

Environmental Events and Life Satisfaction Reports of Adolescents

A Test of Cognitive Mediation

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ABSTRACT This study explored demographic, environmental and personality correlates of adolescents' positive life satisfaction reports. First, demographic variables did not relate to life satisfaction, except socioeconomic status. Second, the findings indicated that acute events and chronic life experiences, both positive and negative, were related significantly to life satisfaction. Third, locus of control attributions mediated the relationships between negative life events and chronic stressors and adolescent life satisfaction. The findings demonstrated the importance of integrative models of adolescent life satisfaction that reflect the interplay of both intrapersonal and environmental variables. The findings are discussed in the context of the promotion of positive psychological health among adolescents. Future research directions are proposed, emphasizing the need for cross-cultural studies.

The study of the psychological health of children and adolescents has been based primarily on attempts to understand the development and consequences of psychopathological conditions. As a result, knowledge of the prevention and treatment of psychological illness has far exceeded that of knowledge of the promotion of adaptive strengths and health (Cowen, 1991; Huebner, 1991b; Seligman, 1998). Nevertheless, increasing efforts have been undertaken to investigate the development of personal strengths, including the experience of positive subjective well-being. Although the dimensions of positive well-being have been debated (e.g. see Diener et al., 1998; Ryff and Keyes, 1995), most definitions

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School Psychology International Copyright © 2001 SAGE Publications (London, Thousand Oaks, CA and New Delhi), Vol. 22(3): 320–336. [0143-0343 (200108) 22:3; 320–336; 017174]

include a sense of overall life satisfaction. Life satisfaction has been defined as a cognitive appraisal of the overall quality of an individual's life based on self-determined criteria (Shin and Johnson, 1978). For some authors (e.g. Diener, 1994; Lazarus, 1991), such well-being judgments comprise a 'background' appraisal system that is thought to influence a person's ongoing emotional reactions and coping efforts.

Researchers have thus begun to explore the antecedents and consequences of life satisfaction, particularly among adults. Studies of correlates of life satisfaction have revealed relationships with a variety of adaptive behaviours, including enhanced psychological and physical health, social interactions, participation in recreational and volunteer activities and creativity in problem-solving (Frederickson, 1998; Veenhoven, 1988). Studies have linked dissatisfaction with life with depression (Huebner and Alderman, 1993; Lewinsohn et al., 1991), anxiety (Huebner, 1991b), social rejection (Furr and Funder, 1998) and chemical abuse (Zullig, et al., in press). Taken together, the findings suggest that life satisfaction may be a necessary, although not sufficient condition for well-being (Diener, et al., 1998). In an attempt to understand the determinants of positive life satisfaction, researchers have explored a variety of intrapersonal and environmental variables. Large-scale panel studies, such as those of Headey and Wearing (1989) and Suh et al. (1996), have clearly demonstrated the importance of life satisfaction models that incorporate both personal and environmental factors in accounting for individual differences among adults, although personality and temperament variables more strongly predict life satisfaction relative to situational variables. Most situational variables have a surprisingly modest, relatively short-lived influence (Diener, 1996). Individuals have been found to adapt to a variety of major life changes, such as winning the lottery (Brickman et al., 1978) and experiencing spinal cord injuries resulting in quadriplegia or paraplegia (Silver, 1982), subsequently returning to a positive baseline. Some chronic environmental experiences produce more lasting effects, however, such as caring for Alzheimer's patients (Vitaliano et al., 1991) and living in very poor countries (Diener and Diener, 1995). Nevertheless, summarizing three decades of studies of adults, Diener et al. (1999) concluded that 'research is needed that examines the interaction of personality and environmental variables. Researchers need to find out the role of personality in shaping life's circumstances and how personality leads people to react differently to the same circumstances' (p. 295). In their meta-analysis of the happy personality, DeNeve and Cooper (1998) suggested that 'what is most critical to subjective well-being is . . . the tendency to make either positive or negative attributions of one's life emotions and life events (p. 219).

Studies of the potential determinants of life satisfaction among children and youth have been few in number (see Huebner, 1997 for a review). In particular, a dearth of research exists in which investigators have explored the interrelationships of environmental variables, intrapersonal variables and life satisfaction reports of adolescents. Given the psychological and experiential differences between adolescents and adults, it seems prudent to study the development of adolescents' life satisfaction separately from that of adults.

As with adults, studies of adolescents to date have suggested a limited role for demographic variables in the formulation of global life satisfaction reports (Dew and Huebner, 1994; Huebner et al., 1999; Huebner et al., 2000). In contrast, a number of intrapersonal correlates have demonstrated moderate to strong relationships with life satisfaction. Such variables include an internal locus of control (Adelman et al., 1989; Dew and Huebner, 1994; Huebner, 1991b), global self-esteem (Dew and Huebner, 1994; Huebner, 1991b; McCullough et al., 2000) and extraversion (Heaven, 1989; Huebner, 1991b). Few studies have investigated the associations between adolescents' positive life satisfaction reports and life events, either major life events or chronic stressors. One exception was a recent study of 92 private secondary school students that demonstrated that life experiences, both acute and chronic, added significant variance to predictions of life satisfaction (McCullough et al., 2000). The study also demonstrated the separability of adolescent self-reports of life satisfaction, positive affect and negative affect; thus providing support for the distinction between positive and negative indicators of subjective well-being. Nevertheless, the precise nature of the relationship between intrapersonal and environmental factors in adolescent life satisfaction appraisals remains poorly understood.

The overarching goal of this study was thus to investigate further the relationships between life events and life satisfaction among adolescents. For this study, the potential mediating role of an intrapersonal variable, that is, global, internal locus of control was also investigated. An internal (vs. external) locus of control involves the belief that events in people's lives are contingent upon their own behaviour (vs. luck, chance, powerful others) (Rotter, 1966). Locus of control was chosen for this study because of its (a) substantial empirical relationship with adolescent life satisfaction reports and (b) theoretical importance as a path through which personality influences life satisfaction (DeNeve and Cooper, 1998). Furthermore, although domain-specific perceptions of control can often better predict specific outcomes, global locus of control attributions were used in this study because the potential variety of life experiences considered should reflect pervasive influences. For these reasons, generalized locus of control attributions seemed a likely candidate to mediate the relationship between life events and life satisfaction

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reports, thus illuminating one process that underlies effective adaptation to various life experiences.

Specifically, this study addressed several issues. First, because previous research has tended to focus on major life events (e.g. death of family members), we were interested in the role of chronic life experiences (e.g. ongoing family discord) in adolescents' life satisfaction. As a first step, we assessed whether chronic life experiences, added significant variance above and beyond that of acute major events. It was hypothesized that although major life events would relate to life satisfaction reports, chronic life experiences would contribute incremental variance, demonstrating the importance of including both types of situational variables in comprehensive models of adolescent life satisfaction.

Second, we were interested in determining which particular types of stressors and resources (e.g. home vs. school) would be the most powerful sources of unique variance. Based on previous research (e.g. Ash and Huebner, 1998; Dew and Huebner, 1994), it was anticipated that life experiences involving close interpersonal relationships, especially with family members, would demonstrate the strongest relationships with adolescents' life satisfaction.

Third, we examined a possible mediational influence of locus of control on the relationship between negative life experiences and life satisfaction. In a mediational model, one variable (e.g. life events) relates to a second (outcome) variable, such as life satisfaction only indirectly through the mediator variable. For this study, the mediational model suggested that the experience of frequent negative life events and ongoing chronic stressors would relate to external locus of control attributions among adolescents. In other words, most of the association between negative life experiences and life satisfaction would be mediated by the adolescents' perceptions of internal vs. external control. In a large, cross-national study of the subjective well-being of adolescents, Grob et al. (1999) proposed a similar, albeit more complex cognitive mediation model, but did not report a direct test of the model (cf. Baron and Kenny, 1986).

Method

Participants

The participants were drawn from a public high school on the outskirts of a metropolitan area of a Southeastern US state. Students enrolled in 18 regular classes were invited to participate in the study. All classes, except five (three industrial Technology classes and two psychology classes), were in the English Department. The English classes were selected because they were mandatory classes, thus ensuring the hetero-

geneity of the sample pool. Of the 450 students contacted, 152 students returned both the parent consent and student assent forms required to participate in the study. In an effort to provide an incentive for student participation, each student who completed the study was made eligible to participate in a draw in which twenty \$10.00 prizes were given.

The sample consisted of 37 percent males. There were 40 ninth graders, 30 tenth graders, 27 eleventh graders and 55 twelfth graders with a mean age of 15.89 (SD = 1.39). One hundred students were Caucasian, 39 were African-American and three were classified as 'other.' As an estimate of socioeconomic status, 42 students reported free or reduced lunch status and 108 reported regular lunch status. The demographic characteristics of the sample were comparable to those of the school population, except for gender.

Measures

Life Stressors and Social Resources Inventory-Youth Form (LISRES-Y: Moos and Moos, 1994). The LISRES-Y is a 209-item self-report scale that measures acute and chronic life stressors and environmental resources in adolescents from ages 12–18. The LISRES-Y includes 16 scales, nine of which measure life stressors (Physical Health, Home and Money, Parents, Siblings, Extended Family, School, Friends, Boyfriend/Girlfriend and Negative Life Events) and seven of which measure environmental resources (Parents, Sibling, Extended Family, School, Friends, Boyfriend/Girlfriend and Positive Life Events). Internal consistencies for each life Stressor domain have been reported as ranging from 0.69 (Friends) to 0.91 (Parents) for boys and 0.66 (Friends) to 0.91 (Parents) for girls. Internal consistencies for the Resource domains ranged from 0.78 (Friends) to 0.92 (Parents and Boyfriend/Girlfriend and from 0.80 (Friends and Boyfriend/Girlfriend) to 0.93 (Parents) for girls. Inter-correlations among the subscales support the separability of the domains. Construct validity evidence is provided through meaningful associations with other variables in a variety of studies reported in the manual.

Nowicki-Strickland Locus of Control Scale (LOCS: Nowicki and Strickland, 1973). The LOCS is a self-report scale designed to measure generalized locus of control orientation. The scale items are responded to with a yes/no format, with lower scores reflecting a more internal locus of control. Six-week test-retest reliability has been reported as 0.71 for a sample of students in grade 10. Evidence for validity has been provided through predictable relationships with other measures of locus of control as well as a variety of academic and social-emotional measures. The LOCS-SF, a 21-item short form developed for use with students in grades 7–12, was used in this study. The internal consistency of the

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LOCS-SF has been reported as 0.70 (Boss and Taylor, 1989). Lefcourt (1991) suggested that the LOCS is one of the better measures of locus of control as a generalized expectancy available for children' (p. 444).

Student's Life Satisfaction Scale (SLSS: Huebner, 1991a). The SLSS is a seven-item self report scale for children, based upon the work of Diener and his colleagues (e.g. Diener et al., 1985; Pavot and Diener, 1993). The SLSS was designed to measure global life satisfaction by using items that require children to assess the quality of their lives as a whole, independent of specific life domains, such as peers, family, living environment or self. The SLSS items require students to select one of six options ranging from 'strongly agree' to 'strongly disagree.'

The reliability and validity of the SLSS has been demonstrated to be adequate for research purposes. Coefficient alpha has been reported as 0.86 (Dew and Huebner, 1994) and retest reliability has been reported as 0.74 for 1–2 weeks (Huebner, 1991a), 0.64 for 4-weeks (Gilman and Huebner, 1997) and 0.53 for a 1-year time frame (Huebner et al., 2000). A unidimensional factor structure has been found for pre-adolescents (Huebner, 1991a) and adolescents (Dew and Huebner, 1994). Expected correlations have been obtained with parental estimates of their adolescents' life satisfaction (Dew and Huebner, 1994) and teacher perceptions of classroom behaviour problems (Huebner and Alderman, 1993). SLSS ratings have correlated appropriately with other well-being measures (e.g. loneliness; anxiety) and have been differentiated from measures of positive and negative affect (Huebner, 1991c), grades (Huebner, 1991b) and IQ scores (Huebner and Alderman, 1993).

Results

Descriptive analyses

Means and standard deviations for LISRES-Y, SLSS and LOC-SF scales are reported in Table 1. Means for LISRES-Y Stressor and Resource scales are comparable to data reported in the LISRES-Y manual and indicate that participants experience greater amounts of resources than stressors. In addition, respondents reported more positive life events ($M = 11.64$) in comparison to negative life events ($M = 9.18$). The mean for the SLSS which fell in the 'mildly agree' range is consistent with prior research with the SLSS with secondary students (Huebner et al., 2000) and suggests a positive level of reported satisfaction. Scores for the LOC-SF ($M = 7.89$) are also in line with normative data reported by the test's authors and findings from previous studies (Dew and Huebner, 1994). A maximum score of 21 on the LOC-SF indicates extreme levels of external locus of control; thus these results suggest a moderate degree of internal locus of control for his sample.

Table 1 *Descriptive statistics and zero-order correlations among LISRES-Y stressors and resources, locus of control, and life satisfaction*

<i>LISRES-Y Resources</i>	<i>M</i>	<i>SD</i>	<i>r</i>
Family	18.53	7.48	0.22**
Friends	28.64	8.70	0.26**
Parents	13.09	5.59	0.23**
School	11.05	5.34	0.24*
Sibling	12.01	7.14	0.18*
Boyfriend/Girlfriend	13.19	7.63	0.11
Positive Life Events	11.64	4.27	0.20*
<i>LISRES-Y Stressors</i>			
Family	5.12	4.51	-0.33**
Friends	6.48	5.68	-0.36**
Health	2.31	2.27	-0.18*
Home and Money	5.76	5.22	-0.40**
Parents	8.02	5.01	-0.33**
School	15.37	8.92	-0.41**
Sibling	8.24	5.59	-0.17**
Boyfriend/Girlfriend	3.38	4.28	-0.19**
Negative Life Events	9.18	6.17	-0.31**
Locus of Control	7.89	4.01	-0.46**
Life Satisfaction	4.44	1.04	-

Note: *ns* range from 135–152; * $p < 0.05$; ** $p < 0.01$

Zero-order correlational analyses

The relationships among the adolescents' global life satisfaction reports and demographic variables were investigated. The findings were consistent with those of previous studies of adolescents (e.g. Dew and Huebner, 1994; Huebner et al., 2000). Non-significant correlations were found for age ($r = -0.05$), grade ($r = -0.03$) and gender ($r = -0.001$). Considering only the African-American and Caucasian students, ethnic group membership was also unrelated to life satisfaction ($r = 0.14$). In contrast, socioeconomic status was significantly ($p < 0.01$) related to global life satisfaction reports with lower SES students ($M = 3.87$) reporting lower life satisfaction than higher SES students ($M = 4.65$).

Correlations between the SLSS and the LISRES-Y subscales are also reported in Table 1. Modest to moderate relationships were found with correlations ranging from 0.11 to -0.41 .

Table 1 also shows the zero-order correlation between global life satisfaction and locus of control. As has been demonstrated in previous research (Dew and Huebner, 1994), a relatively strong correlation was found between locus of control and life satisfaction; more specifically, internal locus of control was related to higher life satisfaction scores.

Hierarchical regression analyses

In order to examine the relationships among life satisfaction, life events and stressors and resources, several hierarchical regression analyses were conducted. In all equations, global life satisfaction served as the dependent variable.

First, we tested the hypothesis that chronic stressors would add variance above and beyond acute negative life events in the prediction of global life satisfaction. A hierarchical multiple regression was conducted entering negative life events first, followed by a stressor variable that consisted of a composite of all LISRES-Y Stressor subscales (i.e. sum of Family, Friends, Home and Money, Parents, School, Sibling and Boyfriend/Girlfriend scales). The results indicated that negative life events significantly predicted global life satisfaction, accounting for 9.5 percent of the variance ($F(1,150) = 15.73, p < 0.05$). Adding the stressor composite variable to the equation added significantly to the predictability of life satisfaction, adding an additional 19 percent of variance (F -change $(1,149) = 40.20, p < 0.05$).

Additionally, the same regression method was utilized to determine if chronic resources added significantly to the prediction of life satisfaction over and above acute positive life events. As with the stressors composite, the resource variable consisted of a composite of all LISRES-Y Resource domains (sum of Family, Friends, Parents, School, Sibling and Boyfriend/ Girlfriend scales). Positive life events were entered first, followed by the Resources composite. Positive life events significantly predicted global life satisfaction, accounting for 4 percent of the variance ($F(1,150) = 6.44, p < 0.05$). The addition of the Resources composite added significantly to the prediction of life satisfaction, resulting in the addition of 8.4 percent of variance (F -change $(1,149) = 14.22, p < 0.05$).

Second, we examined the individual contributions of each LISRES-Y scale to global life satisfaction. A simultaneous multiple regression equation was run including each individual LISRES-Y Resource and Stressor scale. The resulting beta weights indicated that the LISRES-Y Friends ($= 0.19$), Health ($= 0.23$), Home ($= 0.28$) and School ($= 0.28$) Stressor scales were uniquely related to life satisfaction reports. The simultaneous regression equation also revealed that none of the Resource scales was uniquely related to life satisfaction, although Positive Life Events ($\beta = 0.17, p < 0.07$) and the Friends scale ($\beta = 0.18, p < 0.10$) approached significance.

Third, we tested models of possible mediational effects of locus of control. In the first model, locus of control was treated as a mediator of the relation between acute negative life events and life satisfaction. The path model, with paths generated by forced entry regression analyses, is shown in Figure 1. The direct path from negative life events to life satisfaction, controlling for locus of control, was non-significant whereas

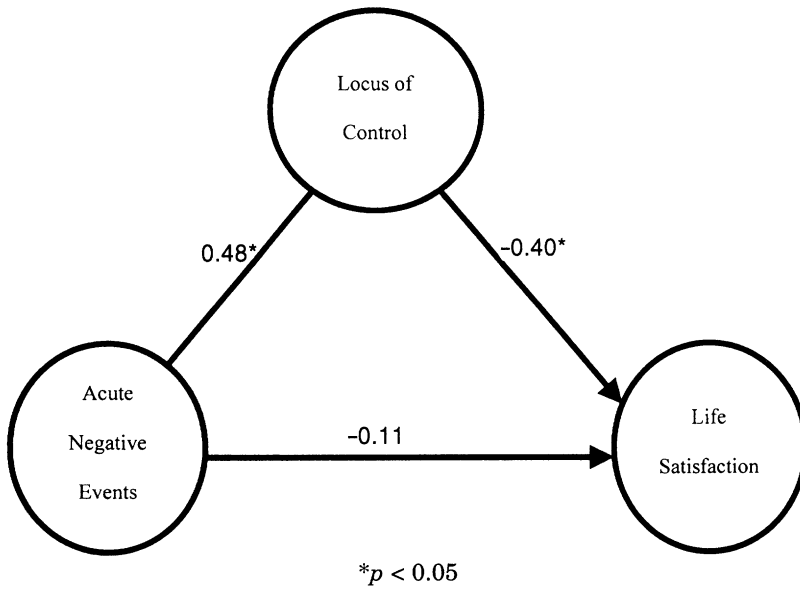


Figure 1 *Path model of the mediation role of locus of control in the relation between acute negative life events and life satisfaction.*

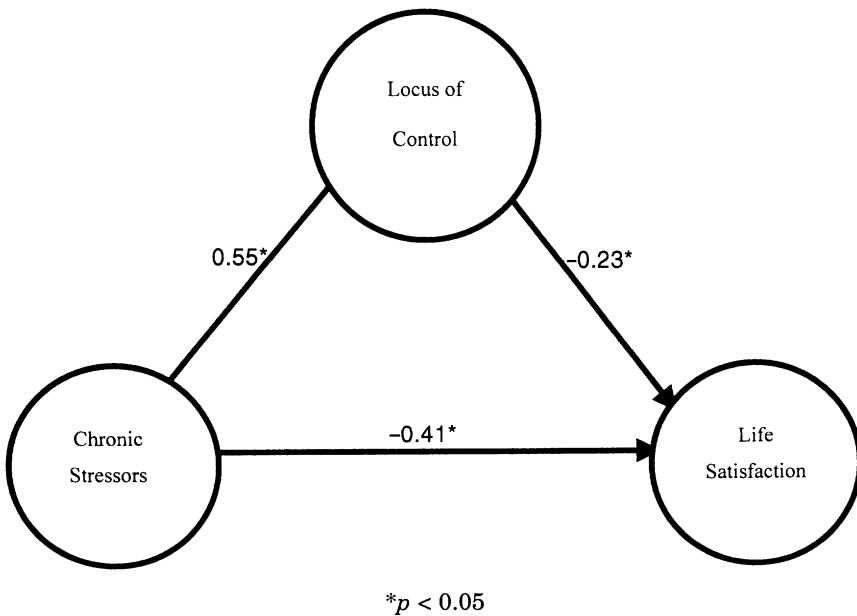


Figure 2 *Path model of the mediational role of locus of control in the relation between chronic negative life experiences and life satisfaction.*

the other two paths were significant. The small direct effects (0.11) in relation to the total effect (0.30) demonstrated that most of the negative life events-life satisfaction association was mediated by the adolescents' locus of control orientation. That is, frequent experiences of negative life events among adolescents related to decreased perceptions of control over their lives, which in turn related to decreased life satisfaction.

The second model involved a test of the mediational effect of locus of control on the relationship between chronic stressors and life satisfaction. The findings related to this model are portrayed in Figure 2. The significant path (-0.41) from chronic stressors to life satisfaction, although reduced from -0.54 when locus of control was controlled, reflected a substantial direct effect (0.30) in relation to the total effects (0.42). Thus, there was only partial support for the model in which the covariation between chronic stressors and life satisfaction was mediated by control perceptions.

Discussion

The results enhance the understanding of the interrelationships among life experiences, locus of control and positive life satisfaction among adolescents. First, demographic variables (gender, race and age) did not relate to adolescents' life satisfaction, except socioeconomic status, where lower income students reported lower life satisfaction than higher income students. Such findings are consistent for the most part with previous studies of adolescent life satisfaction (see Huebner, 1997).

Second, this study demonstrated the importance of including both intrapersonal and environment factors in understanding adolescents' overall life satisfaction. In contrast to previous studies that have focused more on intrapersonal factors, this study demonstrated the importance of environmental experiences as well. Furthermore, this study demonstrated the importance of considering acute and chronic experiences in attempting to understand adolescents' global life satisfaction.

Relatedly, this study also illustrated the multicontextuality of the contributing factors to adolescents' overall life satisfaction. These adolescents implicated a variety of contexts in their appraisals, particularly the peer context as a significant resource and family and school experiences as significant stressors. Such findings point to the multiple systems that must be potentially considered in efforts to promote positive subjective well-being in adolescents.

Third, support was obtained for a cognitive mediation model which hypothesized that acute negative environmental events would relate to more external perceptions of control, which in turn would relate to reduced global life satisfaction. Also, partial support was obtained for the cognitive mediation model for chronic, negative stressors. The

relationship between chronic stressors and life satisfaction was partially mediated by locus of control orientation. Following statistical control for the adolescents' control perceptions, the association between chronic negative experiences and life satisfaction was reduced, but remained statistically significant. This finding suggested stronger direct effects of chronic stressors (vs. acute negative life events) on life satisfaction.

The presence of a smaller direct effect of acute major life events compared to chronic stressors merits discussion. The weak direct effects of acute negative events (e.g. death of a family member) for adolescents suggest that such experiences may operate primarily to disrupt a self-perception (i.e. global sense of control), which appears crucial to life satisfaction. On the other hand, chronic stressors (e.g. ongoing peer problems) exert greater direct effects, not accounted for by cognitive accommodations. Whatever the case, given the large body of research that substantiates major developmental effects for self-perceptions (e.g. Byrne, 1996; Harter, 1999), additional research is needed to explore possible developmental factors related to the mediational role of locus of control in life satisfaction judgments.

Taken together, the findings of this study underscore the importance of complex models of adolescents' life satisfaction that incorporate both intrapersonal and environmental factors. Furthermore, such models require attention to both acute and chronic experiences as both appear to independently contribute to the experience of positive satisfaction with life as a whole.

In sum, demonstrations of robust relationships between environmental experiences and life satisfaction shed light on the correlates of life satisfaction but do not reveal the processes that are responsible for the relationships (Diener et al., 1999). This study extended beyond previous studies by providing support for a model involving a cognitive process (i.e. locus of control attributions) that mediates the association between life experiences and adolescents' life satisfaction reports. That is, support was found for a model that hypothesizes that (internal) perceptions of control operate as a crucial cognitive mechanism through which life experiences influence adolescents' life satisfaction. This study thus provides additional support for models that hypothesize cognitive linkages between environmental experiences and adolescents' life satisfaction.

Further research is needed to replicate, clarify and extend these findings. The preliminary support for a cognitive mediation model for life satisfaction suggests further questions. At what age do cognitive variables, such as locus of control attributions, begin to influence the relationship between untoward life experiences and a sense of life satisfaction? Do life satisfaction appraisals in turn influence the occurrence of future negative events? That is, given that dissatisfaction in

adults is associated with a variety of negative outcomes (e.g. negative peer evaluations, health complaints), are dissatisfied individuals more likely to encounter future adverse events? Similarly, are satisfied individuals more likely to encounter future positive events?

Limitations of this study should be noted. First, the sample was drawn from a single school in a Southeastern state. Thus, although the sample was fairly consistent with US characteristics on a number of dimensions, the generalizability of the findings remains speculative, pending further studies. Second, the study was cross-sectional and correlational in nature. Although such studies can be informative in the early stages of inquiry, longitudinal and experimental investigations are needed to further promote the understanding of causal relationships among the variables. Furthermore, the use of multiple indicators of the various constructs (e.g. child and parent ratings of life satisfaction) would enhance the meaningfulness of the data.

The issue of the generalizability of these findings across nations and cultures requires particular attention. Although few cross-national studies of children and adolescents have been conducted, research with adults has demonstrated robust differences with respect to levels and correlates of life satisfaction as a function of cultural differences. For example, the strong association between self-esteem and life satisfaction in individualistic countries (e.g. USA) is much weaker in collectivistic countries (e.g. Korea) in which the group is considered the basic unit of society (Diener and Diener, 1995; Suh et al., 1998). With respect to adolescents, similar cultural differences might also influence the life experiences and life satisfaction linkage. Cultures differ in their view of the world as positive and controllable as well as in their norms for experiencing and expressing positive and negative emotions (Diener et al., 1998). As one example, cultural differences in children's levels and correlates of control perceptions have been identified in several studies (Oettingen et al., 1994; Stetsenko et al., 1995). Furthermore, Lee and Seligman (1997) found that white American college students more often attributed success to themselves and failure to other people and circumstances than Chinese students. Thus, research is particularly needed to determine if the cognitive mediation model of the relationship between life experiences and life satisfaction for adolescents will generalize to other cultures and nations.

This study suggests important implications for those professionals, such as school psychologists, who seek to promote the psychological health of individual adolescents. First, attempts to assess and understand an adolescents' subjective well-being (including but not limited to life satisfaction) must involve comprehensive evaluations of the student's life circumstances as well as personal characteristics. Obtaining thorough risk and protective factor information from a variety of contexts

(school experiences, peer and family relationships, health information) is crucial as is distinguishing chronic experiences from acute life events. The long-term deleterious effects of chronic stressors (e.g. chronic family discord) may be greater than acute stressful events (e.g. moving to a new city). Second, the cognitive-mediational model underscores the necessity of considering cognitive factors in the development of assessments and interventions to enhance adolescents' positive mental health (cf. Dubois and Felner, 1996). The relationship between life experiences and life satisfaction is also likely transactional in nature (Brief et al., 1993; Headey and Wearing, 1989). Thus, although cognitive beliefs can be shaped by life experiences, it is also likely that the occurrence and nature of some events and experiences are shaped by individuals' cognitions. School psychologists may need to develop interventions that attempt to modify the nature, occurrence and/or impact of adolescents' cognitions (i.e. locus of control) as well as their life experiences in assisting them in their efforts to adapt to their social environments, particularly for acute stressors (see Hess and Copeland, 1997).

Similarly, this research informs the development of prevention and health promotion programs aimed at groups of adolescents. First, this research underscores the need for program developers to consider and mobilize a variety of systems, including the family, school and peer group in efforts to promote positive subjective well-being. The determinants of well-being are multiple; thus programs must target all of the major influential systems in order to maximize effectiveness (Phillips, 1993). For example, programs that are aimed narrowly at one system (e.g. peer competence training) may be less effective than programs that are more comprehensive in scope. Second, this study highlights the importance of environmental resources and stressors in adolescents' life satisfaction. Such findings run counter to programs that focus exclusively on changing individuals rather than environments. As noted by Phillips, such programs have assumed, without strong evidence, that 'individuals are responsible for problem solutions and that they can be trained to deal more effectively with impinging negative events' (1993, p. 205). Although positive life satisfaction is an individual phenomenon, this research supports the notion that 'it is embedded in an interpersonal, social-familial and institutional context' (Sarason, 1997, p. x). Thus, comprehensive programs not only require components aimed at enhancing individual competencies, attitudes and affect; but also require components aimed at enhancing features of adolescents' environments.

In total, this research suggests the need for school psychologists to adopt systemic, ecologically-oriented perspectives, focusing on factors that promote positive, adaptive functioning in adolescents. Historically, psychology's knowledge base has been disproportionately founded on the study of psychopathology (Cowen, 1991; Diener, 1994; Seligman, 1998)

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to the neglect of the study of adaptively-oriented emotions, attitudes and behaviour. Thus, the prevention and development of psychopathology are better understood than the development of positive psychological outcomes. Increasing interest in positive experiences, resources, coping behaviours and cognitive attributions (e.g. internal locus of control) and appraisals (e.g. life satisfaction) suggests the potential for increased understanding of the promotion of optimal mental health rather than simply preventing illness.

References

- Adelman, H. S., Taylor, L. and Nelson, P. (1989) 'Minors' Dissatisfaction With Their Life Circumstances', *Child Psychiatry and Human Development* 20: 135–47.
- Ash C. and Huebner, E. S. (1998) 'Life Satisfaction Reports of Gifted Middle-School Children', *School Psychology Review* 13: 310–21.
- Baron, R. M. and Kenny, D. A. (1986) 'The Moderator-Mediator Distinction in Social Psychological Research: Conceptual, Strategic and Statistical Considerations', *Journal of Personality and Social Psychology* 51: 1173–82.
- Boss, M. and Taylor, M. (1987) 'The Relationship Between Locus of Control and Academic Level and Sex of Secondary School Students', *Contemporary Educational Psychology* 14: 315–22.
- Brickman, P., Coates, D. and Janoff-Bulman, R. (1978) 'Lottery Winners and Accident Victims: Is Happiness Relative?' *Journal of Personality and Social Psychology* 36: 917–27.
- Brief, A. P., Butcher, A. H., George, J. M. and Link, K.E. (1993) 'Integrating Bottom-Up and Top-Down Theories of Subjective Well-Being: The Case of Health', *Journal of Personality and Social Psychology* 64: 646–53.
- Byrne, B. (1996) *Measuring Self-Concept Across the Life Span: Issues and Instrumentation*. Washington, DC: American Psychological Association.
- Cowen, E. L. (1991) 'In Pursuit of Wellness', *American Psychologist* 46: 404–8.
- DeNeve, K.M. and Cooper, N. (1998) 'The Happy Personality: A Meta-Analysis of 137 Personality Traits and Subjective Well-Being', *Psychological Bulletin* 124: 197–227.
- Dew, T. L. and Huebner, E. S. (1994) 'Adolescents' Perceived Quality of Life: An Exploratory Investigation', *Journal of School Psychology* 32: 185–99.
- Diener, E. (1994) 'Assessing Subjective Well-Being: Progress and Opportunities', *Social Indicators Research* 31: 103–59.
- Diener, E. (1996) 'Traits can be Powerful, but are not Enough: Lessons for Subjective Well-Being', *Journal of Research in Personality* 30: 389–99.
- Diener, E. and Diener, C. (1996) 'Most People are Happy', *Psychological Science* 7: 181–5.
- Diener, E. and Diener, M. (1995) 'Cross-Cultural Correlates of Life Satisfaction and Self-esteem', *Journal of Personality and Social Psychology* 68: 653–63.
- Diener, E., Emmons, R., Larsen, R. J. and Griffin, S. (1985) 'The Satisfaction With Life Scale', *Journal of Personality Assessment* 49: 71–5.
- Diener, E., Suh, E., Lucas, R. E. and Smith, H. (1999) 'Subjective Well-Being: Three Decades of Progress', *Psychological Bulletin* 125: 276–302.
- Diener, E., Sapyta, J. and Suh, E. (1998) 'Subjective Well-Being is Essential to Well-Being', *Psychological Inquiry* 9: 33–7.

- Diener, E., Suh, E.M., Smith, H. and Shao, L. (1995) 'National Differences in Subjective Well-Being: Why Do They Occur?', *Social Indicators Research* 34: 7–32.
- Dubois, D.L. and Felner, R.D. (1996). 'The Quadripartite Model of Social Competence: Theory and Applications to Clinical Intervention', in M.A. Reinicke, F.M. Dattilio and A. Freeman (eds), *Cognitive Therapy with Adolescents*, pp. 124–52. New York: Guilford.
- Frederickson, B. L. (1998) 'What Good are Positive Emotions?', *Review of General Psychology* 2: 300–19.
- Frisch, M., Cornell, J., Villanueva, M. and Retzlaff, B. (1992) 'Clinical Validation of the Quality of Life Inventory', *Psychological Assessment* 4: 92–101.
- Furr, R.M. and Funder, D. (1998) 'A Multimodal Analysis of Personal Negativity', *Journal of Personality and Social Psychology* 74: 1580–91.
- Gilman, R. and Huebner, E. S. (1997) 'Children's Reports of their Life Satisfaction: Convergence Across Raters, Time and Response Format', *School Psychology International* 18: 229–43.
- Grob, A., Stetsenko, A., Sabatier, C., Botcheva, L. and Macek, P. (1999) 'A Cross-National Model of Subjective Well-Being in Adolescence', in F. Alsaker (ed.) *The Adolescent Experience: European and American Adolescents in the 1990s*, pp. 115–130. Mahwah, NJ: Erlbaum.
- Harter, S. (1999) *The Construction of the Self: A Developmental Perspective*. New York: Guilford.
- Headey, B. and Wearing, A. (1989) 'Personality, Life Events and Subjective Well-Being: Toward a Dynamic Equilibrium Model', *Journal of Personality and Social Psychology* 57: 731–9.
- Heaven, P. (1989) 'Extraversion, Neuroticism and Satisfaction with Life Among Adolescents', *Personality and Individual Differences* 10: 489–92.
- Hess, R. and Copeland, E. P. (1997) 'Stress', in G.G. Bear, K.M. Minke and A. Thomas (eds) *Children's Needs II: Development Problems and Alternatives*, pp. 293–304. Bethesda, MD: National Association of School Psychologists.
- Huebner, E. S. (1991a) 'Initial Development of the Students' Life Satisfaction Scale', *School Psychology International* 12: 231–40.
- Huebner, E. S. (1991b) 'Correlates of Life Satisfaction in Children', *School Psychology Quarterly* 6: 103–11.
- Huebner, E. S. (1991c) 'Further Validation of the Students' Life Satisfaction Scale: The Independence of Satisfaction and Affect Ratings', *Journal of Psychoeducational Assessment* 9: 363–8.
- Huebner, E. S. (1997) 'Life Satisfaction and Happiness', in G. Bear, K. Minke and A. Thomas (eds), *Children's Needs II*, pp. 271–8. Silver Spring, MD: National Association of School Psychologists.
- Huebner, E. S. and Alderman, G. L. (1993) 'Convergent and Discriminant Validation of a Children's Life Satisfaction Scale: Its Relationship to Self- and Teacher-Reported Psychological Problems and School Functioning', *Social Indicators Research* 30: 71–82.
- Huebner, E. S., Drane, W. and Valois, R. (2000) 'Adolescents' Perceptions of their Quality of Life', *School Psychology International* 21: 281–92.
- Huebner, E. S., Funk, B.A. and Gilman, R. (2000) 'Cross-Sectional and Longitudinal Psychosocial Correlates of the Student's Life Satisfaction Scale', *Canadian Journal of School Psychology* 16: 53–64.
- Huebner, E. S., Laughlin, J. E., Ash, C. and Gilman, R. (1999) 'The Multimethod Investigation of Children's Well-Being Reports: Discriminant Validity of Life Satisfaction and Self Esteem', *Social Indicators Research* 46: 1–22.

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- Lazarus, R. (1991) *Emotion and Adaptation*. New York: Oxford University Press.
- Lefcourt, H. M. (1991) 'Locus of Control', in J. P. Robinson, P. R. Shaver and L. S. Wrightsman (eds), *Measures of Personality and Social Psychological Attitudes*, pp. 442–5. San Diego, CA: Academic Press.
- Lee, Y. T. and Seligman, M.E.P. (1997) 'Are Americans More Optimistic than Chinese?', *Personality and Social Psychology Bulletin* 23: 32–40.
- Lewinsohn, P. M., Redner, E. and Seeley, J. R. (1991) 'The Relationship Between Life Satisfaction and Psychosocial Variables: New Perspectives', in F. Strack, M. Argyle and N. Schwarz (eds) *Subjective Well-Being: An Interdisciplinary Perspective*, pp. 193–212. New York: Pergamon.
- McCullough, G., Huebner, E. S. and Laughlin, J. (2000) 'Life Events, Self-Concept and Adolescents' Positive Subjective Well-Being', *Psychology in the Schools* 37: 281–90.
- Moos, F. and Moos, B. (1994) *Life Stressors and Social Resources Inventory Youth Form Professional Manual*. Odessa, FL: Psychological Assessment Resources, Inc.
- Nowicki, S. and Strickland, B. (1973) 'A Locus of Control Scale for Children', *Journal of Consulting and Clinical Psychology* 40: 148–54.
- Oettingen, T.G., Little, T.D., Lindenberger, L. and Baltes, P.B. (1994) 'Causality, Agency and Control Belief in East Versus West Berlin Children: A Natural Experiment on the Role of Context', *Journal of Personality and Social Psychology* 66: 579–95.
- Pavot, W. and Diener, E. (1993) 'Review of the Satisfaction with Life Scale', *Psychological Assessment* 5: 164–72.
- Phillips, B.N. (1993) *Educational and Psychological Perspectives on Stress in Students. Teachers and Parents*. Brandon, VT: Clinical Psychology Publishing Company.
- Rotter, J. (1966) 'Generalized Expectancies for Internal Versus External Control of Reinforcement', *Psychological Monographs* 80 (1, Whole No. 609).
- Ryff, C. D. and Keyes, C. L. (1995) 'The Structure of Psychological Well-Being Revisited', *Journal of Personality and Social Psychology* 69: 719–27.
- Sarason, S.B. (1997) 'Foreword', in R.P. Weissberg, T. P. Gullotta, R.L. Hampton, B.A. Ryan and G.R. Adams (eds) *Enhancing Children's Wellness*, pp. ix–xi. Thousand Oaks, CA: Sage.
- Seligman, M. (1998) 'What is the Good Life?' *American Psychological Association Monitor* 29(10): 2.
- Shin, D. C. and Johnson, D. M. (1978) 'Avowed Happiness as an Overall Assessment of the Quality of Life', *Social Indicators Research* 5: 475–92.
- Silver, R. L. (1982) 'Coping with an Undesirable Life Event: A Study of Early Reactions to Physical disability', Unpublished doctoral dissertation, Northwestern University.
- Stetsenko, A., Little, T.D., Oettingen, F. and Baltes, B.P. (1995) 'Agency, Control and Means-End Beliefs about School Performance in Moscow Children: How Similar are They to Beliefs of Western Children?', *Developmental Psychology* 31: 285–99.
- Suh, E., Diener, E. and Fujita, F. (1996) 'Events and Subjective Well-Being: Only Recent Events Matter', *Journal of Personality and Social Psychology* 70: 1091–102.
- Suh, E. M., Diener, E., Oishi, S. and Triandis, H. (1998) 'The Shifting Basis of Life Satisfaction Judgments Across Cultures: Emotions Versus Norms', *Journal of Personality and Social Psychology* 74: 482–93.
- Veenhoven, R. (1988) 'The Utility of Happiness', *Social Indicators Research* 20: 333–54.

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- Vitaliano, P. P., Russo, J., Young, H. M., Becker, J. and Maiuro, R. D. (1991) 'The Screen for Caregiver Burden', *The Gerontologist* 31: 76–83.
- Zullig, K. J., Valois, R.F., Huebner, E.S., Drane, J.W. and Oeltmann, J.E. (in press) 'Relationship Between Perceived Life Satisfaction and Selected Substance Abuse Behaviours Among Public High School Students', Manuscript submitted for publication.