



# Experience of life hassles and psychological adjustment among adolescents: does it make a difference if one is optimistic or pessimistic?

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## Abstract

This study examined optimism–pessimism as a moderator of the link between recent hassles and psychological maladjustment (viz. depressive symptoms and hopelessness) in a sample of adolescents ( $N=263$ ). Results indicated that optimism–pessimism and hassles significantly predicted scores on each adjustment measure. Moreover, a significant Optimism–Pessimism  $\times$  Hassles interaction was found in predicting depressive symptoms and hopelessness. Consistent with the proposed interaction model, a plot of the significant interactions indicated that the link between hassles and poor psychological adjustment was significantly more exacerbated for pessimistic compared to optimistic adolescents. Implications of the present findings are discussed. © 2002 Elsevier Science Ltd. All rights reserved.

*Keywords:* Optimism; Pessimism; Life hassles; Depressive symptoms; Hopelessness; Adolescents

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## 1. Optimism–pessimism and recent hassles in an adolescent population: evidence for an interactive model of psychological adjustment

Research examining cognitive models of psychological adjustment in adult populations have shown that beyond direct influences, cognitive factors can interact significantly with life stress in the prediction of adjustment (Ingram, Miranda, & Segal, 1998). Accordingly, studies have found that negative relative to positive cognitions tend to exacerbate the influence of stress on psychological adjustment, and hence, operate as a vulnerability factor in the link between life stress and adjustment (e.g. Abramson, Metalsky, & Alloy, 1989; Metalsky, Halberstadt, & Abramson,

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1987). In contrast, studies have found that positive compared to negative cognitions typically mitigate the negative influence of stress on adjustment, thus acting as a stress buffer. For example, in a study examining the role of positive cognitions in the link between stress and adjustment, Alloy and Clements (1992) found that optimistic beliefs about personal control were associated with reducing the influence of stress on the severity and duration of depressive symptoms in adults.

## 2. Optimism and pessimism

Among the many dimensions of positive and negative cognitions that have been studied, two have increasingly become the source of much research and theory over the last few decades, namely, optimism and pessimism. Interest in understanding the form and function of these cognitive variables have generated a great deal of research across areas of clinical, personality, social, and health psychology (Chang, 2001). According to Scheier and Carver (1985), *optimism* and *pessimism*, defined as generalized positive and negative outcome expectancies, represent relatively stable individual difference variables that promote and abate adjustment, respectively. Specifically, these investigators have argued that optimism is associated with and leads to securing positive outcomes, whereas pessimism is associated with and leads to incurring negative outcomes (Scheier & Carver, 1985). Consistent with this view, reviews of empirical studies have typically indicated that optimists are psychologically better adjusted than their more pessimistic counterparts (Scheier & Carver, 1985, 1992; Scheier, Carver, & Bridges, 2001).

Insofar that optimism and pessimism represent important dimensions of positive and negative cognition in adults, respectively (Scheier & Carver, 1985, 1992), it is not surprising that these variables have been found to interact with life stress in predicting adjustment (e.g. Bromberger & Matthews, 1996; Chang, 1998b). For example, in a study of young and middle-aged adults, Chang (in press) found that the association between appraised stress over the past month and psychological symptoms was significantly more exacerbated for pessimists, than for optimists in both age groups. That is, when younger and older adult pessimists perceived high levels of stress in their lives, they tended to experience significantly greater psychological symptoms than did younger and older adult optimists. Hence, these findings tend to support the view that pessimism intensifies the costs associated with experiencing high levels of stress on adjustment, whereas optimism mitigates such costs in both younger and older adult populations. Yet, what is not clear is whether such a view is warranted in understanding the role of optimism in the link between stress and adjustment in younger populations.

## 3. Testing a cognitive interactive model of psychological adjustment in adolescents

Comparable to findings linking stress to depressive symptoms in adults (e.g. Bolger, DeLongis, Kessler, & Schilling, 1989; Whisman & Kwon, 1993), studies have found a reliable link between life stress and depressive symptoms in younger, adolescent populations (e.g. Cheng & Lam, 1997; Compas, 1987; Siegel & Brown, 1988; Swearingen & Cohen, 1985). Therefore, the presence of a negative association between optimism and dysphoria in an adolescent population may raise the

possibility that optimism also operates (as with adults) as a stress buffer in this younger population. To date, however, studies on optimism and pessimism have tended to almost exclusively be focused on adult populations (Goodman, Knight, & DuRant, 1997), so much so, that the association between optimism and dysphoria or between optimism and stress in adolescent populations remains unclear or unknown. This can become particularly problematic when researchers or practitioners uncritically draw assumptions and implications for promoting optimism or abating pessimism in adolescent populations despite the fact that we have very little understanding of the function of these cognitive processes in adolescent populations. Hence, this study set out to increase our understanding of the role of optimism and pessimism in understanding the link between life stress and adjustment in adolescents. In doing so, we attempted to address a number of additional concerns.

Although an examination of the potential influence of optimism and stress on depressive symptoms would be valuable, consideration of another indice of adjustment may also be useful, in particular, hopelessness. As studies have shown, hopelessness is a significant predictor of suicide attempts in both adult (e.g. Beck, Steer, Kovacs, & Garrison, 1985) and adolescent populations (e.g. Negron, Piantentini, Graae, Davies, & Shaffer, 1997). Because suicide rates begin to sharply rise during adolescence (National Center for Health Statistics, 1990), it would be important in both research and practice with adolescents to identify factors which may be linked to hopelessness.

Furthermore, in studying the relations between optimism, life stress, and adjustment, it is important to determine how stress is defined. For example, life stress has often been based on a person's experience of major life events. However, life stress measures based on a list of major life events like the Life Experiences Survey (LES; Sarason, Johnson, & Siegel, 1978) do not necessarily assess for stress-related events that are particular to a specific population. For example, the LES fails to distinguish life events typically experienced by students versus community residents. Second, research has shown that measures of ongoing life stress or hassles (Kanner, Coyne, Schaefer, & Lazarus, 1981) may be a more appropriate and stronger predictor of psychological adjustment. In this regard, Kohn and his associates (Kohn, Lafreniere, & Gurevich, 1990; Kohn & Macdonald, 1992; Kohn & Milrose, 1993) have developed several population-specific hassles scales, including a scale for use with high-school student populations, namely, the Inventory of High-School Students' Recent Life Experiences or IHSSRLE (Kohn & Milrose, 1993). Unlike other hassles scales, the IHSSRLE is considered by Kohn and Milrose (1993) to be "decontaminated". That is, ratings on this hassles scale only assess for the frequency of particular hassles (e.g. disagreements with teachers, obtaining low grades, disappointed by friends), and do not assess for severity of hassle events (which often tend to overlap in affective content with most outcome measures of adjustment). Hence, in addition to considering different measures of adjustment, it might also be useful to consider a measure of life stress such as the IHSSRLE when testing for an interactive model of adjustment.

#### **4. Purpose of this study**

Given these considerations, the purpose of this study was to (1) examine the relations between optimism-pessimism, recent hassles, and psychological adjustment; and (2) determine if and how

optimism–pessimism moderates the link between hassles and adjustment. As in previous studies examining an interaction model in adult populations (e.g. Chang, in press), we looked at predicting depressive symptoms in adolescents. This would provide us a way to compare the present findings for depressive symptoms with those obtained from studying adult populations. However, insofar that expressions of hopelessness represent an important index of psychological adjustment in adolescents, we also examined the utility of an interaction model for predicting this variable in this study.

We predicted that optimism–pessimism would be significantly related to experience of recent hassles and measures of psychological adjustment for adolescents. That is, greater optimism should be significantly related to less hassles, less dysphoria, and less hopelessness. In addition, we predicted that optimism–pessimism would significantly moderate the influence of hassles on adjustment. In support of an interaction model, we expected pessimism to exacerbate the negative influence of hassles on adjustment, whereas optimism was expected to abate such influences on adjustment.

## 5. Method

### 5.1. Participants

With the consent and permission of a parent, 263 students (100 boys and 163 girls) attending a public high school near a major city in the Midwest completed survey measures for the present study. Ages ranged from 14 to 19 years, with a mean age of 15.73 ( $SD = 0.98$ ) years. Most of the participants were Caucasian (99.9%). With regard to class composition of the present sample, 44.9% were from the ninth grade, 23.1% from the 10th grade, and 31.9% from the 11th grade.

## 6. Measures

### 6.1. Optimism–pessimism

The revised Life Orientation Test (LOT-R; Scheier, Carver, & Bridges, 1994) is a six-item measure (plus four filler items) of individual difference in dispositional optimism–pessimism (e.g. “In uncertain times, I usually expect the best”). Respondents are asked to rate the extent of their agreement to these items across a five-point Likert-type scale ranging from 0 (*strongly disagree*) to 4 (*strongly agree*). The LOT-R is a brief modified version of the original LOT (Scheier & Carver, 1985) and has been found to correlate 0.95 with the latter (see Scheier et al., 1994). Higher scores on the LOT-R generally reflect a greater tendency to expect more positive versus negative outcomes.

#### 6.1.1. Hassles

Recent hassles were measured by the Inventory of High-School Students’ Recent Life Experiences (IHSSRLE; Kohn & Milrose, 1993). The IHSSRLE is a 41-item measure of hassles specifically experienced by high school students (e.g. “lower grades than you hoped for”).

Respondents are asked to rate the extent to which each item has been present over the past month across a four-point Likert-type scale ranging from (1) *not at all a part of my life* to (4) *very much a part of my life*. As noted earlier, unlike previous hassles measures, the IHSSRLE is “decontaminated” from distress items. The IHSSRLE has also been found to be related to other measures of stress, including Cohen, Kamarack, and Mermelstein’s (1983) Perceived Stress Scale ( $r_s = 0.63–0.68$ ; Kohn & Milrose, 1993). Higher scores on the IHSSRLE reflect experience of greater recent hassles.

### 6.1.2. Depressive symptoms

Depressive symptoms were assessed by the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The BDI is a commonly used 21-item self-report measure of depressive symptomatology or dysphoria. Respondents are asked to rate the extent to which they have experienced in the past week, including today, specific depressive symptoms across a four-point scale (e.g. “0 = I do not feel sad” to “3 = I am so sad or unhappy that I can’t stand it”). For nonclinical samples, higher scores generally indicate higher levels of depressive symptomatology or dysphoria.

### 6.1.3. Hopelessness

Hopelessness was measured by the Hopelessness Scale (HS; Beck, Weissman, Lester, & Trexler, 1974). The HS is a 20-item measure of extreme pessimism or hopelessness. Respondents are asked to indicate either agreement or disagreement to these items which assess negative expectancies for the future (e.g. “My future seems dark to me”) for the past week. Higher scores on the HS is indicative of greater hopelessness. Scores on the HS have been found to have a high rate of correspondence with clinical ratings of hopelessness (Beck et al., 1974) and have also been found to predict eventual suicides (Beck et al., 1985).

## 6.2. Procedure

A letter was sent to the school principal describing the purpose of this study and asking for their cooperation and that of the teachers at the high school. Participation was then solicited from classroom teachers. Teachers distributed letters of consent to participate in this study to students to take home and give to their parents. If students returned these letters of consent signed by a parent, they were then given a take home survey by their teachers to complete and return the next day of class. A total of 400 surveys were distributed for this study. Hence, the sample of 263 students was composed of those who agreed to participate in this study, who had been granted permission to participate by one of their parents, and who returned the completed survey the next day of class. As an incentive, the first author provided ten \$10 movie passes to be raffled off upon completion of the take home survey to participants.

Participants were not made aware of the purpose of the study until after the study was completed. To protect the participants’ anonymity, only participant numbers were placed on the instruments. All participants and their parents signed consent forms that indicated that all test data would be kept strictly confidential. In addition, participants and parents were provided with numbers of local community mental health organizations to contact should they feel distressed or desired to talk to someone about any concerns they had trouble dealing with.

## 7. Results

### 7.1. Relations between optimism–pessimism, recent hassles, and psychological adjustment

Zero-order correlations and internal consistency reliabilities for all study measures for the present adolescent sample are presented in Table 1. As the table shows, scores on the LOT-R were significantly related in the expected direction to scores on the IHSSRLE, BDI, and HS. With regard to the latter measure, although a moderately high correlation was found between scores on the LOT-R and on the HS, it should not be taken to imply that optimism–pessimism and hopelessness are redundant constructs. As studies have shown, these constructs are both theoretically and empirically distinguishable (Chang, D’Zurilla, & Maydeu-Olivares, 1994). The significant inverse correlation between scores on the LOT-R and the IHSSRLE is consistent with the notion that optimism is associated with less experience of hassles, whereas pessimism is associated with greater experience of hassles. In addition, recent hassles were significantly related to all of the psychological adjustment measures (accounting for 14–31% of their variances).

### 7.2. Optimism–pessimism and recent hassles as predictors of psychological adjustment

To examine the predictive utility of optimism–pessimism as measured by the LOT-R and recent hassles as measured by the IHSSRLE in accounting for variance in the present measures of psychological adjustment, we conducted a series of hierarchical regression analyses for each of the two adjustment measures. For each of the three regression equations, scores on the LOT-R were entered as the First Step, followed by IHSSRLE scores in the Second Step. Although scores on both the LOT-R and the IHSSRLE could have simply been entered simultaneously, we used this order of entry to also examine the contribution of life hassles on adjustment beyond what was accounted for by optimism–pessimism. Finally, to test for an Optimism–Pessimism  $\times$  Hassles interaction, the multiplicative term was entered in the Final Step of the equation (Aiken & West, 1991). Results of these analyses (following centering procedures; see Aiken & West, 1991) for predicting variance in psychological adjustment measures are presented in Table 2.

Table 1  
Correlations, means, and standard deviations for all study measures<sup>a</sup>

Measures	1	2	3	4
1. LOT-R	–			
2. IHSSRLE	–0.45**	–		
3. BDI	–0.54**	0.56**	–	
4. HS	–0.67**	0.42**	0.69**	–
<i>M</i>	14.25	91.69	11.08	4.50
<i>SD</i>	4.70	20.03	10.77	4.74
$\alpha$	0.73	0.89	0.88	0.91

<sup>a</sup> *N* = 263. LOT-R, revised Life Orientation Test; IHSSRLE, Inventory of High-School Students’ Recent Life Experiences; BDI, Beck Depression Inventory; HS, Hopelessness Scale.

\*\* *P* < 0.001.

Table 2

Hierarchical regression analyses showing amount of variance accounted for by optimism–pessimism and recent hassles of each adjustment measure<sup>a</sup>

Adjustment measure	<i>R</i>	$\Delta R^2$	df	<i>F</i>
<i>Depressive symptoms</i>				
LOT-R	0.54	0.30	1,261	109.74***
IHSSRLE	0.65	0.12	1,260	53.83***
LOT-R × IHSSRLE	0.65	0.01	1,259	5.32*
<i>Hopelessness</i>				
LOT-R	0.67	0.45	1,261	217.01***
IHSSRLE	0.69	0.02	1,260	8.67**
LOT-R × IHSSRLE	0.70	0.02	1,259	8.21**

<sup>a</sup> *N* = 263. LOT-R, revised Life Orientation Test; IHSSRLE, Inventory of High-School Students' Recent Life Experiences.

\* *P* < 0.05.

\*\* *P* < 0.01.

\*\*\* *P* < 0.001.

As Table 2 shows, LOT-R scores accounted for a significant amount of the variance in both psychological adjustment measures for adolescents. Specifically, LOT-R scores accounted for 30% and 45% of the variance in depressive symptoms and in hopelessness, respectively. In addition, after partialing out variance accounted for by optimism–pessimism, scores on the IHSSRLE accounted for a significant amount of additional variance in depressive symptoms ( $\Delta R^2 = 12\%$ ) and in hopelessness ( $\Delta R^2 = 2\%$ ). Moreover, as the table shows, the Optimism–Pessimism × Hassles interaction was significant for predicting depressive symptoms ( $\Delta R^2 = 1\%$ ) and hopelessness ( $\Delta R^2 = 2\%$ ), even after partialing out the variances accounted for by both optimism–pessimism and hassles. It is important to realize that such interactions are generally difficult to detect. As some researchers have noted, the statistical power and efficiency of estimating these interactions is generally quite low and that even findings that only account for 1% of the total variance should be considered important findings (McClelland & Judd, 1993).

To illustrate the Optimism–Pessimism × Hassles interaction for depressive symptoms, we plotted the regression of depressive symptoms on recent hassles at high and low levels of optimism–pessimism for the present sample (see Fig. 1). Consistent with procedures outlined by Aiken and West (1991), we used the simple slope for the regression of depressive symptoms on recent hassles by using the high (one standard deviation above the mean) and low (one standard deviation below the mean) values for optimism. Because studies have typically considered such values as a reflection of optimism and pessimism (e.g. Chang, 1998a), respectively, these references will be used henceforth. As the figure shows, there was a significant positive relation between hassles and depressive symptoms at high levels of pessimism ( $b = 0.26$ ),  $t(259) = 7.09$ ,  $P < 0.01$  (two-tailed). Hence, for pessimistic adolescents, recent hassles were a strong determinant of depressive symptoms. Similarly, for optimistic adolescents, hassles also had a positive influence on depressive symptoms ( $b = 0.14$ ),  $t(259) = 3.51$ ,  $P < 0.01$ . In addition, using procedures outlined by Aiken and West (1991) for determining differences between simple slopes, the slope for pessimists was found to be significantly steeper than the slope for optimists,  $t(259) = -2.30$ ,  $P < 0.05$ .

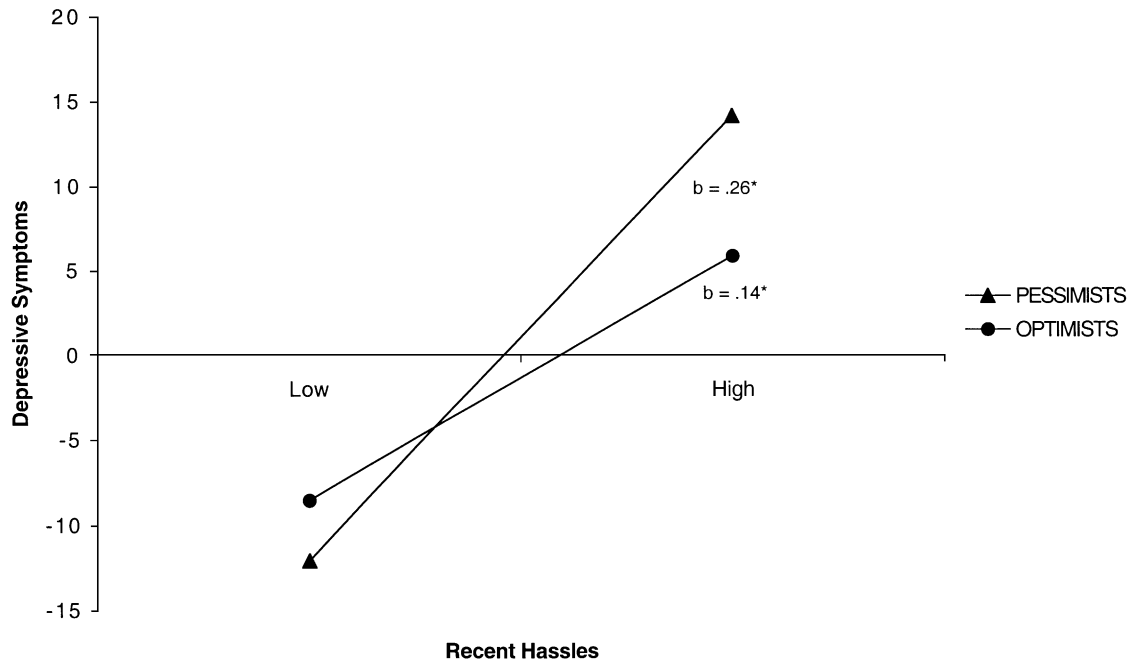


Fig. 1. Relationship of recent hassles with depressive symptoms at high and low levels of optimism–pessimism. \* $P < 0.01$ .

Similar to the procedure used for predicting depressive symptoms, we plotted the regression of hopelessness on recent hassles at high levels of pessimism (low LOT-R scores) and optimism (high LOT-R scores) to illustrate the Optimism–Pessimism  $\times$  Hassles interaction (see Fig. 2). As the figure shows, there was a significant positive relation between hassles and hopelessness at high levels of pessimism, ( $b = 0.12$ ),  $t(259) = 4.16$ ,  $P < 0.01$ . At high levels of optimism, the relation between hassles and hopelessness was also significant, ( $b = 0.07$ ),  $t(259) = 2.04$ ,  $P < 0.05$ . Hence, for both optimistic and pessimistic adolescents, hassles were a significant determinant of hopelessness. Again, however, the slope for pessimists was found to be significantly sharper than the slope for optimists,  $t(259) = -2.96$ ,  $P < 0.01$ .

## 8. Discussion

This study examined the relations between optimism–pessimism, recent hassles, and psychological adjustment in an adolescent population. As expected, results of this study indicated that greater optimism was significantly associated with less depressive symptoms and less hopelessness. Moreover, in accord with a growing support for an interactive model in adult populations (e.g. Bromberger & Matthews, 1996; Chang, in press), this study found that optimism–pessimism interacted significantly with recent hassles in predicting scores on two important psychological adjustment measures in adolescents. Specifically, the positive association between hassles and depressive symptoms was found to be significantly more exacerbated for pessimistic

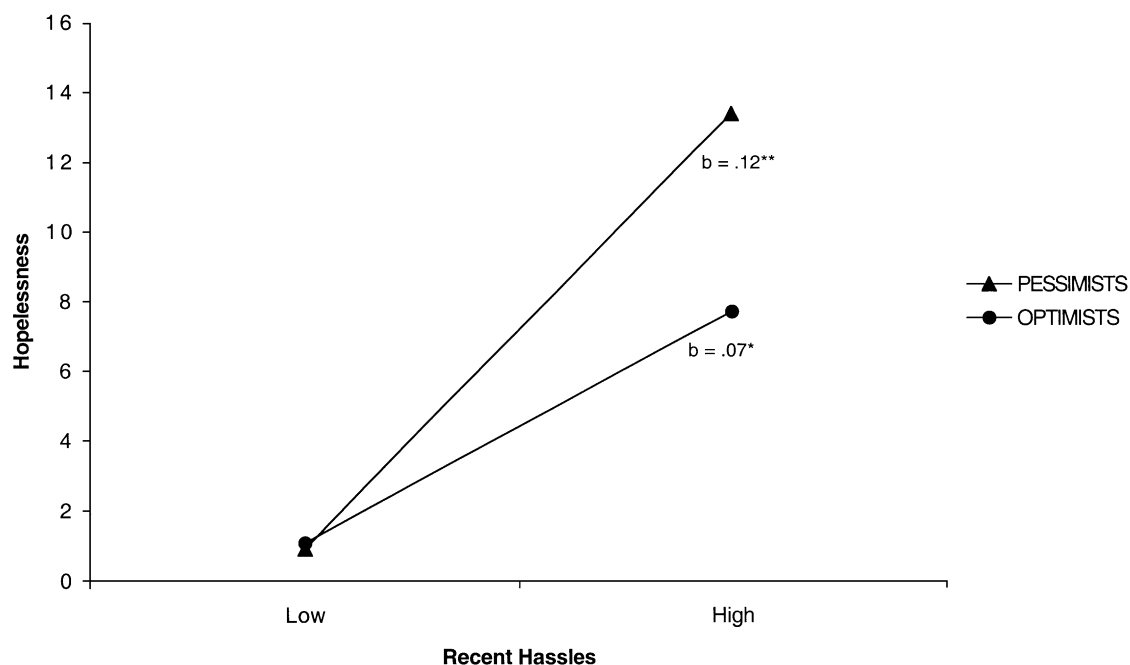


Fig. 2. Relationship of recent hassles with hopelessness at high and low levels of optimism–pessimism.

\* $P < 0.05$ .

\*\* $P < 0.01$ .

adolescents, than for optimistic adolescents. This was also found to be the case when predicting hopelessness. Hence, these findings suggest that adolescents who are more pessimistic are likely to experience greater depressive symptoms and hopelessness under conditions of high chronic stress than those who are more optimistic under similar stress conditions.

Because optimism–pessimism and experience of chronic hassles were found to have both direct and interactive influences in predicting depressive symptoms and hopelessness, the present findings suggest that it may be useful to consider interventions when working with dysphoric and hopeless adolescents which focus both on promoting greater optimism and also curtailing their exposure to chronic hassles. This is not too surprising given that BDI and HS scores were highly correlated with each other ( $r = 0.60$ ). According to Beck's cognitive model (Beck, 1976; Beck, Rush, Shaw, & Emery, 1979), pessimistic thoughts are presumed to play an etiological role in the development of psychological disturbances in adults. In that regard, the present findings join those of other studies (e.g. Garber, Weiss, & Shanley, 1993; Nolen-Hoeksema, Girgus, & Seligman, 1986), suggesting that negative thinking in adolescents is generally also associated with greater psychological disturbances. A key intervention used in changing pessimistic thoughts associated with negative feelings such as depressive symptoms is to help the client refute evidence supporting such negative thoughts (Beck et al., 1979). For example, after a clients' pessimistic thoughts (e.g. "I am a failure") are translated to testable hypotheses (e.g. "I can't do anything right"), the therapist can then help the adolescent client focus on disconfirming these maladaptive beliefs (e.g. observing that the client repeatedly and successfully showed for his or her past

appointments”). At the same time, the therapist can work with such an adolescent to help him or her identify and reinforce any untapped optimistic thoughts or positive beliefs (e.g. “I know how to prioritize my goals and make it to my appointments on time”). Hence, an important goal in working with dysphoric or hopeless adolescents may involve efforts to promote optimistic thinking while decreasing pessimistic thinking. However, it is important to note that important ethnic differences may need to be considered in considering such interventions (Chang, 1996).

Along with these efforts, the present findings for hassles also suggest that it would be important to help distressed adolescents learn useful ways to avoid or better manage their experience of chronic stress. Several techniques have been developed and shown to effectively reduce or manage the experience of stress. One in particular when working with stressed adolescents is stress inoculation training (e.g. Haines, 1992). According to Meichenbaum (1985), stress inoculation training is composed of three relatively distinct phases. The first phase involves educating the client (e.g. preparing them to confront and cope with stress-evoking situations or events). The second phase involves helping the client acquire effective coping skills such as differential muscle relaxation and self-reinforcement instructions. The final phase involves helping the client apply the acquired skills when confronting stressful events. Accordingly, by promoting adolescents’ optimism and their ability to manage ongoing stress, it may be possible to lower their risk for both dysphoria and hopelessness.

### *8.1. Directions for future research*

Several potentially interesting directions for future research can be noted. First, consistent with Lazarus and Folkman’s (1984) model of stress and coping, studies have shown that the influence of optimism–pessimism is partially mediated by coping efforts. This suggests that the apparent exacerbation of the influence of recent hassles on depressive symptoms and hopelessness for adolescent pessimists may be due not only to differences in their outcome expectancies, but also to differences in how they cope with stress compared to their optimistic counterparts (Chang, 1998a; Scheier, Weintraub, & Carver, 1986). Hence, it would be important in future studies to examine whether and how coping variables mediate the link between optimism–pessimism and psychological adjustment for adolescents under conditions of high and low chronic stress.

Second, given that important cultural differences have been found on optimism–pessimism between Asians and Caucasians adults (e.g. Chang, 1996), it would be interesting to determine the extent to which cultural factors play a role in understanding an interaction model involving optimism–pessimism and stress in adolescent populations. As with a majority of studies published on optimism–pessimism, the present sample was almost entirely Caucasian. In addition, it is also important to note that studies examining psychological adjustment in more diverse populations have begun to indicate important group differences. For example, Latino adolescents have been found to report greater symptoms of depression than Caucasian Americans, African Americans, and Asian Americans (Siegel, Aneshensel, Taub, Cantwell, & Driscoll, 1998). It may be valuable to have more research examining optimism–pessimism and its nomological net with other important variables such as coping and psychological adjustment in more diverse adolescent populations.

Third, according to Scheier and Carver (1985), optimism–pessimism is an important predictor of both psychological and physical well-being. As studies have indicated, the period marking

adolescence also represents an early window of vulnerability to a host of health-compromising behaviors (e.g. smoking, drinking). Therefore, it would be useful to determine if optimism–pessimism also moderates the link between chronic stress and physical adjustment for adolescents.

Finally, although this study examined the role of optimism–pessimism and recent hassles as predictors of psychological adjustment, one cannot draw any inferences about cause and effect given the cross-sectional nature of the present study. No doubt, longitudinal studies are needed to address issues related to causality.

### 8.1.1. *Concluding comments*

In conclusion, this study was conducted to fill an important void in our understanding of the function of optimism–pessimism in an adolescent population. Although the present findings are very promising and provide support for an cognitive interactive model of stress and psychological adjustment, there is still much that we do not know about the form and function of optimism and pessimism in adolescent populations. Hence, it is critical for researchers to study adult as well as adolescent populations if we are to develop a more comprehensive understanding of optimism–pessimism across the entire life-span.

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## References

- Abramson, L. Y., Metalsky, G. I., & Alloy, L. B. (1989). Hopelessness depression: a theory-based subtype of depression. *Psychological Review*, *96*, 358–372.
- Aiken, L., & West, S. G. (1991). *Multiple regression: testing and interpreting interactions*. Newbury Park, CA: Sage.
- Alloy, L. B., & Clements, C. M. (1992). Illusion of control: invulnerability to negative affect and depressive symptoms after laboratory and natural stressors. *Journal of Abnormal Psychology*, *101*, 234–245.
- Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. New York: International Universities Press.
- Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). *Cognitive therapy of depression*. New York: Guilford Press.
- 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., Ward, C. H., Mendelson, M., Mock, L., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry*, *4*, 561–571.
- Beck, A. T., Weissman, A., Lester, D., & Trexler, L. (1974). The measurement of pessimism: the Hopelessness Scale. *Journal of Consulting and Clinical Psychology*, *42*, 861–865.
- Bolger, N., DeLongis, A., Kessler, R. C., & Schilling, E. A. (1989). Effects of daily stress on negative mood. *Journal of Personality and Social Psychology*, *57*, 808–818.
- Bromberger, J. T., & Matthews, K. A. (1996). A longitudinal study of the effects of pessimism, trait anxiety, and life stress on depressive symptoms in middle-aged women. *Psychology and Aging*, *11*, 207–213.
- Chang, E. C. (1996). Cultural differences in optimism, pessimism, and coping: predictors of subsequent adjustment in Asian American and Caucasian American college students. *Journal of Counseling Psychology*, *43*, 113–123.

- Chang, E. C. (1998a). Dispositional optimism and primary and secondary appraisal of a stressor: controlling for confounding influences and relations to coping and psychological and physical adjustment. *Journal of Personality and Social Psychology*, *74*, 1109–1120.
- Chang, E. C. (1998b). Does dispositional optimism moderate the relation between perceived stress and psychological well-being?: a preliminary investigation. *Personality and Individual Differences*, *25*, 233–240.
- Chang, E. C. (2001). *Optimism and pessimism: implications for theory, research, and practice*. Washington, DC: American Psychological Association.
- Chang, E. C. (in press). Optimism-pessimism and stress appraisal: testing a cognitive interactive model of psychological adjustment in adults. *Cognitive Therapy and Research*.
- Chang, E. C., D'Zurilla, T. J., & Maydeu-Olivares, A. (1994). Assessing the dimensionality of optimism and pessimism using a multimeasure approach. *Cognitive Therapy and Research*, *18*, 143–160.
- Cheng, S. K., & Lam, D. J. (1997). Relationships among life stress, problem solving, self-esteem, and dysphoria in Hong Kong adolescents: test of a model. *Journal of Social and Clinical Psychology*, *16*, 343–355.
- Cohen, S., Kamarack, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, *24*, 385–396.
- Compas, B. E. (1987). Stress and life events during childhood and adolescence. *Clinical Psychology Review*, *7*, 275–302.
- Garber, J., Weiss, B., & Shanley, N. (1993). Cognitions, depressive symptoms, and development in adolescents. *Journal of Abnormal Psychology*, *102*, 47–57.
- Goodman, E., Knight, J. R., & DuRant, R. H. (1997). Use of the Life Orientation Test among adolescents in a clinical setting: a report of reliability testing. *Journal of Adolescent Health*, *21*, 218–220.
- Haines, A. A. (1992). A stress inoculation training program for adolescents in a high school setting: a multiple baseline approach. *Journal of Adolescence*, *15*, 163–175.
- Ingram, R. E., Miranda, J., & Segal, Z. V. (1998). *Cognitive vulnerability to depression*. New York: Guilford Press.
- Kanner, A. D., Coyne, J. C., Schaefer, C., & Lazarus, R. S. (1981). Comparison of two modes of stress measurement: daily hassles and uplifts versus major life events. *Journal of Behavioral Medicine*, *4*, 1–39.
- Kohn, P. M., Lafreniere, K., & Gurevich, M. (1990). The Inventory of College Students' Recent Life Experiences: a decontaminated hassles scale for a special population. *Journal of Behavioral Medicine*, *13*, 619–630.
- Kohn, P. M., & Macdonald, J. (1992). The Survey of Recent Life Experiences: a decontaminated hassles scale for adults. *Journal of Behavioral Medicine*, *15*, 221–236.
- Kohn, P. M., & Milrose, J. A. (1993). The Inventory of High-School Students' Recent Life Experiences: a decontaminated measure of adolescents' hassles. *Journal of Youth and Adolescence*, *22*, 43–55.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
- McClelland, G. H., & Judd, C. M. (1993). Statistical difficulties of detecting interactions and moderator effects. *Psychological Bulletin*, *114*, 376–390.
- Meichenbaum, D. H. (1985). *Stress inoculation training*. Elmsford, NY: Pergamon.
- Metalsky, G. I., Halberstadt, L. J., & Abramson, L. Y. (1987). Vulnerability to depressive mood reactions: toward a more powerful test of the diathesis-stress and causal mediation components of the reformulated theory of depression. *Journal of Personality and Social Psychology*, *52*, 386–393.
- National Center for Health Statistics. (1990). *National suicide statistics*. Washington, DC: Department of Health and Human Services, Mortality Statistics Branch.
- Negron, R., Piancentini, J., Graae, F., Davies, M., & Shaffer, D. (1997). Microanalysis of adolescent suicide attempters and ideators during the acute suicidal episode. *Journal of the American Academy of Child and Adolescent Psychiatry*, *36*, 1512–1519.
- Nolen-Hoeksema, S., Girgus, J. S., & Seligman, M. E. P. (1986). Learned helplessness in children: a longitudinal study of depression, achievement, and explanatory style. *Journal of Personality and Social Psychology*, *51*, 435–442.
- Sarason, I. G., Johnson, J. H., & Siegel, J. M. (1978). Assessing the impact of life changes: development of the Life Experiences Survey. *Journal of Consulting and Clinical Psychology*, *46*, 932–946.
- 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. (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., & 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.
- Scheier, M. F., Carver, C. S., & Bridges, M. W. (2001). Optimism, pessimism, and psychological well-being. In E. C. Chang (Ed.), *Optimism and pessimism: implications for theory, research, and practice* (pp. 189–216). Washington, DC: American Psychological Association.
- Scheier, M. F., Weintraub, J. K., & Carver, C. S. (1986). Coping with stress: divergent strategies of optimists and pessimists. *Journal of Personality and Social Psychology*, *51*, 1257–1264.
- Siegel, J. M., Aneshensel, C. S., Taub, B., Cantwell, D. P., & Driscoll, A. K. (1998). Adolescent depressed mood in a multiethnic sample. *Journal of Youth and Adolescence*, *27*, 413–427.
- Siegel, J. M., & Brown, J. D. (1988). A prospective study of stressful circumstances, illness symptoms, and depressed mood among adolescents. *Developmental Psychology*, *24*, 715–721.
- Swearingen, E. M., & Cohen, L. H. (1985). Life events and psychological distress: a prospective study of young adolescents. *Developmental Psychology*, *21*, 1045–1054.
- Whisman, M. A., & Kwon, P. (1993). Life stress and dysphoria: the role of self-esteem and hopelessness. *Journal of Personality and Social Psychology*, *65*, 1054–1060.