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RELATIONSHIPS AMONG STRESSFUL LIFE EVENTS, TEMPERAMENT, PROBLEM BEHAVIOR, AND GLOBAL LIFE SATISFACTION IN ADOLESCENTS

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The relationships among stressful life events (SLEs), temperament, externalizing and internalizing behaviors, and global life satisfaction were investigated. The Students' Life Satisfaction Scale, the Youth Self Report (YSR) form of the Child Behavior Checklist, a portion of the Life Events Checklist, and the Abbreviated Junior Eysenck Personality Questionnaire, were administered to 1,201 adolescents in grades 6 through 12 in a small city in the Southeast. A modest correlation was found between life satisfaction and Extraversion, whereas moderate correlations were found between life satisfaction and Neuroticism and life satisfaction and SLEs. Based upon hierarchical regression analyses, temperament variables accounted for approximately 16% of the variance in predictions of life satisfaction ratings. When SLEs were added, an additional 3% of the variance in life satisfaction ratings was subsequently explained. Life satisfaction did not operate as a moderator between SLEs and problem behavior. However, when global life satisfaction was added as a mediator variable, results indicated a partial mediational effect, particularly on internalizing behavior. Limitations of the study as well as implications for comprehensive psychological assessments are discussed. © 2002 Wiley Periodicals, Inc.

By and large, psychology has been a study of and treatment for psychopathology of affected individuals. Psychopathology has been the driving force behind research agendas and intervention. While researchers in humanistic psychology began the push in the direction of positive psychological functioning, only recently has a resurgence of energy begun to reinforce the commitment. Researchers have propelled positive psychology into focus, spotlighting the importance of promoting positive mental health (Diener, 2000; Larson, 2000; Seligman & Csikszentmihalyi, 2000). Due in part to such contributions, psychologists have moved from applied research on adults toward the preparation of more psychologically well lives for children and adolescents. Importantly, an understanding of positive psychology is not achieved through the studies of the absence of "negative" psychological symptoms in young people. Rather, it involves an emphasis on what makes life good, how individuals remain resilient in the face of adversity and what can be done to enhance the characteristics of life that are positive. Accordingly, the focus of psychologists' efforts should be on promoting areas of strength and protective factors in children's lives, rather than solely reacting to problems in today's youth. In doing so, the stage is set for healthy psychological and physical functioning in children's futures.

An important area of positive psychology is the study of subjective well-being (SWB). Comprising SWB are positive affect, negative affect, and global life satisfaction (Diener, Suh, Lucas, & Smith, 1999). *Positive affect* has been described as the frequency of positive emotions, such as joy or affection, in an individual. *Negative affect* is reflected in how frequently an individual has negative emotions, such as sadness or anxiety. *Global life satisfaction* is a cognitive evaluation of one's life as a whole (Diener, 1994). Although related, these variables are distinguishable, with each displaying different correlates (Diener et al., 1999; McCullough, Huebner, & Laughlin, 2000).

From the nascent review of Warner Wilson (1967) to more contemporary reviews of Diener (e.g., Diener et al., 1999) the considerable study of SWB in adults has unveiled several interesting findings. Whereas early research investigated factors that individuals needed to possess *in order to be* happy, current research has sought to learn how external events, situations, and demographic

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variables affect individuals' levels of happiness (Diener et al., 1999). For example, Brickman, Coates and Janoff-Bulman (1978) examined happiness of lottery winners and individuals who were left paraplegic following an accident. Their findings support the notion that happiness is relative to one's circumstances. Demographic variables such as income and age seem to have only weak relationships with happiness. Although wealthier people are generally happier, the effects are minimal once basic psychological needs have been met (Diener et al., 1999). In a recent survey of SWB, pleasant and unpleasant affect and life satisfaction were examined in approximately 60,000 adults across 40 countries (Diener & Suh, 1998). Upon examining the relationship between age and life satisfaction, they found a slight increase from the 20s to the 80s. Pleasant affect was the only variable to decline with age.

Diener and Lucas (2000) found that personality consistently predicts SWB in adults. Specifically, personality traits such as extraversion and neuroticism substantially influence positive and negative affect. Extraverts, individuals who are sociable, assertive, and possess high activity levels, tend to display more positive affect. Alternately, those individuals who are more neurotic, or those who are more anxious, tense and whose self-esteem may be low, display a preponderance of negative affect. In addition to personality variables, other traits influence individuals' positive SWB (Myers & Diener, 1995). For example, adults who are happy or have a preponderance of positive emotions feel empowered and optimistic and they like themselves. In addition, adults who display high levels of SWB enjoy the company of others and have many close relationships.

The benefits of increased levels of positive well-being in adults are well documented. It appears that positive SWB motivates human sociability, exploratory behavior, curiosity, and coping (Diener & Diener, 1996). Furthermore, individuals with positive SWB respond to negative events more rapidly, a characteristic vital to adaptation. Conversely, individuals with low levels of SWB demonstrate an increased risk of developing psychopathology symptoms such as depression and anxiety (Diener & Diener, 1996; Lewinsohn, Redner, & Seeley, 1991). In their study with adults, Lewinsohn, et al., (1991) found that depression was the most strongly related variable to life satisfaction among a group of other variables such as demographics, social support, and stress. More telling were data suggesting that low life satisfaction presents as a risk factor for future depression.

Researchers have expanded efforts to understand SWB from adult populations to that of children and adolescents (Ash & Huebner, 1998; Compas, 1993; Huebner, 1991a and 1991b; Huebner, Laughlin, Ash, & Gilman, 1998). Although still in its early stages, research with children and adolescents has produced findings similar to those of research with adults. Findings have revealed that the contribution of demographic variables to explaining levels of SWB is weak compared to the contribution of intrapersonal variables. For example, global self-concept is an influential correlate of reports of life satisfaction (McCullough et al., 2000). Huebner (1991a) found variables such as age, year in school, gender, parents' marital status, and parents' occupational status did not significantly influence children's ratings of global life satisfaction. Related to findings in adults, Huebner also found that children who reported high degrees of life satisfaction had high self-esteem, displayed personality characteristics more closely related to extraversion, and had a stronger internal locus of control.

When considering factors that contribute to life satisfaction, positive and negative life events have also been examined. In adults, research has demonstrated that positive and negative major life events (e.g., getting married or becoming unemployed) have an effect on life satisfaction and positive affect (Headey & Wearing, 1989). In addition to major life events, daily events such as daily hassles, or chronic everyday stressors, contribute to how an individual rates his or her satisfaction with life. McCullough et al. (2000) found that in adolescents, "environmental life events explained variance in well-being over and above that of a powerful intrapersonal variable, global self-concept" (p. 287). Furthermore, Ash and Huebner (2001) found that both positive and nega-

tive chronic, everyday stressors and acute events contributed significantly to life satisfaction. Such findings suggest the importance of adolescents' acute and chronic stressors at school and at home.

The developmental stage of adolescence brings many positive and negative stressors as youth experience physical and emotional changes, as well as a whole host of other adjustments to their environment. Often, while dealing with the dramatic changes that accompany their development, adolescents engage in maladaptive behaviors such as school misconduct, drug use, and delinquency. Such maladaptive responses can lead to further difficulties in adapting to roles and responsibilities required in early adulthood. Therefore, it is important to understand the unique factors that might contribute to adjustment during adolescence.

To date, life satisfaction has been examined as an outcome of such factors as family environment, personality variables and life events. For example, life satisfaction was found to be only weakly influenced by parents' marital status (intact vs. non-intact family); however, life satisfaction was found to be strongly influenced by personality characteristics (Huebner, 1991a). Moreover, life satisfaction appears to be moderately influenced by life events (Ash & Huebner, 2001; McCullough et al., 2000).

In addition to studies investigating life satisfaction as an outcome variable, research has attempted to uncover its role as a potential intervening variable. Suldo and Huebner (in press) found that life satisfaction acted as a mediating variable between environmental factors, (i.e., parenting styles) and children's problem behavior. Findings from their research indicated that parental social support was the strongest predictor of life satisfaction for adolescents. In addition, parents' promotion of autonomy within their children as well as their supervision of their children were significantly related to higher levels of life satisfaction in adolescents. In other words, decreased parental support, supervision, and autonomy promotion related to decreased life satisfaction. In turn, diminished life satisfaction related to a higher likelihood of engaging in problem behavior. That life satisfaction acts as a mediational variable for problem behavior suggests that adolescents' perceptions of the positive aspects in their lives overall is not merely an epiphenomenon. It also impacts other important adolescent systems (e.g., personal behavior). In addition, the finding creates a strong foundation for studying how life satisfaction may behave as an intervening variable between environmental experiences and adolescents' coping responses. Not only may life satisfaction mediate environmental variables, it may also *moderate* certain variables. In line with Lazarus' (1991) view that life satisfaction represents a positive appraisal style, life satisfaction may thereby act as a buffer against the effect of stressful life events, aiding in adolescents' avoidance of engaging in problem behaviors. As Lazarus suggests, with an overall positive belief about life, one may be better able to cope and adjust to daily stressors and negative events that would most likely have a greater negative impact on an individual who has an overall negative belief about life.

The overall goal of the current research is to study the interrelationships among temperament variables, stressful life events, life satisfaction, and behavior in an adolescent sample. Specifically, seven questions were investigated. First, do temperament variables such as extraversion and neuroticism relate to adolescents' life satisfaction? Based on previous research on temperament variables and life satisfaction of adolescents (Heaven, 1989; Huebner, 1991a), it is expected that adolescents who rate themselves as higher on extraversion will indicate higher life satisfaction. Contrarily, ratings for life satisfaction will be lower for individuals who report neurotic temperaments. Second, do stressful life events (SLEs) relate to life satisfaction? Again, we expected to replicate findings by McCullough et al. (2000) that indicated SLEs influenced adolescents' ratings of life satisfaction. It was predicted that lower ratings of life satisfaction would be indicated for those adolescents with a greater proportion of SLEs. Third, do SLEs add variance beyond the effects of temperament variables (i.e., extraversion and neuroticism) in predicting life satisfaction ratings? It is important to understand the contribution of each of the aforementioned variables in

explaining ratings of life satisfaction. Although some recent findings attest to the contribution of temperament variables to life satisfaction, little is known about the incremental contribution of environmental experiences in relation to temperament variables.

Fourth, do SLEs relate to behavior problems, specifically internalizing and/or externalizing behaviors? Larson and Ham (1993), found a significant moderate positive correlation between middle adolescents' reports of negative life events in adolescence and rates of depression. In addition, there was a significant moderate positive correlation between the parent's report of negative events and problem behaviors of the child. Hoffman, Levy-Shiff, and Malinski (1996) found that life events contributed significantly to the prediction of behavior problems in adolescents. Furthermore, in their study, a greater number of life events correlated with higher levels of maladjustment. Based on these studies, we hypothesized that adolescents who have a greater number of SLEs will demonstrate more internalizing and externalizing behavior problems.

Fifth, two additional questions explored the possibility that life satisfaction serves as an intervening variable that links SLEs and adolescents' behavioral outcomes. Specifically, two alternative models of life satisfaction as an intervening variable were tested. The first model predicted that life satisfaction has a moderating effect on the relationship between stressful life events and maladaptive behavior (externalizing and internalizing). As suggested in Lazarus' theory, life satisfaction may act as a buffer between the number of SLEs an adolescent has experienced and his or her internalizing and externalizing behavior. Such an outcome is expected based on the notion that when an individual has an overall positive (vs. negative) outlook on her life, which is at least moderately stable, he or she is less likely to adapt to SLEs in maladaptive ways such as through internalizing or externalizing behaviors. In other words, we predicted that the relationship between SLEs, and behavior problems would be smaller for students with high life satisfaction than for those students with low life satisfaction.

The second model predicted that life satisfaction would act as a mediator between stressful life events and externalizing and internalizing behavior. Thus, we predicted that increased stressful life events would be related to a decreased level of life satisfaction, which in turn would relate to an increased likelihood of maladaptive coping behavior (i.e., externalizing and internalizing behaviors) in adolescents. This prediction is consistent with Evans' (1994) model in which perceived life satisfaction links various input variables (e.g., temperament, environmental experiences) and output variables (coping behavior).

Method

Participants

The participants were 1,201 regular education students in grades 6–12. A delineation of the participants in each grade are as follows: 184 (15%) in 6th grade; 185 (15%) in 7th grade; 154 (13%) in 8th grade; 194 (16%) in 9th grade; 193 (16%) in 10th grade; 142 (12%) in 11th grade; and 149 (13%) in 12th grade. All participants were sampled from three middle schools and two high schools in a large public school system in South Carolina.

The majority of the participants were African American (57%); the remaining individuals were Caucasian (34%), Hispanic (2%), Asian (2%), Native American (1%) and of other ethnic background (3%). The gender composition was 64% female and 36% male. At the time this study was conducted, approximately half of the students were residing with both biological parents (49%); the remaining lived with their mother only (24%), their father only (3%), or other adults such as a member of their extended family (6%). Using qualifying for school lunch at free or reduced rates as an estimate of socioeconomic status, 58% were of low SES background and the remaining students were of average and above-average SES.

Procedure

Parents of all enrolled students (N = 4,140) received letters that provided a description of the study, and a request for permission for their child's participation. Students who received parental consent were subsequently asked to provide their assent for their own participation in the study. The student assent form reviewed the purpose of the study and manner in which participation was voluntary. The form also included information regarding incentives such as a chance to win a $50 cash giveaway and/or a free pizza. Students who received signed parental consent and declared assent to participate in the study were administered each of the measures discussed below in a counterbalanced order. The measures were presented to students in groups of 20 to 100 participants. Initially, participants completed a brief form that gathered demographic information such as age, gender, grade, race, family structure and SES. Students' SES was assessed with a single item regarding free or reduced-cost lunch. The third author was present at all administration sessions to insure accuracy in the distribution and valid and confidential completion and collection of all scale measures.

Measures

Student's Life Satisfaction Scale (SLSS) (Huebner, 1991a). The SLSS is a seven-item measure of global life satisfaction (e.g., Life is going well; I wish I had a different life). Items are rated on a 6-point scale (ranging from strongly agree to strongly disagree). The SLSS has adequate internal consistency (coefficient alpha = .82) and test-retest reliability over a 1–2 week period (r = .74). Considerable validity data support its usefulness with adolescents (see Gilman & Huebner, 2000, for review). The theoretical basis for the scale is that children's global life satisfaction can be accurately assessed by a child's evaluations of her or his overall life satisfaction separate from specific domains of family, friends, or school.

The Youth Self Report (YSR) form of the Child Behavior Checklist (Achenbach & Edelbrock, 1986). The YSR is a 118-item behavior rating scale that assesses eight problem behavior areas: aggressive behavior, anxious/depressed, attention problems, delinquent behavior, social problems, somatic complaints, thought problems, and withdrawal. Composite scores index internalizing behavior, externalizing behavior, and total problems. Students rate themselves according to a 3-point scale (0 = "not true," 1 = "somewhat or sometimes true," 2 = "very true or often true"). Due to the focus of the present study, items pertinent to internalizing (withdrawn, somatic complaints, and anxious/depressed subscales) and externalizing (delinquent behavior and aggressive behavior subscales) domains only were used.

Reliability and validity studies support the YSR. Achenbach, McCanaughy, and Howell, (1987) found that adolescents referred for clinical services, as compared to a sample of nonreferred adolescents, scored significantly higher on all problem subscales. Furthermore, the authors report that the YSR yields significant correlations with both parent and teacher reports of adolescents' problems behavior; correlations between the YSR and the Parent Rating Form of the CBCL are between .38–.42 for Internalizing and .43–.49 for Externalizing behaviors. Correlations between the YSR and Teacher Report Form of the CBCL have been reported at .37–.47 for Internalizing symptoms and 0.56–.79 for Externalizing symptoms. The YSR has also demonstrated good reliability with a one-week test-retest coefficient at .79. This measure is suitable for use with the target sample, as the YSR was designed to obtain ratings from adolescents aged 11 to 18.

The Life Events Checklist (Johnson & McCutcheon, 1980). The Life Events Checklist is a 46-item measure in which students indicate the occurrence of major life events. Students are asked in the first 18 items to indicate whether or not an event occurred within the past year which the child or adolescent could not control (e.g., death of a close friend). For the remaining 28 items, participants are asked about events that he or she could possibly control (e.g., "joining a new

club"). We used only events that were considered uncontrollable or fateful such as the former. In the original checklist, if the event had occurred, the student is asked to rate the degree of the event's impact using a 4-point scale (1 = no effect, 4 = great effect). In the present study, the presence of stressful life events was based upon the responses to the first 18 items only, pertaining to the uncontrollable events. That is, the subjective rating of the event was not calculated. Each student's score could range from 0 to 18.

Abbreviated Junior Eysenck Personality Questionnaire (JEPQ-A: Francis, 1996). The JEPQ-A is an abbreviated version of the Revised Junior Eysenck Personality Questionnaire (JEPQ-R), derived from Eysenck's theory of personality and temperament. The questionnaire is designed to measure the temperament traits of Extraversion, Neuroticism, and Psychoticism in children and adolescents ages 7 to 15 years old. Due to the focus of the present study, only the Extraversion and Neuroticism scales were administered. Students responded to 12 items (Can you get a party going; Are your feelings rather easily hurt) in a dichotomous "yes/no" format. On the Extraversion and Neuroticism scales, it is possible for each participant to obtain a total score between 0 and 6 on each scale.

The JEPQ-A was constructed after administering a previously validated short form of the JEPQ-R with 48 items to a sample of 1,597 adolescents. Those items with a strong correlation with the total item score of the appropriate scale were chosen for the abbreviated form. Internal consistency reliability coefficients for the JEPQ-A have been reported as .66 for the Extraversion scale and .70 for the Neuroticism scale. The JEPQ-A also demonstrated high correlations with the JEPQ-R, with a correlation of .91 for the Extraversion scale and .92 for the Neuroticism scale.

Results

Descriptive Analyses

Means and standard deviations for the measures are reported in Table 1. The mean response rating for life satisfaction was 4.19 (SD = 1.15) which indicates a moderately high level of global life satisfaction for this sample. Gilman and Huebner (1997) and McCullough et al. (2000) found similar mean life satisfaction scores with middle and high school students, respectively. For the JEP-Q temperament questionnaire, the mean score of extraversion for the sample was 4.94 (SD = 1.38) and the mean score of neuroticism for the sample was 2.39 (SD = 1.80). The mean total of life events score as indicated by the Life Events Checklist was 5.04 (SD = 3.3). Stressful life events scores for each individual student were computed by totaling the number of events reported by the student. On the behavior measure, the Child Behavior Checklist (CBCL), the mean score for externalizing behavior was 13.06 (SD = 8.33) and the mean score for internalizing behavior

Table 1
Descriptive Statistics and Intercorrelations Among Stressful Life Events, Temperament Variables, Global Life Satisfaction and Behavior

	M	*SD*	1	2	3	4	5	6
1. Stressful Life Events	5.04	3.29	—					
2. Extraversion	4.94	1.38	−.01	—				
3. Neuroticism	2.39	1.80	.17*	−.28*	—			
4. Global Life Satisfaction	4.19	1.15	−.23*	.21*	−.39*	—		
5. Externalizing Behavior	13.06	8.33	.28*	.06	.24*	−.37*	—	
6. Internalizing Behavior	14.23	9.75	.23*	.31*	.61*	−.50*	.50*	—

*$p < 0.01$.

was 14.23 ($SD = 9.75$). In this particular sample, most adolescents rated themselves as being more extraverted than introverted. In addition, most adolescents in this sample were generally satisfied with life, reported few stressful life events, externalizing behaviors and internalizing behaviors.

The intercorrelations among SLEs, global life satisfaction, temperament variables, and problem behaviors are presented in Table 1. The correlation for global life satisfaction was stronger for neuroticism ($r = -.39$) than for extraversion ($r = .21$). Both correlations were statistically significant. Additionally, the correlations among SLEs and global life satisfaction, externalizing behavior, and internalizing behavior were all moderate.

Before conducting further analyses to answer our specific research questions, we explored potential developmental differences among the constructs of interest. Specifically, we conducted regression analyses containing interaction terms to determine if adolescent school group, specifically middle vs. high school students, moderated the relationship between predictor variables (i.e., temperament, SLEs, GLS) and the criterion variables (i.e., internalizing and externalizing behavior). Results indicated that the relationships between predictor and criterion variables did not change significantly as a function of school status ($t(1187) = -1.10$ to .97, $p < .05$). Due to these developmental similarities, students from middle and high school were combined to form one adolescent sample employed in all subsequent analyses.

Hierarchical Regression Analyses

The interrelationships of the stressful life events, life satisfaction, temperament, and problem behavior were further analyzed by conducting hierarchical regression analyses to determine if information regarding SLEs added additional variance beyond that obtained from the temperament ratings. Analyses were performed using SPSS REGRESSION.

The results from the hierarchical regression analysis with life satisfaction as the dependent variable are reported in Table 2. The results indicated that the temperament variables of neuroticism and extraversion significantly predicted ratings of life satisfaction, accounting for 16% of the variance. Additionally, when stressful life events were added in the regression equation, an additional 3% of the variance in life satisfaction ratings was explained.

Life Satisfaction as a Moderator

Analyses for moderational effects of life satisfaction were conducted, following Baron and Kenny (1986) guidelines. The moderational effects of life satisfaction on the relationships between stressful life events and behavior (internalizing and externalizing) were tested in a series of two hierarchical multiple-regression analyses. In the first regression equation, three variables were entered sequentially into the regression equation: stressful life events, life satisfaction, and the interaction term (SLE × Life Satisfaction). The findings demonstrated that the stressful life events

Table 2
Hierarchical Regression Analysis Predicting Life Satisfaction

Predictor	*Adjusted* R^2	*F* Value	Significance of Change in *Adjusted* R^2	Final Beta Value
Block 1				
Neuroticism	.16	115.07	—	−.33
Extraversion				.11
Block 2				
Stressful Life Events	.19	94.29	< .001	−.18

significantly related to externalizing behavior ($R^2 = .08$, F-change (1196) = 104.38, $p < .05$). In addition, life satisfaction added significant linear variance ($R^2 = .18$, F-change = 147.95, $p < .05$); however, the interaction did not contribute significantly to externalizing behavior ($R^2 = .18$, F-change = .03, $p > .05$). In the second regression equation, the same three variables that were entered in the first regression equation were again entered in the same order; however, in the second equation, the dependent variable was internalizing behavior. The results revealed that the stressful life events related significantly to internalizing behavior ($R^2 = .05$, F-change = 68.93, $p < .05$) and that life satisfaction contributed significant additional linear variance ($R^2 = .26$, F-change = 334.18, $p < .05$); however, the interaction did not ($R^2 = .26$, F-change = .34, $p > .05$). Thus, there was no support for the hypothesis than an adolescent's level of life satisfaction moderates the relationship between stressful life events and externalizing or internalizing behavior.

Life Satisfaction as a Mediator

Analyses for mediational effects of life satisfaction were conducted, again following guidelines put forth by Baron and Kenny (1986). First, we tested the model of possible mediational effects of life satisfaction on externalizing behavior (See Figure 1). The beta weights were generated through simultaneous multiple regression. The results indicated that when global life satisfaction was added as a mediating variable, the correlation between stressful life events and externalizing behavior was decreased (.28 to .21). Thus, there was a partial mediational effect of life satisfaction, that is, a small indirect effect (.09).

Second, we tested a model of life satisfaction as a mediator of the relation between stressful life events and internalizing behavior (see Figure 2). The results indicated that the correlation between life events and behavior was decreased (.23 to .13). The ratio of indirect (.12) to total effects (.25) suggests a moderate indirect effect.

Discussion

The goal of the present study was to assess the interrelationships among stressful life events, global life satisfaction, and behavior in an adolescent sample. One aim was to understand the relationship between temperament variables, such as extraversion and neuroticism, and global life

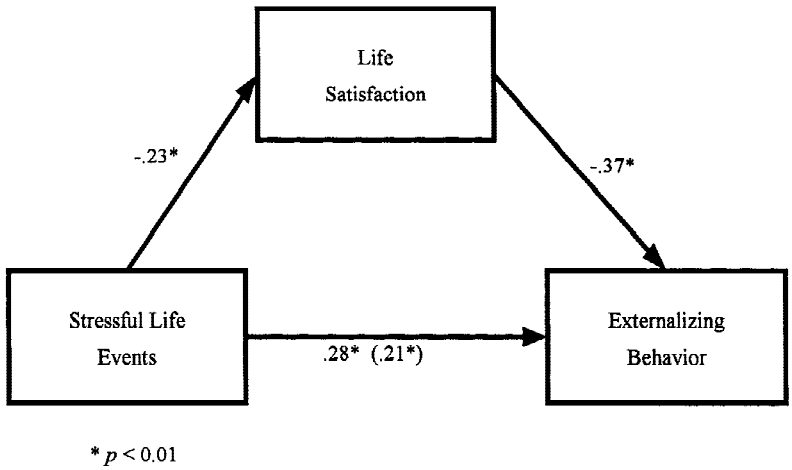

Figure 1. Model of the mediational role of life satisfaction in the relationship between stressful life events and externalizing behavior. Value in parentheses is the reduced coefficient when the mediator (life satisfaction) is present.

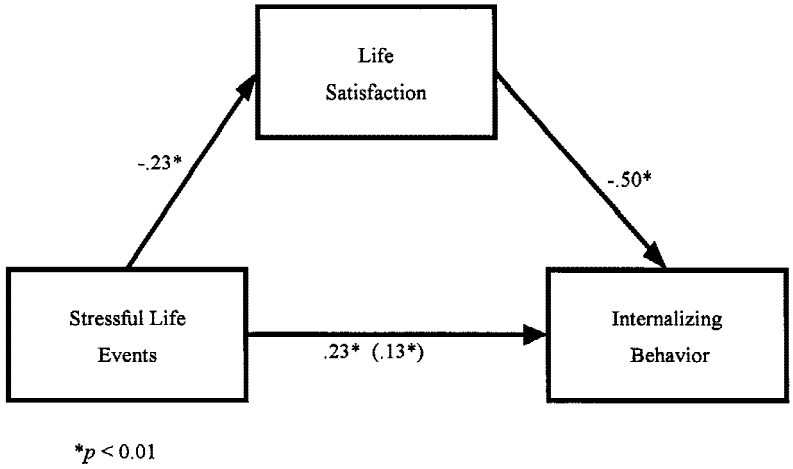

FIGURE 2. Model of the mediational role of life satisfaction in the relationship between stressful life events and internalizing behavior. Value in parentheses is the reduced coefficient when the mediator (life satisfaction) is present.

satisfaction. We were also interested in the relationship between stressful life events and the global life satisfaction of adolescents, given the transitional nature of this period of development. Furthermore it was of interest whether and how global life satisfaction behaved as an intervening variable between stressful life events and externalizing and internalizing behavior. Specifically, we sought to understand if life satisfaction operates as a buffer between stressful life events and maladaptive behaviors. In addition to its possible moderational effects, we studied the possible mediational relationships of life satisfaction between stressful life events and externalizing and internalizing behaviors.

Broadly, the findings of the study highlight the importance of including environmental variables as well as temperament variables when explaining adolescents' life satisfaction. In particular, the study generated the following findings. First, as hypothesized, the temperament variables of extraversion and neuroticism were related to adolescents' life satisfaction, thus replicating previous findings (Headey & Wearing, 1989; Heaven, 1989; Huebner, 1991a). Specifically, in the current study, 16% of the variance in life satisfaction could be accounted for by personality variables.

Second, consistent with findings from McCullough et al. (1999), we found that stressful life events moderately related to life satisfaction. Although the relationship was moderate, stressful life events contributed significant unique variance over and above the personality variables. For those students who indicated a greater number of stressful life events, their levels of life satisfaction were lower, bolstering the argument for inclusion of contextual variables in comprehensive models of life satisfaction.

Third, consistent with prior research in children and adults (Headey & Wearing, 1989; Hoffman et al., 1996), the presence of increased numbers of stressful life events related to increased levels of negative externalizing and internalizing behaviors. This finding demonstrated that adolescents who encounter stressful events in their lives are more likely to engage in both forms of maladaptive behaviors.

Fourth, it was of primary importance to determine whether decreased life satisfaction is simply a by-product of negative life events or whether it serves as a potential contributor to the maladaptive adolescent behavior. In the former case, life satisfaction is merely an epiphenomenon, of little significance beyond interest in adolescent life satisfaction in and of itself. In the latter case, however, life satisfaction may operate as a significant intervening cognitive variable,

clarifying the linkage between environmental experiences and adolescent behavioral responses. This task was accomplished through tests of moderation and mediation. While global life satisfaction was not found to operate as a moderator variable between stressful life events and behavior, it did partially mediate the relationship, particularly for internalizing behavior. These results suggest that adolescents' cognitions about their satisfaction with life play an important role in the relationship between stressful life events and externalizing and internalizing behaviors.

Limitations of the study should be noted. First, only a portion of the life events checklist was used. That is, only those items that were considered to be out of the adolescent's control (e.g., death of a family member) were used. It is possible that the additional measures of controllable events would increase the magnitude of the relationship between environmental experiences and life satisfaction. The modest strength of the obtained relationship decreases the likelihood of detecting mediation effects. Second, all data were collected through the use of self-report measures. Alternative measures (e.g., teacher and parent ratings) were not employed. Multi-method assessments should provide more accurate information. Third, although the sample was large, it was not representative of the national population of adolescents. In future research, use of a more representative sample is necessary. Finally, given the underlying causal nature of the mediational and moderational models, longitudinal studies are needed to rigorously test the relationships. In future research on adolescents' life satisfaction, such limitations should be taken into consideration.

In summary, this study revealed significant findings important to future investigations of adolescent global life satisfaction. Generally, the inclusion of temperament variables continues to be a necessary, albeit not sufficient, element to the explanation of global life satisfaction in adolescents. Additionally, the consideration of environmental factors should not be overlooked. Global life satisfaction reports of adolescents are best explained by a combination of intrapersonal and contextual factors. The possibility that such life satisfaction reports in turn influence subsequent adolescent behavior should be explored further.

The present research yields implications for understanding adolescent behavior. The measurement of adolescents' levels of life satisfaction also may be an integral component in comprehensive assessments. Although the measurement of temperament and stressful life events has a long history in the diagnosis, treatment, and prevention of adolescent behavior problems, global life satisfaction may be another important piece of the puzzle that explains adolescents' behavior. Psychologists may be able to recognize and be better equipped to prevent maladaptive behavior and promote healthy behavior in adolescents when armed with knowledge of their satisfaction with life. In fact, recent research has shown that changes in life satisfaction reports serve as prodromal indicators of several important health outcomes (see Frisch, 2000, for a review). Thus, the development of a nationally standardized, psychometrically sound, life satisfaction measure for children and youth should be a priority for applied researchers (see Gilman & Huebner, 2000).

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