Cogn Ther Res (2007) 31:533–546
DOI 10.1007/s10608-007-9151-0

ORIGINAL ARTICLE

Dispositional Optimism as a Moderator of the Relationship Between Negative Life Events and Suicide Ideation and Attempts

Jameson K. Hirsch · Karen Wolford · Steven M. LaLonde · Lisa Brunk · Amanda Parker Morris

Published online: 14 July 2007

Abstract Relatively little research has focused on the role that positive psychological characteristics, such as optimism, might play in the mitigation of stressors and reduction of psychopathology. Dispositional optimism is a trait-like characteristic reflecting a positive attitude or mood regarding the future. This study examined the moderating effect of dispositional optimism on the relationship between negative life experiences and suicide ideation and attempts in a college student sample. Negative life events were associated with current suicide ideation and previous suicide attempts, and dispositional optimism moderated these relationships, after controlling for hopelessness and severity of depression. Individuals with greater optimism have reduced risk for suicide ideation and attempts in the face of low to moderate negative life events; however, this association is changed at the highest levels of negative life events. Implications for

J. K. Hirsch (✉)
Department of Psychology, Rochester Institute of Technology, 92 Lomb Memorial Drive, Rochester, NY 14623, USA
e-mail: jkhgla@rit.edu

J. K. Hirsch
Department of Psychiatry, University of Rochester School of Medicine and Dentistry, Rochester, NY, USA

K. Wolford
SUNY College at Oswego, Oswego, NY, USA

S. M. LaLonde
Rochester Institute of Technology, John D. Hromi Center for Quality and Applied Statistics, Rochester, NY, USA

L. Brunk
Central Nassau Guidance and Counseling Services, Hicksville, NY, USA

A. P. Morris
School of Professional Psychology, Pacific University, Hillsboro, OR, USA

treatment include strengthening active and future-focused coping in patients who have experienced negative or potentially traumatic life events to protect against suicidal thoughts and behaviors.

Keywords Dispositional optimism · Negative life events · Suicide ideation · Suicide attempt

Introduction

Suicide is the third leading cause of death during late adolescence and early adulthood (National Center for Health Statistics, 2004), and the 5th leading cause of years of potential life lost before age 65 (National Center for Injury Prevention and Control, 2005), making it is a critical public health problem among young people (US Public Health Service, 1999). Risk of psychopathology, including suicidal thoughts and behavior, also appears to be greater for individuals with stressful, negative or potentially traumatic life events in their histories (Flannery, Singer, & Wester, 2001; Kraiij, Arensman, & Spinhoven, 2005; Phillips et al., 2002; Yang & Clum, 1996).

Most previous research in this area has focused on cognitive characteristics that confer risk for suicidal thoughts and behaviors, rather than on variables that might buffer against suicidal thoughts and behaviors. A more salutogenic model would suggest that the failure of psychopathology to develop in persons experiencing negative and potentially traumatic life events might be the result of individual coping processes, such as future orientation or optimism (Snyder et al., 1991). The current study examined the association of negative and potentially traumatic life events and suicide ideation, and investigated whether dispositional optimism is a moderator of this relationship.

Dispositional optimism is conceptualized as 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, whereas dispositional pessimism is classified as a general, negative expectation for the future (Burke, Joyner, Czech, & Wilson, 2000; Scheier & Carver, 1992). Findings are inconsistent regarding the relationship between optimism and pessimism. Some research suggests that they are independent, negatively correlated constructs (Affleck & Tennen, 1996; Puskar, Sereika, Lamb, Tusaie-Mumford, & McGuinness, 1999; Scheier & Carver, 1985), while other studies have identified dispositional optimism/pessimism as a unidimensional construct on a continuum (Gillham, Shatte, Reivich, & Seligman, 2001; Snyder, 1994). Related, yet unique, constructs include hopelessness, which is defined as a lowered expectation of goal achievement and a reduced belief in the likelihood of success, and includes feelings of futility about the future (Dori & Overholser, 1999); conversely, hope is the belief in the attainability of goals and the identification of pathways to facilitate goal achievement (Snyder et al., 1991). An individual who is hopeless, perhaps due to chronic negative life events, may feel as if they are unable to successfully achieve important personal goals; however, that does not preclude them from feeling a sense of optimism that they may someday be able to do so. In our own work, we have shown that optimism is conceptually distinct from hopelessness (Hirsch & Conner, 2007), suggesting that it is indeed possible to manifest both of these cognitive-emotional characteristics simultaneously.

As a protective factor, optimism may provide a measure of resilience against negative physiological and psychological outcomes (Miller, Manne, Taylor, Keates, & Dougherty, 1996) via the use of active, adaptive coping strategies (Gum & Snyder, 2002; Scheier & Carver, 1992). Direct engagement of problems, motivation to overcome adversity, and goal persistence are examples (Brissette, Scheier, & Carver, 2002); meaningful and supportive interpersonal relationships may also be important (Chang & Sanna, 2001; Seligman, Schulman, DeRubeis, & Hollon, 1999). Benefits arising from an optimistic perspective may also be due to a sense of confidence regarding the attainability of future goals (Scheier & Carver, 1992), or through the promotion of a more realistic and future oriented life perspective (Taylor & Brown, 1988).

A dynamic relationship may exist between internal, adaptive characteristics and external stressors. For instance, individuals experiencing difficult life circumstances may be unable to positively reframe or reappraise their negative life experiences (Carver, Scheier, & Weintraub, 1989; Folkman, 1997), an ability that has been found to influence successful reduction of stress-related symptoms (Hirsch et al., 2007b). Further, individuals with a tendency to view the world in a future-oriented manner may think about negative and potentially traumatic life circumstances more favorably and may be less likely to think about or attempt suicide (Hirsch et al., 2007a). Optimism is associated with reduced depression (Carver et al., 1993; Davis, Nolen-Hoeksema, & Larson, 1998; Long & Sangster, 1993), better psychological adjustment to negative life events (Magaletta & Oliver, 1999), and increased psychological well-being (Carver et al., 1993; Park, Cohen, & Murch, 1996; Rothbaum, Weisz, & Snyder, 1982); however, excessive or unrealistic optimism may have a detrimental effect (Fournier, de Ridder, & Bensing, 2002; Segerstrom, 2005).

The current study examines the relationship between history of negative life events and suicide ideation and attempts, and whether dispositional optimism is a moderator of this relationship. We hypothesized that negative life events would be associated with suicide ideation and attempts and that optimism would moderate this relationship, after controlling for depressive symptoms and hopelessness.

Methods

Participants

Participants were volunteers recruited from a rural, Eastern state college. Informed consent was obtained from participants. A power analysis was conducted to determine the number of participants needed to achieve 80% power to detect a significant effect ($p < .01$), given the standard deviation of predictor variables (x_{mean}=5) and correlation of residuals ($r = .30$), resulting in a necessary sample of 122 subjects. Parameter estimates were based on our previous research with college students (Hirsch & Conner, 2007). One hundred thirty-eight participants were included in the study, ranging in age from 18 years to 57 years old (x_{mean} age = 22.5; Median = 21; $SD = 6.10$). There were 38 males (27%) and 100 females (73%) in the study, and the sample was primarily white (79%), although several ethnic groups were represented, including African American (4.5%), Native American (1.3%), Hispanic / Latin–American (1.3%) and Asian (1%).

Measures

Life Orientation Test— Revised (LOT-R; Scheier, Carver, & Bridges, 1994)

The LOT-R assesses trait-like optimism and pessimism via general, dispositional 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*). Examples of items include: 1) In uncertain times, I usually expect the best; 2) If something can go wrong for me, it will; and, 3) I'm always optimistic about my future. Negatively worded items are reverse scored and all items are summed to create an overall score; filler items are not included in the total score. Higher scores indicate increased optimism. The LOT-R shows acceptable reliability; test–retest reliability was .79 for a college sample (over a 4-month interval) and $\alpha = .78$. In the current study, internal consistency was acceptable ($\alpha = .84$), and the mean (*SD*) score for this sample was 14.76 (5.49).

Lifetime Incidence of Traumatic Events (LITE; Greenwald & Rubin, 1999)

The LITE-Student form is a 16-item self-report checklist designed to measure the occurrence of negative and potentially traumatic life events, including emotional, physical and sexual abuse and neglect. Respondents are asked to report whether such events have ever occurred within their lifetime. The LITE is scored as a continuous measure. The LITE has been used to assess traumatic events in older adolescents and their parents, correlates positively with assessments of PTSD symptoms, and exhibits good to excellent test–retest reliability and adequate criterion validity against a structured interview. The mean score for the LITE, in the current sample, was 6.36 ($SD = 2.60$).

Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996)

The widely used BDI-II is a 21-item self-report measure of the presence and severity of cognitive, affective, somatic and motivational symptoms of depression. The BDI-II predicted depression in a clinical college sample, correlates adequately with scores on the Hamilton Psychiatric Rating Scale for Depression ($r = .71$), and has exhibited adequate test–retest reliability (.93; Beck et al., 1996). In the current sample, the mean score for the BHS was 12.31 ($SD = 9.89$); Cronbach's alpha = .93.

Beck Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974)

This scale assesses level of hopelessness via 20 true–false statements, and has adequate internal and test–retest reliability (Bonner & Rich, 1987). The BHS predicted suicide ideation (Beck, et al., 1974) and suicide attempts (Minkoff, Bergman, Beck, & Beck, 1973), and differentiated between suicide attempters and completers (Beck, Steer, Kovacs, & Garrison, 1985). Internal consistency was high ($\alpha = .84$), and the mean score for the current sample was 4.46 ($SD = 3.42$).

Beck Scale for Suicide Ideation (BSS; Beck, Kovacs, & Weissman, 1979)

The BSS is a 21-item self-report assessment of thoughts, attitudes and intentions regarding suicide, including suicide attempts. Participants were classified as suicide ideators if they had a score greater than 0 on the BSS, indicating the presence of any suicide ideation. Suicide attempt status was defined as a score greater than 0 on BSS item #20, with intent to die. The BSS has adequate internal consistency, demonstrates high face, convergent, and construct validity (Beck et al., 1979), and is predictive of both suicide ideation and attempts (Cochrane-Brink, Lofchy, & Sakinofsky, 2000; Priester & Clum, 1992). The mean score for the current sample was 3.49 (SD = 3.92); Cronbach's alpha = .88.

Statistical analyses

Independence of study variables was assessed using two-tailed bivariate correlation analyses. Hierarchical, multiple linear regressions were utilized to conduct moderator analyses predicting suicide ideation, scored as a continuous measure, according to accepted guidelines (Baron & Kenny, 1986); variables and covariates were entered on the first step, and the interaction term was entered on the second step. Additionally, hierarchical, multiple logistic regressions were used to conduct moderator analyses predicting suicide attempt status, scored dichotomously (Jaccard & Turrisi, 2003). Scores on the BHS, BDI-II and BSS were positively skewed and were subjected to square-root transformation prior to analyses. By design, all analyses controlled for depressive symptoms (BDI-II), hopelessness (BHS) and gender (females are the reference group); however, we also ran these analyses without controlling for depression and hopelessness, and report these results. Predictor variables of optimism and negative life events were centered prior to analyses to reduce multicollinearity occurring as a result of the moderator interaction (Aiken & West, 1991). To illustrate the moderator interaction, participants were categorized into high, medium and low optimism groups using the mean score, and cutoffs either one standard deviation above or below the mean.

Results

The current sample had a diverse range of representation of negative and potentially traumatic life experiences; all subjects had experienced at least two negative and potentially traumatic life experiences (see Table 1). The median number of negative life events was equal to 6. Slightly over 10% of the sample (n = 14) reported attempting suicide in the past. Optimism was negatively correlated with negative life events (–.10), hopelessness (–.70) and depressive symptoms (–.59), whereas suicide ideation was positively correlated with negative life events (r = .29), hopelessness (r = .49), and depressive symptoms (r = .48), and negatively correlated with optimism (r = –.40) (see Table 2).

A moderator model of suicide ideation was fit using gender, optimism, and negative life events as predictors, entered on the first step; the interaction of dispositional optimism and negative life events was added in the second step and found to be significant (t = 2.74, p < .01, β = .21). In this uncontrolled model, R^2 for Step One = .23; there was a change in R^2 of .04 for Step Two (p < .001). This moderating effect holds when the model is controlled for depressive symptoms and hopelessness (R^2 = .34 for

Table 1 Frequency table of negative life events

Traumatic event	Frequency *N* (%)
Car accident	89 (57.1)
Self hurt or hospitalized	73 (46.8)
Seen another hurt	89 (57.1)
Family member in hospital	117 (75.0)
Family member died	112 (71.8)
Friend ill or died	66 (42.3)
Been in a fire	10 (6.4)
Natural disaster	29 (18.6)
Parents abusive to each other	37 (23.7)
Parents separated or divorced	50 (32.1)
Self been hit, beaten or hurt	40 (25.6)
Tied up or locked in small space	6 (3.8)
Forced sexual abuse	18 (11.5)
Been threatened	49 (31.4)
Been robbed	32 (20.5)
Other scary or upsetting event	24 (15.4)

Table 2 Bivariate correlations of study variables

	Depressive symptoms	Hopelessness	Optimism	Life events	Suicide ideation	Suicide attempt
Gender	.11	.06	–.15	–.08	–.04	.14
Depressive Symptoms	–	.65***	–.59***	.20**	.48***	.30***
Hopelessness	–	–	–.70***	.03	.49***	.18*
Optimism	–	–	–	–.10	–.40***	–.14
Life Events	–	–	–	–	.29***	.18*
Suicide Ideation	–	–	–	–	–	.46***

Note: Depressive symptoms = Beck Depression Inventory; Hopelessness = Beck Hopelessness Scale; Optimism = Life Orientation Test—Revised; Life events = Lifetime Inventory of Traumatic Events; Suicide ideation = Beck Scale of Suicide Ideation (BSS) Total Score; Suicide attempt = BSS Item #20

*** $p < .001$; ** $p < .01$; * $p < .05$

Step One; $\Delta R^2 = .04$ for Step Two [$p < .01$]) (see Table 3). The effect of optimism on suicide ideation appears to be dependent on the level of negative life events (see Fig. 1). At low levels of negative life events, individuals with less dispositional optimism have an increased likelihood of suicide ideation, and those with greater optimism have less likelihood of having suicidal thoughts. As negative life events increase, risk for suicidal thoughts also increases for individuals at all levels of optimism, although individuals with moderate and high levels of optimism appear to be at the greatest risk.

A similar moderator analysis using logistic regression was conducted with suicide attempts as the response. Gender, optimism and life events were entered on the first step; the interaction between dispositional optimism and negative life events was entered on the second step, and was significant (Omnibus coefficient of Step One, $\chi^2 = 9.30$, $p = .03$; Step Two, $\chi^2 = 7.80$, $p = .005$; Wald Chi-Square = 6.82, $p < .01$). This effect continued to be significant when controlling for hopelessness and depressive symptoms (Omnibus coefficient of Step One, $\chi^2 = 17.71$, $p = .003$; Step Two, $\chi^2 = 7.81$, $p = .005$; Wald Chi-Square = 6.69, $p < .01$) (see Table 4). Individuals experiencing few negative life events and who have moderate to high levels of dispositional optimism are

Table 3 Optimism, negative life events and suicide ideation—multivariate linear regression

	Model I—uncontrolled analysis					Model II—controlled analysis			
	T-Value	Un. β [SE]	Beta	CI (95%)		*T*-Value	Un. β [SE]	Beta	CI (95%)
Step One					Step One				
Constant	4.80***	1.82 (.38)	–	(1.07, 2.56)	Constant	–1.51	–1.44 (.95)	–	(–3.30, .44)
Gender (Female)	–1.03	–.22 (.21)	–.08	(–.63, .19)	Gender (Female)	–.99	–.20 (.20)	–.07	(–.58, .19)
Optimism	–4.95***	–.08 (.02)	–.39	(–.12, –.05)	Optimism	–.37	–.02 (.02)	–.04	(–.05, .04)
Life Events	3.20**	.11 (.04)	.25	(.04, .18)	Life events	3.14**	.11 (.03)	.23	(.04, .17)
					Depressive symptoms	2.13*	.17 (.08)	.21	(.01, .32)
					Hopelessness	2.89**	.76 (.26)	.32	(.24, 1.28)
Step Two					Step Two				
Constant	5.26***	1.96 (.37)	–	(1.22 . 2.69)	Constant	–1.35	–1.26 (.93)	–	(–3.09, .58)
Gender (Female)	–1.38	–.29 (.21)	–.11	(–.69, .12)	Gender (Female)	–1.32	–.26 (.19)	–.10	(–.64, .13)
Optimism	–5.22***	–.09 (.02)	–.40	(–.12, –.05)	Optimism	–.58	–.01 (.02)	–.06	(–.06, .03)
Life events	3.42***	.12 (.03)	.26	(.04, .18)	Life events	3.38**	.11 (.03)	.25	(.05, .18)
Optimism × Life Events interaction	2.74**	.02 (.01)	.21	(.01, .03)	Depressive symptoms	2.01*	.15 (.08)	.20	(.00, .30)
					Hopelessness	2.95**	.76–.26	.32	(.25, 1.26)
					Optimism × Life events interaction	2.66**	.02 (.01)	.19	(.00, .03)

Note: Controlled analyses covary depressive symptoms and hopelessness

Note: Depressive symptoms = Beck Depression Inventory; Hopelessness = Beck Hopelessness Scale; Optimism = Life Orientation Test—Revised; Life events = Lifetime Inventory of Traumatic Events; Suicide ideation = Beck Scale of Suicide Ideation (BSS) Total Score

Note: Model I—R^2 = .23 for Step One; ΔR^2 = .04 for Step Two ($p < .001$)

Note: Model II—R^2 = .34 for Step One; ΔR^2 = .04 for Step Two ($p < .01$); *** $p < .001$; ** $p < .01$;* $p < .05$

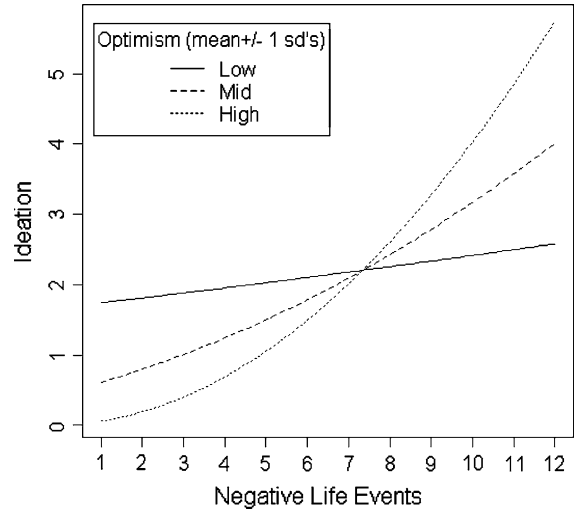

Fig. 1 Linear regression—plot of interaction between dispositional optimism and negative life events for suicide ideation

less likely to have attempted suicide in their lifetime than individuals with low optimism; however, as negative life events increase, risk for suicide attempt increases in magnitude for those with moderate and high optimism while risk for individuals with low optimism remains relatively stable (see Fig. 2).

Discussion

The purpose of this study was to examine the relationship between stressful, negative and potentially traumatic life experiences and suicidal thoughts and behaviors in a college student sample. As hypothesized, negative life events were predictive of suicide ideation and attempts, and optimism moderated their association. Current results suggest that individuals who are able to maintain a positive attitude regarding the future, despite the presence of low to moderate levels of current or historical negative life events, may receive the benefit of a buffering effect that protects against suicidal thoughts and behaviors. There may be, however, limits to the protective effects that are available from cognitive characteristics in the face of extreme stressors.

Negative and potentially traumatic life events are associated with poor mental health outcomes, including thoughts of suicide (Flannery et al., 2001; Yang & Clum, 1996); such sequelae, however, are not inevitable. We have previously shown that individuals who are hopeless or experiencing functional impairment, who also have an optimistic or future-oriented perspective, are less likely to experience suicidal ideation and have fewer suicide attempts (Hirsch & Conner, 2007; Hirsch et al., 2007b). In the current study, we expand our past work by examining a broader set of risk factors, ranging from common (e.g., car accident, divorce of parents) to less frequent (e.g., being assaulted or sexually abused) negative life events.

The presence of positively valenced cognitive and emotional characteristics have consistently been shown to be of benefit psychologically and physically (Carver et al., 1993; Davis et al., 1998; Hirsch et al., 2007b), but it is important to understand the range

Table 4 Optimism, negative life events and suicide attempt—multivariate logistic regression

	Model I—Uncontrolled analysis				Model II—Controlled analysis		
	Odds Ratio (95% CI)	Un. β [SE]	Wald		Odds Ratio (95% CI)	Un. β [SE]	Wald
Step One				Step One			
Constant	.11 ( )***	–2.17 (.35)	37.74	Constant	.01 ( )	–5.05 (2.94)	2.96
Gender (Female)	.19 (.02, 1.65)	–1.62 (1.08)	2.25	Gender (Female)	.25 (.03, 2.16)	–1.40 (1.11)	1.60
Optimism	.93 (.84, 1.04)	–.07 (.05)	1.62	Optimism	1.06 (.89, 1.26)	.06 (.09)	.41
Life events	1.25 (1.01, 1.54)*	.22 (.11)	4.22	Life events	1.16 (.92, 1.46)	.14 (.12)	1.50
				Depressive symptoms	2.40 (1.16, 4.99)*	.88 (.37)	5.55
				Hopelessness	.92 (.17, 5.07)	–.09 (.87)	.01
Step Two				Step Two			
Constant	.08 ( )***	–2.49 (.44)	31.53	Constant	.01 ( )	–4.86 (3.03)	2.56
Gender (Female)	.23 (.03, 2.02)	–1.48 (1.11)	1.76	Gender (Female)	.23 (.02, 2.26)	–1.48 (1.17)	1.60
Optimism	.88 (.78, .99)*	–.13 (.06)	4.37	Optimism	.99 (.80, 1.21)	–.01 (.10)	.02
Life events	1.39 (1.10, 1.80)*	.33 (.13)	6.42	Life Events	1.41 (1.05, 1.90)*	.34 (.15)	5.19
Optimism × life events interaction	1.06 (1.01, 1.10)***	.05 (.02)	6.82	Depressive symptoms	2.55 (1.20, 5.42)*	.94 (.38)	5.94
				Hopelessness	.74 (.13, 4.22)	–.31 (.89)	.12
				Optimism × life events interaction	1.060 (1.02, 1.12)**	.06 (.02)	6.69

Note: Controlled analyses covary depressive symptoms and hopelessness

Note: Depressive symptoms = Beck Depression Inventory; Hopelessness = Beck Hopelessness Scale; Optimism = Life Orientation Test—Revised; Life events = Lifetime Inventory of Traumatic Events; Suicide attempt = BSS Item #20

Note: Omnibus coefficient significance of Model I—Block One, $\chi^2 = 9.30$, $p = .03$; Model I—Block Two, $\chi^2 = 7.80$, $p = .005$

Note: Omnibus coefficient significance of Model II—Block One, $\chi^2 = 17.71$, $p = .003$; Model II—Block Two, $\chi^2 = 7.81$, $p = .005$; * $p < .05$; ** $p < .01$; *** $p < .001$

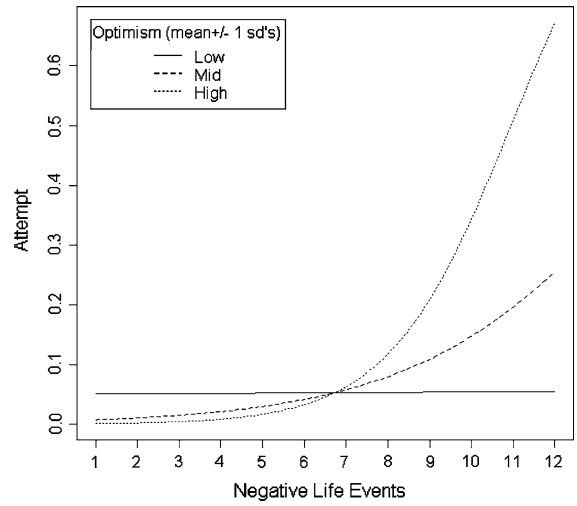

Fig. 2 Logistic regression—plot of interaction between dispositional optimism and negative life events for suicide attempt

of advantage these characteristics confer across different situations. Our results suggest that the relationship between optimism and suicide ideation in the context of negative life events may not be linear and may, in fact, exhibit a dose–response effect; individuals who experience a greater number of negative and potentially traumatic appear to receive less benefit from optimism, and may be at greater risk for suicide ideation. In fact, individuals with greater optimism in the face of extreme stressors may be at the most risk. Our results indicate that, at low levels of negative life events, individuals with less optimism are at greater risk for suicide ideation and attempts, whereas individuals with moderate and high levels of optimism are at decreased risk. As negative and potentially traumatic life events increase in frequency, all participants, despite their level of optimism, experience increased risk for suicide ideation and attempts. Paradoxically, however, as negative life events increase, individuals with moderate and high levels of optimism are at the greatest risk for suicide ideation and attempts.

Although there has been no previous research focused on the potentially detrimental effects of optimism as it relates to suicidal thoughts and behaviors, there is some evidence to suggest that optimism may not always be a panacea. For instance, research on chronic disease and immune functioning suggests that the adaptive benefits of optimism may be dependent on the controllability of the disease (Fournier et al., 2002), as well as the complexity and persistence of stressors (Segerstrom, 2005). In the face of difficult life events, optimists may persist in their beliefs that positive results are attainable and may invest greater effort to achieve their goals, despite perhaps insurmountable obstacles (Nes, Segerstrom, & Sephton, 2005). This increased engagement by optimists may occur at the expense of mental and physiological well-being, resulting in feelings of hopelessness and, ultimately, suicidal thoughts and behaviors.

Implications of these findings include potential benefits to be gained by the promotion of an adaptive, future-oriented perspective into treatment approaches for suicidal clients, particularly those who have experienced mild to moderate levels of controllable, negative life events. Bolstering coping skills in traumatized and depressed individuals is a widely accepted cognitive-behavioral treatment regimen; however,

neither this approach nor the enhancement of optimism has been studied with regard to negative life events or suicide ideation and behaviors. Successful therapy to resolve trauma-related experiences often includes cognitive restructuring and future-oriented identity reconstruction, techniques that parallel the cognitive framework and forward-looking perspective associated with optimism (Ingram, Hurley, & Riley, 1985). Such similarities suggest that a prospectively-oriented intervention aimed at increasing an individual's positive view of the future may result in success for the treatment of trauma-related depression and suicide ideation; we know of no treatment studies that have examined this effect, and prospective research is necessary.

Although it has not been applied to the treatment of negative life events, trauma or suicidal activity, training individuals to be more optimistic is associated with the reduction of depression (Gillham et al., 2001; Puskar, Tusaie-Mumford, Sereika, & Lamb, 1999) and increased hopefulness (Johnson, Crofton, & Feinstein, 1996). Increasing optimism in a traumatized and suicidal client could be potentially accomplished via cognitive-behavioral therapy strategies and may take the form of increasing positive self-statements, encouraging motivated and goal-directed behavior (Riskind, Sarampote, & Mercier, 1996) or teaching clients to utilize positive reframing and active, rather than avoidant, coping (Boyers, Antoni, Weiss, & Carver, 1999), both of which have been effective in combating depression. Future research should investigate whether this benefit is also received with regard to suicide ideation, in the context of negative and potentially traumatic life events, and the limitations of such an effect.

Although our use of college students may limit generalizability, the investigation of college samples is very important due to high incidence rates of trauma and suicidal activity and behaviors for college students (Furr, Westefeld, McConnell, & Jenkins, 2001; Vrana & Lauterbach, 1994). Future research, however, should explore these variables and test the moderator models using diverse clinical and demographic samples. Further, the association between hopelessness and depression, optimism, and suicide ideation is not fully understood; future research should more thoroughly examine potential interactions between these variables, particularly the potential increase in risk for optimists as stressors increase in frequency. Reliance on retrospective self-reports of negative life events may result in overreports or underreports of potentially traumatic experiences; however, this is an accepted means of assessing such privately held memories and beliefs. Negative and potentially traumatic life events occurring in the distant past may have an affect on a person's attitudes, including optimism; this relationship should be studied prospectively in the future. Although our findings are compelling, the cross-sectional design prohibits causal or developmental conclusions about our results or the construct of dispositional optimism. We also did not have sufficient data to assess whether negative life events actually preceded suicide attempts.

Future oriented characteristics, such as hope, optimism and reasons for living, appear to have an important relationship with suicidal thoughts and behaviors, and may offer some level of protection even in the face of difficult life circumstances. There may be, however, limits to the advantages provided by these characteristics, and future research is needed to better comprehend magnitude and scope of potential protective effects. Our findings suggest that protective factors exist that, if enhanced therapeutically, may assist in the prevention of suicidal thoughts and behaviors for individuals experiencing mild to moderate levels of negative and potentially traumatic life events.

Acknowledgments Manuscript preparation by the first author was supported by PHS Grant MH-20061-01 (Yeates Conwell, M.D. & Jameson K. Hirsch, Ph.D.).

References

Affleck, G., & Tennen, H. (1996). Construing benefits from adversity: Adaptational significance and dispositional underpinnings. *Journal of Personality, 64*, 899–922.

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. California: Sage Publications .

Baron, R. M., & Kenny, D. A. (1986). The moderator mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173–1182.

Beck, A. T., Kovacs, M., & Weissman, A. (1979). Assessment of suicidal intention: Scale for Suicide Ideation. *Journal of Consulting and Clinical Psychology, 47*, 343–352.

Beck, A. T., Steer, R. A., & Brown, G. (1996). *Manual for Beck Depression Inventory—II*. San Antonio, TX: Psychological Corporation.

Beck, A. T., Steer, R. A., Kovacs, M., & Garrison, B. (1985). Hopelessness and eventual suicide: A 10-year prospective study of patients hospitalized with suicidal ideation. *American Journal of Psychiatry, 142*, 559–563.

Beck, A. T., Weissman, A., Lester, D., & Trexler, L. (1974). Measurement of pessimism: Hopelessness Scale. *Journal of Consulting and Clinical Psychology, 42*, 861–865.

Bonner, R. L., & Rich, A. R. (1987). Toward a predictive model of suicidal ideation and behavior: Some preliminary data in college students. *Suicide and Life-Threatening Behavior, 17*, 50–63.

Boyers, A. E., Antoni, M. H., Weiss, S., & Carver, C. S. (1999). Ethnic differences in coping and personal growth in early stage breast cancer patients. *Psychosomatic Medicine, 61*, 100.

Brissette, I., Scheier, M. F., & Carver, C. S. (2002). The role of optimism in social network development, coping, and psychological adjustment during a life transition. *Journal of Personality and Social Psychology, 82*, 102–111.

Burke, K. L., Joyner, A. B., Czech, D. R., & Wilson, M. J. (2000). An investigation of concurrent validity between two optimism/pessimism questionnaires: The Life Orientation Test-Revised and the Optimism/Pessimism Scale. *Current Psychology, 19*, 136.

Carver, C. S., Pozo, C., Harris, S. D., Noriega, V., Scheier, M. F., Robinson, D. S. et al. (1993). How coping mediates the effect of optimism on distress: A study of women with early-stage breast-cancer. *Journal of Personality and Social Psychology, 65*, 375–390.

Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology, 56*, 267–283.

Chang, E. C., & Sanna, L. J. (2001). Optimism, pessimism, and positive and negative affectivity in middle-aged adults: A test of a cognitive-affective model of psychological adjustment. *Psychology and Aging, 16*, 524–531.

Cochrane-Brink, K. A., Lofchy, J. S., & Sakinofsky, I. (2000). Clinical rating scales in suicide risk assessment. *General Hospital Psychiatry, 22*, 445–451.

Davis, C. G., Nolen-Hoeksema, S., & Larson, J. (1998). Making sense of loss and benefiting from the experience: Two construals of meaning. *Journal of Personality and Social Psychology, 75*, 561–574.

Dori, G. A., & Overholser, J. C. (1999). Depression, hopelessness, and self-esteem: Accounting for suicidality in adolescent psychiatric inpatients. *Suicide and Life-Threatening Behavior, 29*, 309–318.

Flannery, D. J., Singer, M. I., & Wester, K. (2001). Violence exposure, psychological trauma, and suicide risk in a community sample of dangerously violent adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*, 435–442 .

Folkman, S. (1997). Positive psychological states and coping with severe stress. *Social Science & Medicine, 45*, 1207–1221.

Fournier, M., de Ridder, D., & Bensing, J. (2002). How optimism contributes to the adaptation of chronic illness. A prospective study into the enduring effects of optimism on adaptation moderated by the controllability of chronic illness. *Personality and Individual Differences, 33*, 1163–1183.

Furr, S. R., Westefeld, J. S., McConnell, G. N., & Jenkins, J. M. (2001). Suicide and depression among college students: A decade later. *Professional Psychology-Research and Practice, 32*, 97–100.

Gillham, J., Shatte, A., Reivich, K., & Seligman, M. (2001). *Optimism, pessimism, and explanatory style*. Washington, DC: American Psychological Association.

Greenwald, R., & Rubin, A. (1999). Assessment of posttraumatic symptoms in children: Development and preliminary validation of parent and child scales. *Research on Social Work Practice, 9*, 61–75.
Gum, A., & Snyder, C. R. (2002). Coping with terminal illness: The role of hopeful thinking. *Journal of Palliative Medicine, 5*, 883–894.
Hirsch, J. K., & Conner, K. R. (2007). Dispositional and explanatory style optimism as potential moderators of the relationship between hopelessness and suicidal ideation. *Suicide & Life-Threatening Behavior, 36*, 661–669.
Hirsch, J. K., Duberstein, P., Conner, K. R., Heisel, M. J., Beckman, A., & Conwell, Y. (2007a). Future orientation and suicide ideation and attempts in depressed adults ages 50 and over. *American Journal of Geriatric Psychiatry, 14*, 752–757.
Hirsch, J. K., Duberstein, P., Conner, K. R., Heisel, M. J., Beckman, A., & Conwell, Y. (2007b). Future orientation moderates the relationship between functional status and suicide ideation in depressed adults. *Depression and Anxiety, 24*(3), 196–201.
Ingram, T. L., Hurley, E. C., & Riley, M. T. (1985). Grief resolution therapy in a pastoral context. *Journal of Pastoral Care, 39*, 69–72.
Jaccard, J., & Turrisi, R. (2003). Interaction effects in multiple regression. California: Sage Publications.
Johnson, J. G., Crofton, A., & Feinstein, S. B. (1996). Enhancing attributional style and positive life events predict increased hopefulness among depressed psychiatric inpatients. *Motivation and Emotion, 20*, 285–297.
Kraiij, V., Arensman, E., & Spinhoven, P. (2005). Negative life events and depression in elderly persons: A meta-analysis. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 57*, 87–94.
Long, B. C., & Sangster, J. I. (1993). Dispositional optimism pessimism and coping strategies—predictors of psychosocial adjustment of rheumatoid and osteoarthritis patients. *Journal of Applied Social Psychology, 23*, 1069–1091.
Magaletta, P. R., & Oliver, J. M. (1999). The hope construct, will, and ways: Their relations with self-efficacy, optimism, and general well-being. *Journal of Clinical Psychology, 55*, 539–551.
Miller, D. L., Manne, S. L., Taylor, K., Keates, J., & Dougherty, J. (1996). Psychological distress and well-being in advanced cancer: The effects of optimism and coping. *Journal of Clinical Psychology in Medical Settings, 3*, 115–130.
Minkoff, K., Bergman, E., Beck, A. T., & Beck, R. (1973). Hopelessness, depression, and attempted suicide. *American Journal of Psychiatry, 130*, 455–459.
National Center for Health Statistics (2004). *Deaths: Final data for 2002*. U.S.: Department of Health and Human Services.
National Center for Injury Prevention and Control (2005). *Web-based injury statistics query and reporting system (WISQARS)*. Centers for Disease Control and Prevention.
Nes, L. S., Segerstrom, S. C., & Sephton, S. E. (2005). Engagement and arousal: Optimism's effects during a brief stressor. *Personality and Social Psychology Bulletin, 31*, 111–120.
Park, C. L., Cohen, L. H., & Murch, R. L. (1996). Assessment and prediction of stress-related growth. *Journal of Personality, 64*, 71–105.
Phillips, M. R., Yang, G. H., Zhang, Y. P., Wang, L. J., Ji, H. Y., & Zhou, M. G. (2002). Risk factors for suicide in China: A national case-control psychological autopsy study. *Lancet, 360*, 1728–1736.
Priester, M. J., & Clum, G. A. (1992). Attributional style as a diathesis in predicting depression, hopelessness, and suicide ideation in college students. *Journal of Psychopathology and Behavioral Assessment, 14*, 111–122.
Puskar, K. R., Sereika, S. M., Lamb, J., Tusaie-Mumford, K., & McGuinness, T. (1999). Optimism and its relationship to depression, coping, anger, and life events in rural adolescents. *Issues in Mental Health Nursing*, 115–130.
Puskar, K. R., Tusaie-Mumford, K., Sereika, S. M., & Lamb, J. (1999). Screening and predicting adolescent depressive symptoms in rural settings. *Archives of Psychiatric Nursing, 13*, 3–11.
Riskind, J. H., Sarampote, C. S., & Mercier, M. A. (1996). For every malady a sovereign cure: Optimism training. *Journal of Cognitive Psychotherapy: An International Quarterly, 10*.
Rothbaum, F., Weisz, J. R., & Snyder, S. S. (1982). Changing the world and changing the self: A 2-process model of perceived control. *Journal of Personality and Social Psychology, 42*, 5–37.
Scheier, M. F., & Carver, C. S. (1992). Effects of optimism on psychological and physical well-being: Theoretical overview and empirical update. *Cognitive Therapy and Research, 16*, 201–228.
Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health assessment and implications of generalized outcome expectancies. *Health Psychology, 4*, 219–247.

Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology, 67*, 1063–1078.

Segerstrom, S. C. (2005). Optimism and immunity: Do positive thoughts always lead to positive effects. *Brain, Behavior and Immunity, 19*, 195–200.

Seligman, M. E. P., Schulman, P., DeRubeis, R., & Hollon, S. (1999). The prevention of depression and anxiety. *Prevention and Treatment, 2*.

Snyder, C. R. (1994). The psychology of hope: You can get there from here. New York: The Free Press.

Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., et al. (1991). The will and the ways—development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology, 60*, 570–585.

Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin, 103*, 210.

US Public Health Service (1999). The Surgeon General's call to action to prevent suicide. Washington D.C.

Vrana, S., & Lauterbach, D. (1994). Prevalence of traumatic events and posttraumatic psychological symptoms in a nonclinical sample of college-students. *Journal of Traumatic Stress, 7*, 289–302.

Yang, B., & Clum, G. A. (1996). Effects of early negative life experiences on cognitive functioning and risk for suicide: A review. *Clinical Psychology Review, 16*, 177–195.