health Service, 1999). Suicide is the third leading cause of death during late adolescence and early adulthood (National Center for Health Statistics, 2004), and the fifth leading cause of years of potential life lost before age 65 in the United States (National Center for Injury Prevention and Control, 2005). For young adults attending college, suicide is the second leading cause of death (SPRC, 2004). Risk for suicide ideation is greater than for same age counterparts not attending college (Konick & Gutierrez, 2005) although suicide rates may be slightly lower (Schwartz, 2006).

In 2001, a nationwide study in the United States revealed that 9.5% of college students, in the years 1999–2000, had serious thoughts of suicide, and 1.5% reported making a suicide attempt (American College Health Association, 2001). Other studies suggest that as many as 8% to 15% of college students in the United States report acting on their thoughts of suicide (Bonner & Rich, 1987; Brener, Hassan, & Barrios, 1999). Patterns are similar outside the United States; 14.6% of Chinese college students endorsed having suicide ideation in the past year, 2.4% had planned a suicide attempt, and 1.8% had made a suicide attempt (Xu, Xiao, Feng et al., 2004). In Switzerland, 26% of a sample of 15–20 year olds reported suicide ideation, 15%

planned an attempt, and 3% had made an attempt (Rey, Narring, Ferron et al., 1998).

The effectiveness of suicide prevention programs on college campuses will depend largely on how well they mitigate the risk factors and risk markers for suicide ideation in college students (Kraemer, Kazdin, Offord et al., 1997). Family and interpersonal stressors, negative life events, hopelessness and depression are significantly associated with suicide in college students (Konick & Gutierrez, 2005). Elements of the college "experience" itself also have the potential to become risk factors, including academic demands, loneliness and separation from support network, and financial pressures (Hirsch & Ellis, 1996; Richardson, Bergen, Martin et al., 2005).

The traditional focus on risk factors and markers for suicide, rather than on protective characteristics is justified by a series of studies showing a strong association of hopelessness and suicidal thoughts and behaviors (Beck, Brown, Berchick et al., 1990; Heisel, Flett, & Besser, 2002; Szanto, Reynolds, Conwell et al., 1998), including in college students (Heisel, Flett, & Hewitt, 2003; Strang & Orlofsky, 1990; Westefeld & Furr, 1987). Importantly, treatments informed by this traditional cognitive model reduce suicidal ideation and behavior in adults (Brown, Ten Have, Henriques et al., 2005; Townsend, Hawton, Altman et al., 2001).

There is reason to believe, however, that some cognitive characteristics, such as optimism, might be "protective." Dispositional optimism is a stable, trait-like personality characteristic comprised of a general, positive mood or attitude about the future and a tendency to anticipate a favorable outcome to life situations (Burke, Joyner, Czech et al., 2000; Scheier & Carver, 1992). In the current study, we assessed optimism and hopelessness, defined as a lowered expectation of goal achievement, reduced belief in the likelihood of success, and feelings of

futility about the future (Dori & Overholser, 1999). An individual who is hopeless, perhaps due to college-related stressors, may feel as if they are unable to successfully achieve important personal goals; however, that does not preclude them from being optimistic that they may someday be able to do so. In support of this, we have previously shown optimism to be conceptually distinct from hopelessness (Hirsch & Conner, 2006), suggesting the possibility that both of these cognitive-emotional characteristics can manifest simultaneously.

As a potentially protective factor, optimism may provide a measure of resilience against negative physiological and psychological outcomes (Miller, Manne, Taylor et al., 1996), including reduced depression (Chang & Sanna, 2001; Seligman, Schulman, DeRubeis et al., 1999), better psychological adjustment to negative life events (Carver, Pozo, Harris et al., 1993; Davis, Nolen-Hoeksema & Larson, 1998; Long & Sangster, 1993), and increased psychological well-being (Magaletta & Oliver, 1999). Such benefits may occur via the promotion of a more realistic and future oriented life perspective (Taylor & Brown, 1988) and the use of active, adaptive coping strategies (Gum & Snyder, 2002; Scheier & Carver, 1992), including direct engagement of problems, being motivated to overcome adversity and persisting toward goals (Brisette, Scheier, & Carver, 2002). Supportive, intergenerational relationships may also be important (Chang & Sanna, 2001; Seligman, Schulman, DeRubeis et al., 1999).

Although there have only been a few rigorously controlled studies, preliminary findings indicate that optimism and hope are associated with reduced depressive symptoms in college students (Range & Penton, 1994; Seligman, Schulman, DeRubeis et al., 1999), suggesting that college students with an optimistic orientation may be less likely to experience suicide ideation. The role of optimism in suicidal

behavior has not been studied in college students, however. In the present study, we hypothesized that optimism would be inversely associated with suicide ideation, even after controlling for symptoms of depression and hopelessness.

## METHODS

### Participants

Participants were 284 undergraduate students (185 female, 65%) recruited from a large Western University and a rural Eastern college. Ages ranged from 18–57 years, with a mean age of 21.04 (SD = 4.59). The sample was predominantly White (89%), and African American (6%), Hispanic (3%), and Asian (2%) students also participated.

### Measures

Assessment batteries were administered in an anonymous, group format. Written, informed consent was obtained. Participation was voluntary, with an incentive of extra credit in a college course provided. Measures were counterbalanced by design to reduce the potential for order-of-administration effects.

Depressive symptoms were assessed using the *Beck Depression Inventory-II* (BDI-II; Beck, Steer, & Brown, 1996). The BDI-II is a 21-item self-report measure of the presence and severity of cognitive, affective, somatic and motivational symptoms of depression; we omitted item #9 (suicide item) in analyses reported here. Respondents rate their experience of depressive symptoms during the past week on a 4-point Likert type scale (e.g., 0 = *I do not feel sad* to 3 = *I am so sad or unhappy that I can't stand it*), with higher scores indicative of more severe levels of depression. In the current sample, the BDI-II mean score (SD) was 10.88 (8.96); the range was 0–43.

The *Beck Hopelessness Scale* (BHS; Beck, Weissman, Lester et al., 1974) assesses level of hopelessness via 20 true-false statements, including positively and negatively valenced items. The scale has adequate internal and test-retest reliability (Bonner & Rich, 1987) and is associated with suicide ideation, suicide attempts and suicide completion in psychiatric outpatients (Minkoff, Bergman, Beck et al., 1973) and inpatients (Beck, Brown, Berchick et al., 1990). The mean score (SD) for the current study was 3.02 (3.39), with a range of 0–19.

The *Beck Scale for Suicide Ideation* (BSS; Beck, Kovacs, & Weissman, 1979) is a 21-item, self-report method of examining an individual's thoughts, attitudes and intentions regarding suicide, including attitudes toward living and dying, expected reactions to these thoughts, and frequency of past suicidal behavior. This scale has adequate internal consistency (coefficient alpha = .90, outpatient sample alpha = .87), and demonstrates high face, convergent, and construct validity (Beck, Kovacs, & Weissman, 1979). The BSS is associated with suicidal ideation in university students, outpatient suicide attempters, and older adults (Guthrie, Kapur, Kway-Jones et al., 2001; Miller, Segal, & Coolidge, 2001). The mean score (SD) for this sample was 2.82 (3.69); range 0–21.

*Optimism* was assessed with the *Life Orientation Test—Revised* (LOT-R; Scheier, Carver, & Bridges, 1994), which measures optimism and pessimism via general outcome expectancies of the respondent. It consists of 10 statements (3 positively worded, 3 negatively worded and 4 filler items) and requires participants to indicate how strongly they agree with each statement using a 5-point scale (0 = *Strongly Disagree* to 4 = *Strongly Agree*). Positive items include: “In uncertain times, I usually expect the best,” “I’m always optimistic about my future,” and “Overall, I expect more good things to happen to me than bad.” Negative items include: “If something can go wrong for me, it will,”

“I hardly ever expect things to go my way,” and “I rarely count on good things happening to me.” Dispositional optimism, as measured by the LOT-R, has adequate construct and predictive validity (Scheier & Carver, 1987); it is differentiated from state optimism (Burke, Joyner, Czech et al., 2000) and general happiness (Lyubomirsky & Lepper, 1999), has a negative relationship with hopelessness (Hirsch & Conner, 2006), and is associated with a wide array of beneficial physical and physiological outcomes (Chang & Sanna, 2001; Scheier & Carver, 1992). The LOT-R shows acceptable reliability; test-retest reliability was .79 for a college sample over a 4-month interval (Scheier, Carver, & Bridges, 1994). In the current study, internal consistency was acceptable ( $\alpha = .79$ ). The mean (SD) score for this sample was 11.1 (2.5), with a range of 0–24.

#### Statistical Analyses

A hierarchical, multivariate linear regression analysis was conducted to test the hypothesized associations between optimism and current suicide ideation. Age, gender, hopelessness, and severity of depression (measured by the BDI-II) were included as covariates. Examination of bivariate correlations revealed no multicollinearity ( $r > .70$ ; Tabachnick & Fidell, 2001). Age, gender, hopelessness, and depression

were entered on the first step of the regression model; optimism was entered on the second step. The dependent variable, suicide ideation, was logarithmically transformed prior to analyses to improve its distribution.

#### RESULTS

Female gender was significantly negatively correlated with optimism and positively associated with depression. Dispositional optimism was significantly negatively correlated with depression, hopelessness, and suicide ideation, which were all positively associated.

The mean score for the Beck Scale for Suicide Ideation, prior to transformation, was 2.82 (SD = 3.69). The overall regression model was significant,  $F_{(5,278)} = 19.55$ ,  $p < .001$ ,  $R^2 = .26$  (see Table 1). All variables were significant contributors to the multivariate model. As age, level of hopelessness and severity of depression increase, so does suicide ideation; female gender was also associated with greater suicide ideation. Dispositional optimism accounted for a small, yet significant, portion of the variance of suicide ideation ( $\Delta R^2 = .02$ ), over and above the effects of hopelessness and depression. Higher scores on the measure of optimism were significantly related to less suicide ideation.

**TABLE 1. Bivariate Correlations of Study Variables**

	Gender	Optimism	Hopelessness	Depression	Suicide ideation
Age	.06	.03	.01	-.03	.09
Gender	–	-.14*	.07	.13*	-.08
Optimism	–	–	-.62**	-.56**	-.41**
Hopelessness	–	–	–	.64**	.50**
Depression	–	–	–	–	.51**

\* =  $p < .05$ ; \*\* =  $p < .01$ .

Depression = Beck Depression Inventory-II; Hopelessness = Beck Hopelessness Scale; Optimism = Life Orientation Test-Revised.

TABLE 2. Association of Optimism and Suicide Ideation: Multivariate Regression

Predictor	Multivariate regression			
	t-value	p-value	Unstandardized beta (SE)	Standardized beta
Step One:				
Constant	1.74	.082	.19 (.109)	–
Age	1.89	.059	.01 (.004)	.10
Female	–2.09	.040	–.09 (.040)	–.11
Depression	4.25	.000	.01 (.003)	.29
Hopelessness	3.71	.000	.03 (.007)	.25
Step Two:				
Constant	2.87	.004	.42 (.146)	–
Age	2.01	.046	.01 (.004)	.10
Female	–2.34	.020	–.09 (.040)	–.12
Depression	3.54	.000	.01 (.003)	.25
Hopelessness	2.41	.017	.02 (.008)	.18
Optimism	–2.34	.020	–.01 (.005)	–.16

$\Delta R^2 = .02$  for Step Two.

Females are the reference group.

Depression = Beck Depression Inventory–II; Hopelessness = Beck Hopelessness Scale; Optimism = Life Orientation Test–Revised.

## DISCUSSION

Our results suggest that optimism may be a protective factor against suicide ideation for young adults and college students. Traditional, and successful, approaches to the reduction of suicide ideation and attempts have focused on the amelioration of negatively-valenced characteristics or symptoms, such as depression and hopelessness (NMHA, 2002). In our study, depressive symptoms and hopelessness were associated with suicide ideation; the treatment of depression and hopelessness remain important and attainable clinical goals in efforts to reduce suicide ideation (Brown, Ten Have, Henriques et al., 2005; Szanto, Mulsant, Houck et al., 2001). Our results, however, also indicate that students with higher levels of optimism report lower levels of suicide ideation, even after controlling for hopelessness and severity of depression. It is possible that the promotion

of a positive future orientation may be a valuable strategy for suicide prevention efforts.

Optimistic individuals appear to have better psychological and physical functioning even in the face of difficult circumstances (Peden, Rayens, Hall et al., 2001), perhaps through the use of active adaptive strategies, such as identifying and achieving appropriate and meaningful goals, and establishing successful relationships that will extend into the future (Hirsch, Duberstein, Conner et al., 2006). An individual able to engender a positive outlook toward the future, and who is encouraged to do so, may reduce their distress, thereby mitigating risk for suicidal thoughts and behaviors (Alloy, Abramson, Whitehouse et al., 1999; Linehan, Goodstein, Neilsen et al., 1983; Range & Penton, 1994).

Dispositional optimism, as measured by the LOT-R, is assumed to be stable and trait-like (Burke, Joyner, Czech et al.,

2000) but it may also be a malleable and trainable attribute (Schwarzer, 1999; Wrosch, Scheier, Miller et al., 2003). Preliminary findings with adolescents and college students suggest that training individuals to think optimistically can reduce depression (Hawkins & Miller, 2003; Vailant, 2003); perhaps similar techniques could be used to decrease suicide ideation and behaviors in these at-risk populations. For instance, suicidal individuals might be asked to identify reasons for living, to set goals and identify pathways toward their attainment, or to restructure their attributions regarding past negative events (Johnson, Crofton, & Feinstein, 1996; Malone, Oquendo, Haas et al., 2000; Snyder, Harris, Anderson et al., 1991), which are characteristics associated with decreased suicidal thoughts and behaviors (Hirsch, Duberstein, Conner et al., 2006). Meaningful and supportive interpersonal relationships that foster a positive future orientation may also be important for preventing suicide (Barber & DeRubeis, 2001; Gillham & Reivich, 2004); encouragement and monitoring of social and interpersonal interactions may be a useful strategy.

Although the variance in suicide ideation accounted for by optimism is modest once depression and hopelessness are accounted for, the statistical significance of our finding may translate into clinical value. There is a pressing need for suicide prevention among young adults and college students (SPRC, 2004); our findings have implications for those efforts. Recent attempts to address suicide in young adults have included legislation in the United States (i.e., Garrett Lee Smith Memorial Act (Public Health Services Act, 2004)), and the recognition that college campuses are good settings for the development and implementation of suicide prevention programs (Mann, Apter, Bertolote et al., 2005). Like the successful United States Air Force suicide prevention efforts,

collegiate prevention programs can take advantage of the existing infrastructure of a campus, including counseling centers, public safety officers, health clinics, and the presence of administrators, faculty, staff, and peers as potential gatekeepers (Knox, Litts, Talcott et al., 2003).

Limitations of the study include the cross-sectional research design, an ethnically homogenous sample, and potential bias due to use of single-informant, self-report assessments. Strengths were test of a novel hypothesis with implications for suicide research and prevention, use of well-validated research measures, and covariate coverage of depression and hopelessness, which are potent correlates of suicidal ideation. Future studies should address the role of alcohol and substance abuse; we did not collect data on these variables. Prospective studies examining the relationship between optimism and suicidal behavior in diverse samples of college students are also needed. Attempts to bolster optimism might complement traditional efforts that reduce hopelessness, a dual approach that may result in more effective reduction of suicide ideation and suicide risk.

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AUTHOR NOTE

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