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Suicidal Ideation and Attitudes Toward Suicide

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Although hopelessness and depression are known risk factors for suicide, most individuals who are hopeless or depressed never make a suicide attempt. In this study, we tested the hypothesis that college students' ($n = 230$) attitudes toward suicide (the degree to which they see it as an acceptable option under some circumstances) would moderate the link between both hopelessness and depressive symptoms and their levels of suicidal ideation. This moderation hypothesis was supported, but only among men. Specifically, among men, levels of hopelessness and depressive symptoms were significantly related to suicidal ideation among only those with relatively positive attitudes toward suicide.

Numerous studies have supported the link between risk for suicide and both hopelessness and depression (for reviews, see Conner, Duberstein, Conwell, Seidlitz, & Caine, 2001; Gould, Greenberg, Velting, & Shaffer, 2003). However, most individuals who are hopeless or depressed never make a suicide attempt. Thus, although measures of depression and hopelessness exhibit good sensitivity in predicting future suicide (low rate of false negatives), they exhibit fairly poor specificity (high rate of false positives) (Beck, Brown, & Steer, 1989; Beck, Steer, Kovacs, & Garrison, 1985; Brown, Beck, Steer, & Grisham, 2000; see also Stolberg, Clark, & Bonger, 2002). Given this, studies are needed to identify factors that may moderate (increase or decrease) the likelihood that depression or hopelessness will contribute to a suicide attempt.

One such potential moderating factor is individuals' attitudes toward suicide. Specifically, there is evidence that individuals vary widely in the degree to which they consider suicide as an acceptable option (for a review, see Ingram & Ellis, 1992). Thus, some individuals view suicide as an acceptable option under some circumstances whereas others do not view it as acceptable under any circumstances. There is also evidence that individuals who are more accepting of suicide exhibit higher levels of suicidal ideation and are more likely to have attempted suicide in the past (e.g., Limbacher & Domino, 1985–86; McAuliffe, Corcoran, Keeley, & Perry, 2003; Stein, Witztum, Brom, DeNour, & Elizur, 1992; Wellman & Wellman, 1988). Therefore, it may be that those most at risk for suicide in the presence of hopelessness or depression are those who believe that suicide is an acceptable option. This would be consistent with an emerging perspective on risky behavior suggesting that "willingness" or positive attitudes toward a behavior may interact with situational cues to produce problematic consequences (see Gibbons & Gerrard, 1997, for a review in the context of health-linked behavior). Specifically, favor-

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able attitudes toward suicide may increase the attractiveness of suicide should situational cues arise, placing an individual at increased risk of suicidal ideation.

The primary goal of this study, therefore, was to test the hypothesis that participants' attitudes toward suicide would moderate the link between both hopelessness and depressive symptoms and participants' levels of suicidal ideation. We expected the relations between both hopelessness and depression and participants' suicidal ideation to be strongest among participants reporting positive attitudes toward suicide. Given evidence of gender differences in the variables examined in this study (Limbacher & Domino, 1985–86; Nolen-Hoeksema, 2002; Stolberg et al., 2002), we also examined whether participants' gender moderated any of the relations examined.

METHOD

Participants

Participants in this study included 230 undergraduate students (163 women, 67 men) enrolled in introductory-level psychology courses. Of these, 204 (88.7%) were Caucasian, 17 (7.4%) were African American, and the remaining 9 (3.9%) participants either were from other ethnic groups or did not report their ethnicity. The mean age of the participants was 19.29 years ($SD = 2.06$).

Measures

Attitudes Toward Suicide. Participants' attitudes toward suicide were assessed using the Right to Die subscale of the Suicide Opinion Questionnaire (SOQ-RTD; Domino, Moore, Westlake, & Gibson, 1982). Although the SOQ contains a number of subscales, we chose to focus on the Right to Die subscale because (a) it taps the construct we are most interested in (i.e., acceptance of suicide as an option under some circumstances), (b) there is some evidence that it exhibits stronger psychometric properties than the other SOQ subscales (Domino, Su, & Shen, 2000; McAuliffe et al., 2003; Rogers & DeShon, 1992), and (c) it has been linked in previous studies to suicidal ideation (e.g., McAuliffe et al., 2000). The SOQ-RTD includes items such as: "Suicide is an acceptable means to end an incurable illness", "If someone wants to commit suicide, it is their business and we should not interfere", and "People do not have the right to take their own lives" (reverse scored). Participants are asked to rate the degree to which they agree/disagree with each statement on a 5-point Likert-type scale ranging from *strongly disagree* to *strongly agree*. Scores on the 8-item SOQ-RTD can range from 8 to 40, with higher scores reflecting more positive attitudes toward suicide. The SOQ-RTD has demonstrated good reliability and validity (Domino, 1996; Domino, MacGregor, & Hannah, 1988–89; McAuliffe et al., 2003). In this study, the SOQ-RTD scale exhibited good internal consistency ($\alpha = .85$).

Hopelessness. The Beck Hopelessness Scale (HS; Beck, Weissman, Lester, & Trexler, 1974), a 20-item true-false self-report questionnaire, was used to assess participants' negative expectations regarding the future. Scores on the HS can range from 0 to 20, with higher scores reflecting more hopelessness. The HS has demonstrated good internal consistency and concurrent validity with clinician's ratings of hopelessness (Beck et al., 1974), as well as good retest reliability (Holden & Fecken, 1988). The hopelessness scale exhibited good internal consistency in the current study ($\alpha = .89$).

Depressive Symptoms. The Center for Epidemiologic Studies-Depression Scale (CES-D; Radloff, 1977), a 20-item self-report inventory, was used to assess participants' levels of depressive symptoms. Total scores on the CES-D range from 0 to 60, with higher scores indicating more severe levels of depressive symptoms. Numerous studies have supported the reliability and validity of the CES-D (e.g., Radloff, 1977; Santor, Zuroff, Ramsay, Cervantes, & Palacios, 1995). In the current study, the CES-D exhibited good internal consistency ($\alpha = .91$).

Suicidal Ideation. Participants' levels of suicidal ideation were assessed using four supplemental questions contained within the SOQ (Domino et al., 1982). These items assess the frequency, strength, and duration of past suicidal ideation, as well as participants' perceived probability of a future suicide attempt. Specifically, participants were asked if they have ever considered suicide in their life and if so, "how strong was your wish to die" (*weak*, *moderate*, *strong*), "how long did the episode last (that is, what was its duration)?", (*brief*, *longer*, *continuous or almost continuous*), and "how often do you think about it?" (*rarely*, *occasionally*, *intermittently*, *persistently or continuously*). They were then asked, "What is the probability that at some point in your life you might attempt suicide?" (*zero*, *less than 10%*, *50–50*, *somewhat probable*, *highly probable*). Reponses to these items were standardized (transformed to a 5-point scale with values ranging from 0 to 4) and then summed to create our suicidal ideation composite (SI). Scores on this composite could range from 0 to 16, with higher scores indicating more suicidal ideation. In the current study, the SI scale exhibited good internal consistency ($\alpha = .90$).

Procedure

Participants completed the questionnaires in groups and received course credit for their participation.

RESULTS

Correlations among the study variables, as well as descriptive statistics for each variable, are presented in Table 1. The means are consistent with those obtained in other nonclinical samples (e.g., Domino et al., 1988–89; Gibb, Alloy, Abramson, & Marx, 2003; McAuliffe et al., 2003; Santor et al., 1995). In testing our moderation hypotheses, we first focused on hopelessness. Using SI as the criterion variable, participants' sex as well as SOQ-RTD and HS scores were entered in the first step of a hierarchical regression equation. In so doing, this first step allowed us to examine the unique relation between each variable and SI scores, statistically controlling for the influence of the other variables. The two-way interactions were entered in Step 2, and the three-way interaction was entered in Step 3. As can be seen in Table 2, each of the main effects was significant. Of the two-way interactions, only the sex × SOQ-RTD was significant. This two-way interaction was further modified by a significant sex × SOQ-RTD × HS interaction. Exploring the SOQ-RTD × HS interaction separately for men and women, we found that it was significant for men, $t(63) = 2.56$, $p = .01$, $\beta = .37$, but not women, $t(159) = 0.05$, $p = .96$, $\beta = .004$. The forms of these interactions were explored following the recommendations of Aiken and West (1991) and are depicted in Figure 1. Among men, levels of hopelessness were significantly related to suicidal ideation for those scoring high on the SOQ-RTD (+1 *SD*), $t(63) = 3.55$, $p < .001$, $\beta = .39$, but not among those scoring low on the SOQ-RTD (–1 *SD*), $t(63) = -.49$, $p = .63$, $\beta = -.09$. In contrast, among women, hopelessness was significantly related to suicidal ideation among those with both high, $t(159) = 5.40$, $p < .001$, $\beta = .43$, and low, $t(159) = 3.81$, $p < .001$, $\beta = .42$, SOQ-RTD scores.

Next, we tested the moderation hypothesis for depressive symptoms. Paralleling what was found for hopelessness, the sex × SOQ-RTD × CES-D interaction was significant (see Table 3). Exploring the SOQ-RTD × CES-D interaction separately for men and women, we found that it was highly significant for men, $t(63) = 2.83$, $p = .006$, $\beta = .37$, but only marginally significant for women, $t(159) = -1.97$, $p = .05$, $\beta = -.15$. The forms of these interactions are depicted in Figure 2. Among men, depressive symptoms were significantly related to suicidal ideation for those scoring high on the SOQ-RTD (+1 *SD*), $t(63) = 5.49$, $p < .001$, $\beta = .57$, but not among those scoring low on the SOQ-RTD (–1 *SD*), $t(63) = 1.06$, $p = .29$, $\beta = .15$. In contrast, among women, depressive symptoms were significantly related to suicidal ideation among those with both high, $t(159) = 3.00$, $p = .003$, $\beta = .30$, and low, $t(159) = 5.87$, $p < .001$, $\beta = .59$, SOQ-RTD scores. Finally, although we also examined the four-way inter-

TABLE 1
Correlations and Descriptive Statistics

	1	2	3	4	Mean	*SD*
1. Sex	—				—	—
2. SOQ-RTD	–.25***	—			20.14	5.62
3. HS	–.10	.26***	—		3.15	3.96
4. CES-D	.13*	.13	.56***	—	15.79	10.12
5. SI	.08	.26***	.44***	.48***	2.88	3.47

Note. SOQ-RTD = Suicide Opinion Questionnaire-Right to Die subscale; HS = Hopelessness Scale; CES-D = Center for Epidemiologic Studies-Depression Scale; SI = Suicidal Ideation.
*$p < .05$; ***$p < .001$.

action of sex × SOQ-RTD × HS × CES-D, it was not significantly related to participants' suicidal ideation, $t(215) = –0.27$, $p = .79$, $\beta = –.05$.

DISCUSSION

The primary goal of this study was to determine whether individuals' attitudes toward suicide (the degree to which they see it as an acceptable option under some circumstances) moderated the relationships between both hopelessness and depressive symptoms and levels of suicidal ideation. We found support for the moderating role of attitudes toward suicide, but only among men. Specifically, among men, levels of hopelessness and depressive symptoms were only related to suicidal ideation among those with relatively positive attitudes toward suicide. In contrast, among women, hopelessness and attitudes toward suicide appeared to be independent predictors of suicidal ideation. Finally, among women, it appeared that attitudes toward suicide had a stronger effect upon suicidal ideation at lower, compared to higher, levels of depressive symptoms.

That the hypothesized moderation effects were observed among men, but not women, was surprising. Given that this was not hypothesized at the outset, we will await replication before drawing any firm conclusions. However, for both men and women attitudes toward suicide accounted for variance in suicidal ideation that was not explained by level of depressive symptoms or hopelessness, suggesting that attitudes toward suicide are important in understanding suicidal ideation. In addition, the pattern of results appears consistent with the tendency of men relative to women to look for active ways to escape negative mood states (Nolen-Hoeksema, 1998). This tendency may accentuate the effect of attitudes toward suicide on suicidal ideation among men because those who are more accepting of suicide would view it as a potentially effective option whereas those who are not accepting would be more likely to dismiss it.

TABLE 2
Summary of Hierarchical Regression Analysis for Sex, SOQ-RTD, and Hopelessness Predicting Suicidal Ideation

Variable	*B*	*SE B*	B
Step 1			
Sex	1.30	.46	.17**
SOQ-RTD	0.12	.04	.20**
HS	0.35	.05	.40***
Step 2			
Sex × SOQ-RTD	–0.18	.09	–.25*
Sex × HS	0.15	.12	.14
SOQ-RTD × HS	0.01	.01	.10
Step 3			
Sex × SOQ-RTD × HS	–0.04	.02	–.25*

Note. $R^2 = .24$ for Step 1 ($p < .001$); $\Delta R^2 = .02$ for Step 2 ($p = .11$); $\Delta R^2 = .02$ for Step 3 ($p < .05$).
SOQ-RTD = Suicide Opinion Questionnaire-Right to Die subscale; HS = Hopelessness Scale.
*$p < .05$; **$p < .01$; ***$p < .001$.

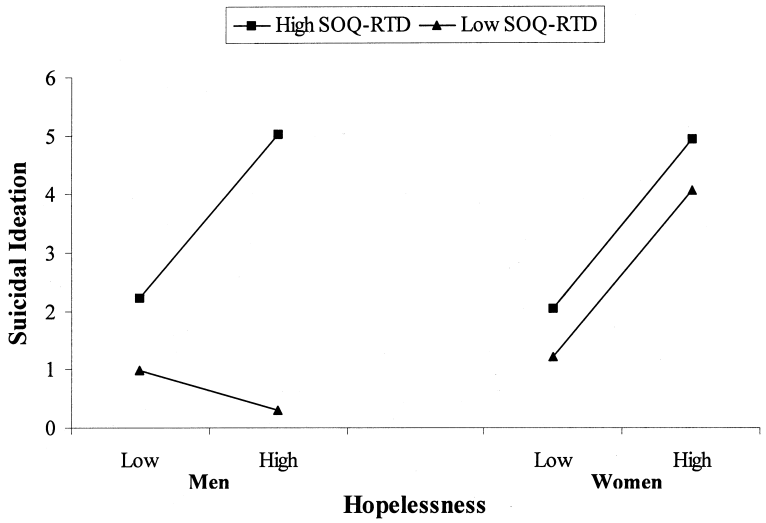

Figure 1. Summary of SOQ-RTD × HS interaction for men and women.

There are several limitations to the current study which should be noted. First, the study was cross-sectional, which precludes causal conclusions. Future longitudinal studies are needed to determine whether the cognitive vulnerability-affective stress interaction actually predicts the onset of suicidal ideation and behavior. In addition, prospective studies should seek to determine factors that may contribute to changes in individuals' attitudes toward suicide. Second, all the assessments were based on participants' self-report. Thus, it is unclear the extent to which the relations among variables were inflated due to shared method variance. Future studies, therefore, should seek to replicate the current findings while including multi-method assessments of each construct (e.g., questionnaire and interview assessments). Third, participants in the current study were university undergraduates.

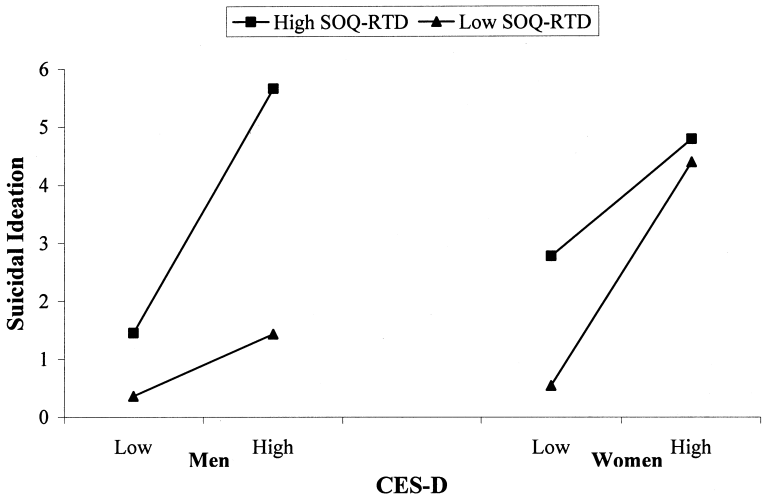

Figure 2. Summary of SOQ-RTD × CES-D interaction for men and women.

TABLE 3
Summary of Hierarchical Regression Analysis for Sex, SOQ-RTD, and CES-D Predicting Suicidal Ideation

Variable	*B*	*SE B*	B
Step 1			
Sex	.60	.35	.08
SOQ-RTD	.14	.04	.23***
CES-D	.15	.02	.45***
Step 2			
Sex × SOQ-RTD	–.15	.09	–.20
Sex × CES-D	–.04	.05	–.10
SOQ-RTD × CES-D	–.00	.00	–.02
Step 3			
Sex × SOQ-RTD × CES-D	–.02	.01	–.35***

Note. $R^2 = .28$ for Step 1 ($p < .001$); $\Delta R^2 = .02$ for Step 2 ($p = .18$); $\Delta R^2 = .03$ for Step 3 ($p = .001$).

SOQ-RTD = Suicide Opinion Questionnaire-Right to Die subscale; HS = Hopelessness Scale.

***$p \leq .001$.

As such, they represent a fairly high functioning sample, which may limit the generalizability of the current findings to other populations. Future studies should seek to replicate the current findings in samples with more severe levels of depression and hopelessness. Future studies should also seek to determine whether the results obtained in this study generalize to actual suicide attempts or whether they are limited to the prediction of suicidal ideation.

The current results have a number of potentially important implications. First, the results may represent a kind of vulnerability-stress model of suicide risk in which positive attitudes toward suicide serve as a vulnerability that, when activated by negative affective states, contributes to an increased risk for suicide. Given the cross-sectional design of this study, however, this conclusion remains tentative. Specifically, although the results are consistent with a model in which attitudes toward suicide contribute to suicide risk in the presence of hopelessness or depression, the cross-sectional design did not allow us to examine the temporal precedence of attitudes toward suicide. Thus, although studies have provided some evidence that attitudes toward suicide may be relatively trait-like (e.g., Domino, 1996), we did not investigate whether attitudes toward suicide actually preceded the onset of suicidal ideation. Therefore, prospective longitudinal studies, in which attitudes toward suicide and suicidal ideation as well as hopelessness and depressive symptoms are repeatedly assessed, are needed to more definitively test the vulnerability model.

If the vulnerability-stress model is supported in longitudinal research, there may be important clinical implications. At a minimum, it would suggest that clinicians should assess patients' attitudes toward suicide. Research has suggested that individuals differ in the conditions under which suicide is seen as acceptable (e.g., elderly person with terminal disease versus a college students with depression; Droogas, Siiter, & O'Connell, 1982–83; Ingram & Ellis, 1995). Knowing where along this continuum a patient falls could provide important information regarding risk for suicide. Further, if the patient views his or her depression as a justifiable reason for suicide rather than simply seeing the suicidal ideation as a symptom of depression, these attitudes may become a focus of intervention.

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