Life Events, Neighborhood Stress, Psychosocial Functioning, and Alcohol Use Among Urban Minority Youth

Lawrence M. Scheier
Gilbert J. Botvin
Nicole L. Miller

ABSTRACT. This study examined personal life events and neighborhood stress as determinants of alcohol use among urban, minority youth. Personal events included disruptive and beneficial life experiences, whereas neighborhood stress assessed gang involvement and perceived neighborhood toughness. Analyses were constructed to examine the ability of several key measures of psychosocial functioning to moderate relations between life events, neighborhood stress, and alcohol use. Positive outcomes (e.g., family communication) and internal health locus of control buffered the effects of negative life events on alcohol use. High levels of absenteeism exacerbated the effects of neighborhood stress on alcohol use. Both positive and negative life events and neighborhood stress uniquely predicted alcohol use controlling for risk, gender, and ethnicity. Findings are discussed in terms of extending current etiology models to include stressful life events and contextual factors as predictors of early-stage alcohol use. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-342-9678. E-mail address: getinfo@haworthpressinc.com <Website: http://www.haworthpressinc.com>]*

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Lawrence M. Scheier, PhD, Gilbert J. Botvin, PhD and Nicole L. Miller are affiliated with the Institute for Prevention Research, Cornell University Medical College.

Address correspondence to Lawrence M. Scheier, Institute for Prevention Research, Department of Public Health, Cornell University Medical College, 411 East 69th Street, Kips Bay 201, New York, NY 10021 (E-mail: lmscheie@mail.med.cor nell.edu).

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Recent surveys show that rates of alcohol use among minority youth closely parallel those of white youth (Monitoring the Futures [MTF]: Johnston, O'Malley, & Bachman, 1996). These statistics are evident both in nationally representative school-based (i.e., MTF) and household surveys (National Household Survey of Drug Abuse [NHSDA]: Substance Abuse and Mental Health Services Administration, 1997). The NHSDA, which uses face-to-face interviews conducted in the home, shows that among youth ages 12-17, lifetime alcohol use is 40.7% for whites, 40.3% for Hispanic, and 32.2% for blacks. In comparison to black youth, Hispanic youth report higher rates of annual (34.6% v. 26.6%) and 30-day alcohol use (19.9% v. 14.7%). Hispanic youth also report higher rates (8.1%) of binge drinking (five or more drinks at one time within the past 30 days) compared to white (7.9%) and black (3.6%) youth. Hispanic youth also may be at greater risk because they begin drinking earlier than their nonminority counterparts (Singer, 1987), are more vulnerable for school failure and mental health problems (Delgado, 1990), and have higher morbidity and mortality rates related to alcohol use (Department of Health and Human Services, 1986).

In addition to epidemiological information, etiology studies confirm that a common set of developmental mechanisms may contribute to early-stage alcohol use among different ethnic minority groups (Coombs, Paulson, & Richardson, 1991; Farrell, Danish, & Howard, 1992; Flannery, Vazsonyi, Torquati, & Fridrich, 1994; Gottfredson & Koper, 1996; Maddahian, Newcomb, & Bentler, 1988; Maton & Zimmerman, 1992; Newcomb, Maddahian, Skager, & Bentler, 1987; Rowe, Vazsonyi, & Flannery, 1994; Vega, Zimmerman, Warheit, Apospori, & Gil, 1993). Consistent with current prevention theory, most, if not all of these studies, suggest that peer and normative influences and various forms of psychosocial functioning (i.e., skills and competencies) all contribute uniquely to the prediction of early-stage alcohol use.

ENVIRONMENTAL STRESS AS A CONTRIBUTOR TO ALCOHOL USE

Despite the recognition that alcohol etiology among minority groups may share common developmental influences, the unique developmental landscape faced by urban, minority youth may present special circumstances that need to be addressed to develop efficacious

interventions. For instance, African-American and Hispanic ethnic groups constitute the two largest ethnic groups in America (U.S. Bureau of the Census, 1992) and represent the fastest growing segment of the population (Chapa & Valencis, 1993). Census data also show that African-Americans and Hispanics are disproportionately represented as residents of metropolitan cities. Rapid population growth in crowded urban communities may heighten exposure to crime (Department of Justice, 1997) and high rates of unemployment (Bureau of Labor Statistics, 1998). Urban, minority youth are disproportionately at risk for maladaptive behavioral and emotional outcomes (Spencer, 1985), health risks (Department of Health and Human Services, 1986), and morbidity related to environmental conditions such as poverty (National Center for Health Statistics, 1993) and violence (Hammond & Yung, 1993). Urban, minority youth also report witnessing more drug sales (white 7.8%, black, 42.7%, and Hispanic 22.2%: National Institute on Drug Abuse, 1993) and observe more people drunk in their neighborhood (36.5%, 58.4%, and 46.7% for White, black, and Hispanic youth, respectively).

Oftentimes, census-based information does not sufficiently capture the complete psychological picture of how environmental factors may promote stress and lead to alcohol use. Other contextual factors including community resources, gang activity, criminal justice efforts, to name just a few also may distinguish a neighborhood's capacity to insulate youth from deviant standards and practices. In the case of urban, minority youth, environmental demands such as crime and gang activity may encourage feelings of disenfranchisement and provide the rudiments of a cognitive basis for feelings of stress.

Prominent theoretical arguments such as problem behavior (Jessor & Jessor, 1977) and social learning formulations (e.g., Bandura, 1977; 1982) accord central roles for interpersonal influences (e.g., peer models for drinking) and intrapersonal motivations (e.g., self-esteem and self-efficacy) in the etiology of adolescent alcohol use. Unfortunately, despite recognizing the importance of environmental factors, neither theory explicates fully how the environment may influence delinquency (i.e., alcohol use). For example, Jessor and Jessor (1977) included family education, parental occupation, and family structure as antecedent or background factors, however, the manner in which these agents influence problem behavior is not well understood. An essential requirement, then, is to articulate in greater

detail the specific pathways through which characteristics of the environment foster the early stages of alcohol use and related forms of delinquency.

Recent attempts to assess the impact of environmental factors have provided some empirical confirmation that perceived stress uniquely predicts drug use. Dembo and colleagues (Blount & Dembo, 1984; Dembo, Allen, Farrow, Schmeidler, & Burgos, 1985) reported that perceived neighborhood climate, gang involvement, and neighborhood toughness were reliable predictors of alcohol and other drug use among inner-city youth. Dembo et al. (1985) suggest that street cultures, gangs, and other environmental features serve as powerful socializing agents that can promote drug use. Based on theories of strain (Hirschi, 1969) and social disorganization (Kornhauser, 1978), this approach emphasizes the '*perceived environment*' as an important component to understanding deviant behavior (e.g., Simcha-Fagan & Schwartz, 1986). Basically, communities that tolerate high levels of deviance, that provide weak institutional ties, and that are unstable because of limited economic resources disrupt efforts to construct affective ties to stable socializing agents (i.e., school). In turn, the absence of conventional bonds and the presence of widely accepted deviant subcultures leads to behavioral standards that promote alcohol and other drug use.

PERSONAL LIFE EVENTS AS A DETERMINANT OF ALCOHOL USE

Environmental factors may represent only one form of stress that influences alcohol use during adolescence. Additional sources of stress include life events, adverse circumstance, or disruptive events that influence normative growth. Typical stressors may include interpersonal experiences that occur on a daily basis (i.e., family feuding) as well as events that are not common everyday occurrences. For instance, loss of employment by a parent can change the economic fortunes of an entire family and be quite stressful. Likewise, realignments in family structure from divorce or remarriage, problems with dating, school work, and extracurricular activities (i.e., sports and clubs), all represent changes in one form or another that can potentiate stress.

Several etiology studies have documented the importance of stressful life events as key risk factors that promote adolescent alcohol use

(Colder & Chassin, 1993; Labouvie, 1986; Newcomb & Harlow, 1986; Wills, 1986; Wills, Vaccaro, & McNamara, 1992). Despite a consensus among these studies that life events uniquely predict alcohol use, there has been a paucity of studies that have examined stress-alcohol relations in minority youth (Wills, 1986; Wills et al., 1992). This may be unfortunate because minority youth may face a unique landscape of developmental risk stemming from poverty, urban crowding, and discrimination, all of which may encourage deviant behavior. An essential requirement, then, is to consider how stress uniquely influences minority youth and whether personal stress is distinct from environmental stress.

In addition to these concerns, past research linking stress to alcohol use has primarily identified negative stressful experiences as a precursor to alcohol use. Based on evidence provided by studies of subjective well-being and affect (Deiner, 1984; Deiner & Emmons, 1985; Watson, Clark & Carey, 1988), Wills and Shiffman (1985) suggest that negative and positive sources of stress represent distinct influences and may potentiate different behavioral outcomes. Consider, for example, that certain types of stress may have different meanings depending on whether it is experienced or merely observed (Compas, 1987). Dissolving a relationship can be stressful for one adolescent and bring exhuberation and relief to another. Several assessments of stressful life events permit respondents to evaluate the impact and desirability of life events, although negative events have received the lion's share of attention (e.g., Compas, Davis, Forsythe, & Wagner, 1987).

There also is a growing recognition of the importance of individual differences in the way adolescents respond to stress (Rhodes & Jason, 1990). Many youth draw on specific coping resources constructed from cognitive and social skills that buffer or ameliorate the effects of stress (Cohen & Wills, 1985). According to a stress-coping formulation, stressful (negative) life events provoke psychological disruption and in the absence of adequate coping mechanisms promote physical and psychiatric problems (Folkman & Lazarus, 1980; Lazarus, 1977). A wide range of skills (i.e., coping mechanisms) have been reported to attenuate the effects of stress. Spencer (1983; 1985), for example, has shown that positive family enculturation provides a basis for resilience and intellectual competence among urban, black youth. Wills (1986) reported that behavioral (i.e., decision skills) and cognitive (i.e., mini-

mizing distress) coping moderated relations between stress and alcohol use (including heavy drinking) in a sample of minority youth. Additional research, therefore, is required to tease apart which sources of coping effectively ameliorate the effects of stress on alcohol use.

The present study, therefore, tested the moderation effects of several measures of psychosocial functioning on alcohol and positive and negative life events (based on subjective ratings of life events) in a sample of urban, minority youth. Measures of psychosocial functioning represented theoretically-driven risk and protective factors that have been shown to exert influence in the development of delinquent behaviors (Jessor & Jessor, 1977). In addition, using a multi-item scale of neighborhood climate adapted from Dembo et al. (1985), we examined the conditional effects of psychosocial functioning on perceived environmental stress and alcohol use.

METHOD

Sample Description

A sample of urban, minority youth from five public middle schools in a major northeastern metropolitan city provided data for the current study. Based on census information provided by the Board of Education, participating schools were selected for their high minority student composition (> 85%). School-wide census data show these schools to be equally representative of Hispanic (37%) and African-American (38%) youth. Despite efforts to achieve representative sampling, the ethnic-racial composition of the sample (N = 1420) included 58% African-American, 22% Hispanic, 12% Asian, 3% Native-American Indian, 3% white, and 2.3% classified as other. The current analyses are limited to those students racially self-identified as black or Hispanic (N = 1138). Among the Hispanic/Latino sample, 26.3% of the students described themselves as Dominican, 18% Puerto Rican, 15% Columbian, 6.4% Ecuadorian, 3.2% Cuban, 4% Mexican, and 27.6% were classified as other or Hispanic combinations. Ethnic composition for black youth included 57% African-American (U.S. nativity), 35% Caribbean (including West Indies), 2.3% Haitian, 2% South or Central American, 1% as African born, and 4% were classified as other. The average age of these students was 13 years old (SD = 0.65) and 51% of the sample was female.

Students were intentionally sampled from lower SES catchment areas and a high proportion received federally subsidized lunch (55%), lunch at a reduced price (4.3%), or did not eat lunch at all (27.4%). The remaining youth reported they brought lunch from home (5%), purchase lunch outside the school (4%), pay full price (3.4%), or go home for lunch (1%). Forty-two percent of these youth reported that they reside in an intact (nuclear) living situation, 34% with their mother only, 14% in a blended family situation (one biological parent and a stepparent), 2.1% with their father only, 6% with other relatives, 2.1% alternating between parents, under 1% with a guardian or foster situation, and a small percent (0.1%) reported living without any parental supervision or with friends. Compared to males, females reported they were more likely to reside in a non-nuclear living situation (54% vs. 45%, $^2[1], = 10.67, p < .001$) and black youth reported they were more likely to reside in a non-nuclear living situation (76% vs. 24%, $^2[1], = 9.56, p < .01$).

Prior to administering the survey, students were assured of the confidentiality of their responses in writing (both on the parental consent form and the questionnaire itself) and verbally at the time of administration (field staff informed students that a Certificate of Confidentiality obtained from the Department of Health and Human Services prevents subpoena of their questionnaire data). Passive consent procedures were used to obtain student participation and 4% of the students attending the five schools refused participation. A response rate of 82% was based on the total enrollment of 1,731 students. Twenty-one percent of the nonresponders were absent on the day of the administration (267 students were resurveyed at a later time for absentees) and 6% were chronic absentees. A total of 83 surveys were discarded because they were unusable (too much missingness), and less than 2% were discharged (could not read English), refused to take the survey or did not complete the survey. Across the five schools, classroom size averaged 28 students. The survey contained 139 items and a 45 minute classroom period was used for administration. Teachers were present in the room during administration, however, trained research staff not affiliated with the school monitored the classroom during the survey period.

Behavioral Measures

Frequency of alcohol (beer, wine, and liquor) and other drug use (i.e., marijuana, tobacco, and cocaine) over the past six month period was assessed on a seven-point scale ranging from 1 (*never*) through 7 (*more than once a day*). Separate items for alcohol tapped quantity (''how much, if at all, do you usually drink each time you drink?''), scaled from 1 (*I don't drink*) through 6 (*more than 6 drinks*), and drunkenness (''how often, if ever, do you get drunk?''), scaled from 1 (*I don't drink*) through 9 (*more than once a day*). In the subsequent analyses, the three alcohol items were weighted and averaged using a proportional indexing scheme proposed by Douglass and Khavari (1982). Each response point is calculated as the halved frequency of youth responding to the item plus an additive component capturing the number of youth responding to lower ranked response options, the sum of which is then divided by the total responding sample. Percentile-based weighting effectively eliminates marked skewness (such nonnormality is often encountered with self-report drug use measures) and centers the distribution on a midpoint corresponding to the 50th percentile. More extreme behaviors (e.g., drunkenness) are then indexed according to the proportion of youth reporting this behavior. Self-report measures of drug use have been shown to be reliable and provide accurate prevalence estimates, particularly under conditions of anonymity and confidentiality (e.g., Gfroerer, 1985; Stacy, Widaman, Hays, & DiMatteo, 1985).

Psychosocial Measures

Psychosocial items included self-reported grades (''what grades do you generally get in school?'') ranging from 1 (*D's or lower*) through 5 (*Mostly A's*), absenteeism (''about how many days were you absent from school last year?'') ranging from 1 (*none*) through 5 (*16 or more days*), and church attendance (''how often do you attend church or religious services?'') ranging from 1 (*never*) through 4 (*about once a week*).

Based on Bandura's (1977) concept of self-efficacy, six items (e.g., ''if I want to, I can really sit down and work hard at learning something'': = .85) were used to assess cognitive mastery for academic tasks (Paulhus, 1983, Sherer, Maddux et al., 1982), with response

categories ranging from 1 (*really not true for me*) to 5 (*really true for me*). Three items each assessing peer support and family relations (i.e., perceived instrumental support) were taken from the Self-Image Questionnaire for Young Adolescents (SIQYA: Petersen, Schulenberg, Abramowitz, Offer, & Jarcho, 1984). The SIQYA assesses perceptions of peer support (e.g., ''I get plenty of help and support from my friends'' = .72), family cohesion (e.g., ''I don't think that anyone in my family really understands me'') and family support (e.g., ''I don't think that my family values my opinion when a family decision is made''). A common stem (''please darken the circle that best describes how often you feel this way'') was included for both peer and family items and response categories ranged from 1 (*never*) through 5 (*almost always*). Internal consistency estimates for the family relations scale was .65.

Four items were used to assess health locus of control (e.g., ''most of the time, I get better because I listen to the doctor or nurse,'' = .65). All four items were scaled toward internal control where the individual is believed to be able to assert some control in health-related matters. Nine items were used to form a scale of ethnic identity (e.g., ''there is no question that my ethnic identity influences all of my interactions with my friends,'' = .63). These items were based on similarly worded items derived from the Helms Racial Attitude Identity Scale (Helms, 1990) and the Phinney Multi-Group Ethnic Identity Measure (Phinney, 1992). Higher scores are indicative of greater ethnic valuation and importance of ethnic relations.

In addition to the inclusion of these scales, several multi-item scales were used that were previously validated with both minority (Botvin, Dusenbury, Baker, James-Ortiz, & Kerner, 1989; Botvin, Batson, Witts-Vitale, Bess, Baker, & Dusenbury, 1989) and nonminority populations (Botvin, 1993; Scheier & Botvin, 1995, 1996). These included a six-item scale (e.g., ''I get a real kick out of doing things that are a little dangerous,'' = .74) to assess risk-taking (Eysenck & Eysenck, 1975), a five-item scale (e.g., ''I could describe my life as filled with purpose and meaning,'' = .76) to assess life purpose and perceived hopelessness (Beck, Weissman, Lester, & Trexler, 1974; Crumbaugh & Maholick, 1964), a five-item scale (''I find it hard to start a conversation when I meet new people,'' = .70) to assess social confidence and anxiety in interpersonal situations (e.g., Fleming & Watts, 1980), a five-item scale (e.g., ''think of as many possible choices or ways of

solving the problem as I can,'' = .83) to assess applied decision-making skills (Wills, 1986), three items (e.g., ''I generally enjoyed the things that I did,'' = .67) to assess positive affect and depressive symptomatology (Veit & Ware, 1983), and five items (e.g., ''I was bothered by nervousness or anxiety,'' = .77) to assess negative affect and anxious symptoms (Langner, 1962). With one exception, Likert-type response formats for these scales ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). Response formats for the depressive symptoms items ranged from 1 (*never*) to (*almost always*).

Five items (e.g., ''you've got to be tough to get along in my neighborhood'' = .76) were used to assess perceived neighborhood climate (Dembo et al., 1985). Response categories for this scale ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). Ten items were used to assess both desirable and undesirable life events across several domains appropriate for adolescents including school (e.g., ''I failed an important test at school''), family (e.g., ''One of my parents lost his or her job''), friendship (e.g., ''I had an argument with a close friend''), and sickness (e.g., ''I became seriously ill or was hospitalized''). This brief assessment was based in part on life events checklists or life experience inventories developed by Cohen and Hoberman, (1983), Sarason, Johnson, and Siegel (1978), Johnson and McCutcheon (1980), and Newcomb, Huba, and Bentler (1981). Using a common stem (''to what degree this event had a positive or negative impact on your life''), students were asked to read each item and rate their perceived impact using a scale ranging from − 3 (*extremely negative*) through + 3 (*extremely positive*) with a neutral rating of zero used as a midpoint. Traditionally, a unit-weighted tally of events is constructed separately across positive and negative events and a separate score is constructed based on subjective ratings of the perceived desirability (averaged separately across the negative and positive dimensions). However, many students respond to negative events with positive ratings (e.g., ''I broke up with a boy or girlfriend'') and to positive events (e.g., ''A new baby was born in our family'') with negative ratings. Rather than lose these idiosyncratic pieces of information, we chose to sum across all positive ratings irrespective of item content and likewise summed across all of the negative ratings. The resultant scores were then proportionally adjusted (weighted) to reflect the total number of positive and negative life event items (seven

negative and three positive). In this manner, high negative life event scores indicate perceived stress, irrespective of whether the event bodes good fortune (e.g., joining a new club). On the other hand, high positive life event scores reflect a positive (albeit potentially stressful) impact of these life events (the resultant scales were virtually independent: $r = \square .02$, p = ns).

Based in part on recent theoretical reviews of drug abuse etiology (Hawkins, Catalano, & Miller, 1992; Petraitis, Flay & Miller, 1995) and past empirical findings (Scheier & Botvin, 1995; 1996), the risk and protective factors were organized into three summary scales. A composite of positive outcomes was formed from protective factors tapping perceived peer support, future life purpose, positive family relations, and positive affect (higher scores indicate more positive outcomes). A composite of negative outcomes was formed from two risk factors assessing social anxiety (e.g., interpersonal worry) and negative affect (higher scores indicate more negative outcomes). A third composite tapped personal competence skills including grades, decision-making skills, and cognitive mastery (higher scores indicate more competence). Exploratory factor analysis of the combined set of psychosocial scales using maximum likelihood factor analysis with varimax rotation supported the formation of these more parsimonious scales. The remaining items (church, absenteeism, risk-taking, ethnic identity, and health locus) did not load on any of the first three components at a minimum criteria of .30 or better and were examined for their separate influence in the regression analyses.

RESULTS

Prevalence of Alcohol Use

Thirty-four percent of the students in this sample reported some use of alcohol in the past six-month period. Chi-square analyses indicated that prevalence of alcohol use was marginally related to gender, $^2(1, N = 1102) = 3.35$, $p < .07$ (36% female vs. 31% male users) and nonsignificantly related to ethnic group. Among alcohol users, 60% reported they drank one or two drinks per occasion, 8% had 3 to 4 drinks and 3% had more than 5 drinks. Monthly drunkenness was reported by 3% of the alcohol users, and 1% of the drinkers reported being drunk weekly and daily, respectively.

Gender Differences in Alcohol Use, Life Events, Stress, and Psychosocial Functioning

Descriptive data based on gender and ethnic groups are provided in Table 1. Summary scores are presented for individual risk/protective measures (in subsequent analyses, some of these scales were formed into summary composites). There were several significant main ef-

TABLE 1. Summary Descriptive Statistics for Behavioral and Psychosocial Measures

	Hispanic				Black				
	M (a)		F (b)		M (c)		F (d)		Post Hoc
	M[1]	SD	M	SD	M	SD	M	SD	Mean Comparisons[2]
Behavioral Measures									
Alcohol Frequency	1.50	0.89	1.62	0.92	1.50	1.00	1.52	0.88	
Alcohol Intensity	1.47	0.95	1.56	1.06	1.34	0.74	1.38	0.79	ab > cd
Drunkenness	1.32	0.89	1.43	0.86	1.35	0.90	1.30	0.75	
Psychosocial Measures									
Decision Skills	17.88	3.97	17.66	4.45	18.32	4.47	18.75	3.76	cd > ab
Cognitive Efficacy	25.31	4.39	24.73	4.74	25.62	4.68	26.30	4.17	d > ab
Positive Affect	10.08	2.70	9.74	2.86	9.99	2.82	9.88	2.66	
Negative Affect	11.61	4.07	13.33	4.35	11.71	4.12	12.60	4.17	
Risk-Taking	11.51	3.55	11.64	3.49	11.40	3.65	10.75	3.49	ab > cd, ac > bd
Life Purpose	17.66	4.70	17.46	4.82	18.10	4.58	18.44	4.22	cd > ab
Family Relations	9.74	2.66	9.42	3.51	9.53	3.03	9.40	2.95	
Peer Support	9.88	2.99	10.43	3.42	9.93	2.89	10.43	2.91	bd > ac
Social Anxiety	15.43	4.27	15.45	4.25	13.88	4.49	14.21	4.42	ab > cd
Health Locus	9.83	3.96	10.01	3.77	9.91	3.82	9.74	3.84	
Ethnic Importance	23.13	4.69	21.91	4.27	22.22	4.36	22.23	4.35	
Church	3.01	1.07	3.10	1.08	2.61	1.08	2.96	1.02	ab > cd, bd > ac
Absenteeism	3.18	1.07	3.13	1.19	2.83	1.11	2.87	1.08	ab > cd
Stress Measures									
Neighborhood Stress	13.74	4.67	13.07	4.81	14.49	5.04	13.16	4.48	ac > bd
Positive Life Events	5.95	6.09	5.11	5.20	5.40	5.38	4.19	5.10	
Negative Life Events	1.51	1.36	1.60	1.44	1.57	1.42	1.41	1.38	

[1] Least square (adjusted) means are reported.
[2] Mutliple comparison tests adjusted using the Bonferroni procedure to control for experimentwise error rate. Adjacent letters not significantly different (p .05).

fects for ethnicity and gender and a few relations were qualified by significant interactions. Among the behavioral measures, Hispanic youth reported drinking more intensely than black youth (M = 1.52 vs. M = 1.36). Black youth reported higher levels of decision skills (M = 18.54 vs. M = 17.77), and for cognitive mastery there was a main effect for ethnic group that was marginally ($p < .06$) qualified by a significant gender interaction. Post hoc mean comparisons (Bonferroni adjusted) showed that black female students scoring highest overall (M = 26.30), followed by black male students (M = 25.62), Hispanic male (M = 25.31) and female (M = 24.73) students. Hispanic youth reported significantly more risk-taking behavior (M = 11.57 vs. 11.04), more social anxiety (M = 15.44 vs. 14.04), more church attendance (M = 3.05 vs. 2.79), more absenteeism (M = 3.15 vs. 2.85) and more negative life events (M = 5.53 vs. 4.79).

Among the main effects for gender, female students reported significantly more negative affective distress (M = 12.97 vs. 11.66), more peer support (M = 10.43 vs. 9.91), and more church attendance (3.04 vs. 2.81). Male students on the other hand, reported more risk-taking behavior (M = 11.44 vs. 10.97), more neighborhood stress (M = 14.12 vs. 13.12) and more negative life events (M = 5.67 vs. 4.65).

Predicting Alcohol Use from Negative and Positive Life Events

Both the negative and positive life events scale scores were dichotomized using a median split.[1] Male students reported significantly more negative events, $^2(1, 1138) = 6.75$, $p < .01$ (52% v. 44%) and there was a marginal trend for female students to report more positive events, $^2(1, 1138) = 2.89$, $p < .10$ (56% v. 51%). Ethnic group was independent of life event risk status (more positive vs. more negative events).

Moderation is usually encountered when associations between a predictor and criterion are unusually low (Baron & Kenny, 1986, Holmbeck, 1997). To test these statistical conditions, average bivariate correlations between the full set of psychosocial measures (individual risk factors contained in the summary scales) and both the life events and neighborhood stress measures were computed. In addition, the average bivariate correlations between the respective life event and stress measures and the three alcohol outcomes (frequency, intensity, and drunkenness) were computed. The measures of negative life events accounted for 0.2% of the variance in alcohol use and 0.1% of

the variance in the complete set of psychosocial measures (including neighborhood stress as a continuous measure). Positive life events accounted for 1.3% of the variance in alcohol use and 0.4% of the variance in the psychosocial measures. Neighborhood stress accounted for 1.9% of the variance in alcohol use and 2.1% of the variance in the complete set of psychosocial measures (including the positive and negative life events scores).

All of the relationships between the respective moderators and the behavioral and psychosocial measures were in the hypothesized direction. Negative life event risk status was positively (albeit nonsignificantly) associated with all three measures of alcohol use, positively associated with negative outcomes (social anxiety, negative affect, absenteeism, risk-taking, neighborhood stress) and negatively associated with positive outcomes (grades, church, positive affect, purpose in life, family relations, cognitive mastery, internal health locus). Compared to the zero-order relations obtained for negative life events, the magnitude of association between positive life events and both frequency and intensity of alcohol use was somewhat larger ($ps < .05$ by Fishers r-to-z transformation test). Positive life events was negatively associated with grades, church, and family relations, and positively associated with the remaining measures (across both positive and negative outcomes).

The results of the moderated multiple regression models for both negative and positive life events are presented in Table 2. Dummy coded measures of ethnicity (1 = Hispanic, 2 = black) and gender (0 = female, 1 = male) were entered first to control for observed demographic differences. Using hierarchical regression methods proposed by Cohen and Cohen (1983), the indexed measure of alcohol use was regressed on the demographic indicators and then hierarchically on the life events and psychosocial measures, and then the linear component of the interaction term (the cross-product term representing coping resource x life events). A significant interaction term indicates that the relationship of life events to alcohol use is contingent on level of psychosocial functioning. To reduce spurious influences and attenuate the effects of multicollinearity, the independent variables were centered prior to computation of the interaction term (Aiken & West, 1991).

Negative life events added significant incremental variance to the prediction of alcohol use, controlling for ethnicity, gender, and psy-

TABLE 2. Hierarchial Multiple Regression Analyses Examining Moderation with Negative and Positive Life Events

	Negative Life Events				Positive Life Events			
Step[a]		SE	b	R^{2b}		SE	b	R^2
Positive Outcomes	−.18***	.003	−.014	.013***	−.12***	.003	−.009	.013**
Life Events	.11***	.013	.045	.012***	−.11***	.013	−.047	.013**
Positive Event	.11*	.005	.013	.006*	---[c]	---	---	---
Negative Outcomes	.09**	.002	.005	.009**	.09**	.002	.005	.009**
Life Events	.10**	.013	.041	.010**	−.12***	.013	−.047	.013***
Negative Events	---	---	---	---	---	---	---	---
Competence	−.08[m]	.002	−.003	.003[m]	−.02	.002	−.001	.003[m]
Life Events	.09**	.012	.037	.008**	−.11***	.012	−.045	.012***
Comp Events	.04	.002	.002	.001	−.04	.002	−.002	.001
Health Locus of Control	.03	.003	.002	.010**	.10**	.002	.005	.010**
Life Events	.11**	.014	.044	.011**	−.13***	.014	−.054	.017***
Health Events	.10*	.004	.008	.005*	---	---	---	---
Ethnic Importance	.05	.003	.003	.001	.04	.003	.002	.000
Life Events	.15***	.018	.065	.023***	−.13**	.018	−.053	.016**
Ethnic Events	−.05	.004	−.003	.001	−.05	.004	−.003	.001
Risk-Taking	.30***	.002	.017	.094***	.33***	.003	.019	.094***
Life Events	.09**	.013	.039	.009**	−.08**	.013	−.035	.007**
Risk Events	---	---	---	---	−.04	.004	−.003	.001
Church	.02	.008	.004	.000	−.04	.008	−.008	.000
Life Events	.09**	.012	.039	.009**	−.11***	.012	−.046	.013***
Church Events	−.06	.011	−.015	.002	.03	.011	.009	.001
Absenteeism	.11**	.007	.020	.021***	.14***	.005	.027	.021**
Life Events	.09**	.011	.037	.008**	−.11***	.012	−.044	.011***
Absent Events	.05	.011	.014	.001	---	---	---	---

[a] Beta is partial standardized regression coefficient controlling for gender and race at the first step (not tabled). Significance of parameter estimates determined at the final step (t-values).
[b] Increment in R^2, significance determined by F-test corresponding to incremental variance by Step 2 and Step 3 (interaction term).
[c] Parameter not estimated according to select entry criteria.
* p − .05; ** p − .01; *** p − .001; [m] = marginal

chosocial functioning. Likewise, positive life events uniquely predicted alcohol use, again controlling for demographic features and psychosocial functioning. Risk-taking accounted for the largest proportion of variance in alcohol use ('s = .30 and .33, p's < .001, for negative and positive events, respectively) and ethnic identity the smallest proportion of variance ('s = .05 and .04, p's = ns, for negative and positive events, respectively).

Positive outcomes (i.e., life purpose, good family relations, peer support, positive affect) was significantly and inversely related to alcohol use (= .18, p < .001) in the model containing negative life events and this relation diminished slightly in the model containing positive life events (= .12, p < .001). Negative outcomes (i.e., negative affect and social anxiety) was positively and significantly related to alcohol use (= .09, p < .001). The subsequent tests of moderation indicated that the relation of alcohol use and negative life events was qualified by positive outcomes. The relation between alcohol use and negative life events also was significantly qualified by health locus of control (= .10, p < .05).

Figure 1 contains plots of the simple main effects (using unstandardized coefficients) showing the disordinal form of the moderated relations between negative life events, positive outcomes, and alcohol use and, likewise, between negative life events, health locus of control, and alcohol use. Alcohol use by youth reporting high levels of negative life events was relatively unaffected by positive outcomes. However, among youth reporting lower levels of negative life events positive outcomes considerably reduced alcohol use (i.e., a buffering or protective effect). Because the independent variables were centered on their respective means, the regression coefficient represents the mean difference between the low and high negative life events groups (= .11, p < .05), which translates to an 11% (percentile points) difference in the indexed alcohol criterion. The full model (with controls for ethnicity and gender) accounted for 4% of the variance in alcohol consumption.

Figure 1b contains a plot of the simple slopes corresponding to the significant interaction obtained for health locus of control. Internal health locus of control buffered the effects of negative life events and the rate of change (slope) for the high negative life events risk group was considerably steeper than the low risk negative life events group. The difference in the two groups (based on centered means) translated

FIGURE 1. Plot of Simple Slopes Depicting Interactions with Negative Life Events in Predicting Alcohol Use

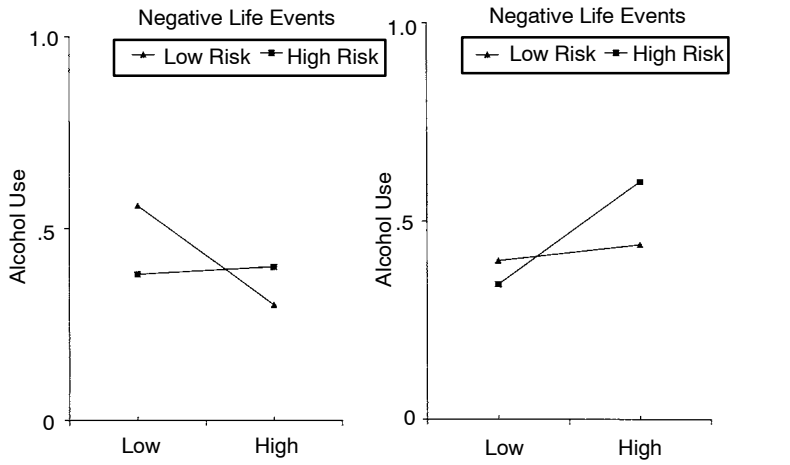


Figure 1a. Positive Outcomes

Figure 1b. Internal Health Locus of Control

into a 10% increment in the indexed alcohol criterion (full model accounted for 3% of the variance in alcohol use).

None of the tests of moderation for positive life events were significant. In all eight of the models tested, however, positive life events were significantly associated with less alcohol use, controlling for ethnicity and gender. Finally, although not shown in Table 2, gender was significantly associated with alcohol use in the models containing positive outcomes and both the negative and positive life events; with females reporting higher mean levels of use ('s = □ .08, *p*'s < .01, respectively). Gender also was significantly associated with alcohol use in the model containing risk-taking for both negative and positive life events ('s = □ .09, *p*'s < .01). Ethnic group did not have any significant main effects in any of the models tested.

The next series of moderated multiple regression models examined buffering effects for the same set of psychosocial measures and a measure of perceived neighborhood risk (coded as a dichotomy into high and low based on a median split). The same hierarchical regression strategy with alcohol use as the outcome was then used to test for

moderation and the results of these analyses are contained in Table 3. Controlling for psychosocial functioning, gender, and ethnicity, neighborhood stress was significantly and uniquely associated with alcohol use in all eight equations ('s ranging from a low of .08 for risk-taking to a high of .16 for church attendance). Only the relation between absenteeism and alcohol use was uniquely qualified by a significant interaction term (= .11, $p < .05$). Figure 2 contains a plot of the simple slopes for the high and low neighborhood risk status groups. As depicted, low absenteeism served to buffer the effects of neighborhood risk, reducing alcohol use. In comparison, high absenteeism and high stress both were associated with higher rates of alcohol use, however, the slope was steeper for the high neighborhood stress group (the difference between the two groups, based on their respective centered means, translated into an 11% difference in mean alcohol use). A comparison of the effect sizes associated with the parameters for the life events and neighborhood stress measures (Tables 2 and 3) shows that, compared to the life events risk indices, neighborhood stress accounted for an equal or greater amount of variance in alcohol use. It should also be noted with respect to relative effect sizes, that competence had a larger unique effect in the model with neighborhood stress (= −.18, $p < .001$) than in the models containing negative (= −.08, $p < .10$) and positive life events (= −.02, $p < .10$), respectively.

In the regression models containing neighborhood stress, gender, but not ethnicity, was significantly associated with alcohol use in all eight equations ('s ranged from a low of −.07 to a high of −.11, p's < .05). To assess the relative predictive importance of the life events and neighborhood stress measures as well as the durability of the respective conditional effects, individual models (for each predictor measure) were tested that included both life events measures, neighborhood stress and the full set of respective interaction terms. Life events and neighborhood stress significantly and uniquely predicted alcohol use in the equation containing positive outcomes (positive outcomes: = −.17, $p < .001$, negative life events: = .12, $p < .001$, positive life events: = −.13, $p < .001$ and neighborhood stress: = .11, $p < .01$). The relationship of positive outcomes and alcohol use was qualified by a significant interaction with negative life events (= .09, $p < .05$). The final equation containing the full set of predictors accounted for 8.3% of variance in alcohol use.

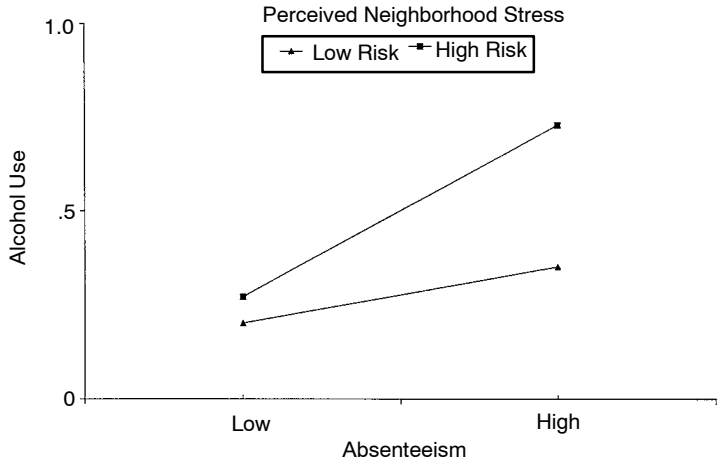
In the model containing negative outcomes as a predictor, life

TABLE 3. Hierarchial Multiple Regression Analyses Examining Moderation with Neighborhood Stress

Step[a]		SE	b	R^{2b}
Positive Outcomes	.16**	.004	.013	.018***
Neighborhood Stress	.13***	.015	.053	.016***
Positive Neighborhood Stress	.06	.006	.007	.002
Negative Outcomes	.12*	.003	.006	.004[m]
Neighborhood Stress	.15***	.014	.064	.021***
Negative Neighborhood Stress	.10[m]	.004	.007	.004[m]
Competence	.18***	.003	.015	.040***
Neighborhood Stress	.13***	.014	.014	.016***
Comp Neighborhood Stress	---[c]	---	---	---
Health Locus	.15**	.003	.008	.010**
Neighborhood Stress	.15***	.015	.063	.022**
Health Neighborhood Stress	.07	.004	.005	.002
Ethnic Importance	.09	.003	.004	.000
Neighborhood Stress	.15***	.018	.064	.021***
Ethnic Neighborhood Stress	.11[m]	.004	.008	.006[m]
Risk-Taking	.28***	.002	.016	.091***
Neighborhood Stress	.08*	.015	.034	.006*
Risk Neighborhood Stress	---	---	---	---
Church	.03	.011	.007	.001
Neighborhood Stress	.16***	.015	.065	.023***
Church Neighborhood Stress	.07	.014	.019	.002
Absenteeism	.03	.010	.006	.016***
Neighborhood Stress	.15***	.014	.062	.021***
Absent Neighborhood Stress	.11*	.013	.027	.005*

[a] All steps control for gender and race (not tabled).
[b] Increment variance controlling for previous steps. Significance for regression parameter ( ) based on t-value corresponding to final model with all relevent measures included.
[c] Parameter not estimated according to select entry criteria.
* p .05; ** p .01; *** p .001; [m] p .07

FIGURE 2. Plot of Simple Slopes Depicting Interactions of Neighborhood Stress and Absenteeism in Predicting Alcohol Use



events and neighborhood stress significantly and uniquely predicted alcohol use (negative life events: = .11, $p < .01$, positive life events: = .12, $p < .001$ and neighborhood stress: = .14, $p < .001$), although none of the interaction terms were significant. The full model accounted for 6.4% of the variance in alcohol use. Positive, but not negative, life events significantly predicted alcohol use in a model containing competence (= .22, $p < .001$) and neighborhood stress (= .12, $p < .001$), and the relationship between positive life events and alcohol use was qualified by a significant interaction with competence (= .17, $p < .01$: $R^2 = 9.6\%$). Interesting, in comparison to the previous tests of moderation with life events, in the combined model testing both life events and neighborhood stress, competence had a sizable effect on alcohol use (= .29, $p < .001$).

The remaining tests confirmed the results that had been previously obtained with the individual tests of moderation. Controlling for life events and stress, health locus of control significantly interacted with neighborhood stress (= .14, $p < .001$: $R^2 = 6.8\%$). Absenteeism significantly interacted with neighborhood stress (= .12, $p < .05$: $R^2 = 7.5\%$),

controlling for positive and negative life events, ethnicity, and gender. In sum, all of the significant interaction terms obtained from the regression models testing each type of stress individually remained intact even with the inclusion of additional predictors.

DISCUSSION

The goal of the current study was to utilize a stress-coping framework to examine relations between varying forms of stress and alcohol use in a cohort of urban, minority youth. Specifically, the study examined the independent effects of negative and positive life events on alcohol consumption and the qualification of these relations by several key measures of psychosocial functioning. As a more extensive test of problem behavior theory, tests of moderation were extended to include a measure of perceived neighborhood stress to ascertain if psychosocial functioning altered relations between a measure of contextual risk and alcohol use.

Overall, most of the hypotheses concerning moderation were not supported. Significant moderator effects were obtained in models containing negative life events but not in models containing positive life events. Positive outcomes buffered the effects of negative life events and reduced alcohol use. Because the respective moderator and predictor were dichotomized, the relationship between psychosocial risk (low vs. high positive outcomes) was equivalently contingent on the level of risk for negative life events. For youth reporting low levels of risk for negative life events, high levels of positive outcomes reduced their alcohol use, whereas for youth reporting high levels of risk for negative life events, high levels of positive outcomes did little to alter the positive association between life events and alcohol use (the regression line was relatively flat for the high risk group). Protective influences included under the rubric of positive outcomes included positive family relations based on effective communication, perceived peer support, future life purpose, and positive affect (low depressive and anxious symptoms). If a buffering effect were evident, it would be expected that coping resources would dampen motivations to drink by providing internal resources and social support mechanisms to offset stressful life experiences.

An internal health locus of control suppressed drinking among youth reporting fewer negative life events, but did not reduce alcohol

use among youth reporting high levels of negative life events. Internal health locus of control is indicative of greater perceived self-efficacy and control with respect to health-related matters. Youth with high internal control believe they recover from being sick by following doctor's orders, getting sufficient sleep, and making good decisions related to their health. Consistent with a stress-coping formulation, greater self-efficacy and perceived control over health (and sickness) should offset negative affect associated with stressful living conditions or uncontrollable life events. Unfortunately, the nature of these contingent relations suggest that alcohol use was not dampened by high levels of perceived control among the most vulnerable youth, who reported a greater number of negative life events and higher levels of alcohol use.

As an additional finding, absenteeism buffered the effects of neighborhood stress on alcohol use. In other words, youth who reported high levels of neighborhood tension and gang activities and who were absent frequently also reported high levels of alcohol use. A possible mechanism to account for these conditional effects is that absentee youth miss important opportunities for learning skills that may help them counter feelings of stress and as a result increased their vulnerability. Social control theory posits that bonding with socializing institutions such as school is a key factor to ensure the acquisition of conventional values and the development of prosocial behavior. Academic environments serve as a repository of opportunities to vicariously learn effective coping strategies and as conduits for the reinforcement of protective skills (i.e., self-efficacy). The acquisition of feelings of competence and self-confidence provides a firm basis for developing related social skills that help youth to offset negative peer and adult influences for alcohol and other drug use (i.e., assertiveness and refusal skills). Delinquent and disenfranchised youth who prematurely leave school are left with few alternatives but to spend time on the streets, which exposes them to negative social role models and norms promoting alcohol and other drug use. As these youth drift further from the protective effects afforded by school and prosocial peer relations, social bonds weaken and alcohol is increasingly used to regulate negative emotions that arise from feelings of social estrangement and peer rejection.

In each of the models tested, positive and negative life events contributed uniquely to the prediction of alcohol use, providing some

evidence that affective regulation may be comprised of two distinct but complementary systems. Effect sizes for the two life event measures were equivalent and both measures accounted for equivalent proportions of variance in alcohol use. Even in the combined models testing the unique predictive power of all three forms of stress, both positive and negative life events measures significantly and equivalently predicted alcohol use.

The assessment of life events used in the current study cast a wide net over experiences that are generally regarded as highly disruptive during adolescence. Included among these events were family issues (births or deaths), school events (failing a test), and relationships (broke up with someone). Some of these events are generally regarded as normative, minor hassles that most youth can effectively deal with as they transition through adolescence (not being accepted into an extracurricular club or activity). Other events, however, may represent tremendous disruptions of an uncontrollable nature that threaten the emotional balance of the individual (i.e., loss of a parent or relocation). In these instances, coping resources may not provide sufficient protective benefits to offset emotional strain and the resultant stress leads to alcohol use.

Neighborhood stress also uniquely predicted alcohol use, controlling for psychosocial functioning and demographics. This effect held up even when the personal life events measures were modeled simultaneously. In most cases, the magnitude of the effect of neighborhood stress on alcohol use was slightly larger than the effect sizes corresponding to the life events measures, pointing out the distinct possibility that environmental features represent more potent forms of stress at this early age. One possible explanation for the differences in magnitude for the life events and neighborhood stress measures is tied to the role of personal control in stress-coping formulations. Events that are highly uncontrollable are often regarded as more threatening and induce greater distress than events to which there is some element of personal control. In the case of urban youth, high levels of perceived neighborhood tension and the experience of gangs, drug use, and violence may engender a deep sense of hopelessness that is rendered benign by alcohol use.

In addition to the unique prediction of alcohol use from life events and neighborhood stress, many of the psychosocial measures significantly predicted alcohol use. Controlling for both forms of stress, both

risk-taking and competence uniquely predicted alcohol use. High risk-taking may be a deterrent against the effects of stress, giving youth a chance to go out and vent their frustrations and displace their excess emotional energy. In contrast to the conceptualization of (low) risk-taking as a buffer against stress, future studies may want to examine risk-taking from different conceptual angles, possibly as a mediator of stress. Competence, on the other hand, is a form of cognitive coping and was assessed by high grades, decision-making skills, and cognitive mastery. Deficits in competence skills are hypothesized to increase motivations for drug use and, conversely, high levels of personal efficacy and mastery are considered to have protective effects. Self-efficacy provides the impetus to implement various skills that provide both a buffer against strong social influences (i.e., resistance skills to refuse drug offers) as well as opportunities to utilize health-oriented strategies (i.e., decisions not to drink because it is bad for your health). Interestingly, the unique protective effect of competence was minimized in the models containing positive and negative life events but not in the model containing neighborhood stress. It is entirely possible that competence and self-confidence ameliorate the problems associated with urban life (i.e., neighborhood strife), but do not sufficiently allay emotional distress associated with life events that are perceived as personal. There is a certain predictable nature about neighborhood tension and individuals may recognize their limited control over neighborhood events or environmental features (i.e., poverty). Faced with a certain constancy regarding their living conditions, many urban youth learn to recognize that specific coping strategies (mastery over learning situations and effective decision-making) can change personal circumstances (i.e., good grades are obtained through scholastic achievement). Believing that one can change one's situation through problem-solving and effective coping then lowers distress. In these instances, competence represents an adaptation of the self that promotes self-worth as a vehicle for eliminating the personal injustices associated with poverty and urban life. In contrast, personal life events are disruptive because they are novel (i.e., relocation), sudden (i.e., death in the family), or uncontrollable (i.e., parent losing a job), and as a result may provoke a deeper sense of futility.

With respect to demographic controls, ethnicity contributed little to the prediction of alcohol use and psychosocial functioning. The elevated levels of alcohol use by Hispanic youth may reflect cultural

practices that include normative beliefs regarding the social acceptability of alcohol use, greater perceived alcohol use by adult role models, greater availability of alcohol in the home, and more reinforcement from peers for alcohol use. Gender socialization uniquely predicted psychosocial functioning and alcohol use. Males reported more neighborhood stress and this may be a result of increased participation in gangs and greater involvement in physical fighting. In an unusual feature of our data, females reported more frequent and more intense alcohol use than males, albeit these differences were not significant. The higher rates of female alcohol use represents a notable departure from regional (Barnes & Welte, 1986) and national trends that highlight higher rates of male alcohol use (Johnston et al., 1996). The elevated levels of alcohol use by female students may reflect uneven socialization practices as well as a concerted response to the heightened vulnerability experienced by urban adolescent females. Even though males reported more positive life events, females may experience a different quality of experiences tied to pubertal change (Brooks-Gunn & Warren, 1989) and that were not adequately captured in the measures of life events. Adolescent females report more depressive symptomatology (Nolen-Hoeksema & Girgus, 1994) and the developmental linkage between negative affect, life events, and alcohol use is consistent with a stress-coping formulation that posits drinking as a form of affective self-regulation.

Overall, the total amount of variance accounted for in alcohol use by any of the psychosocial measures was relatively small, ranging from 2% to 11% across both the life events and neighborhood stress models. Alcohol use is multiply determined and other factors, many of which may be related to stress, are integrally involved as potential risk mechanisms. What is needed is a more complete model that addresses social learning influences (perceived peer use) and other individual differences that may influence susceptibility to early-stage alcohol use.

Limitations

Several limitations should be considered when evaluating the findings from the current study. First, the sample for the current study includes a broad mixture of students reporting varied levels of experimental alcohol use. Only one-third of the sample reported using alcohol in the past six months and even smaller percents of these youth could be characterized as problematic alcohol users (with respect to

reported intensity levels and drunkenness). Despite the caution based on the use of self-report responses, prevalence estimates for these data are consistent with other national and regional estimates for similar age groups (Oetting & Beauvais, 1990). The relatively few numbers of youth reporting high (problematic) levels of alcohol use may, however, contribute statistically to the few numbers of significant interactions between psychosocial functioning and stress. As drinking involvement escalates and is increasingly utilized as a form of emotional self-regulation, buffering or protective effects may become more pronounced. Tests of moderation are likely to uncover these developmental mechanisms. Future studies may want to consider examination of a stress-coping formulation with older youth where higher levels of alcohol use and more varied and numerous situational factors (i.e., stressors) are likely to increase our understanding of how stress motivates alcohol use.

In addition, the cross-sectional nature of these data limits any conclusions regarding causation and developmental trends. Despite the heralded strength of cross-sectional data for examining structural relations among putative risk mechanisms (e.g., Gollob & Reichardt, 1987), a broader understanding of change requires temporal controls for earlier measures of consequent behavior. Many of the risk mechanisms hypothesized to influence alcohol use may take longer to unfold and become linked developmentally with consumption. Most of the risk factors considered are dynamically changing and may be recursively influenced by behavior. A more effective understanding of precisely how these risk factors influence behavior requires multiple assessments separated by sufficient time periods to permit maturational effects and the inclusion of appropriate statistical controls for prior (and measured) events to infer change.

Finally, the range of the stress measures was truncated by using a median split to delineate risk status for both life event and neighborhood risk. In some additional analyses not reported here, alternative conceptualizations of risk using upper quartiles or tertiles to delineate risk did not provide findings that departed substantially from those reported here. These efforts support our conclusion that alternative explanations must be considered to explain the limited conditional effects of psychosocial functioning on life events and neighborhood stress. One possible explanation, which will be tested in a further study, is that other coping mechanisms (i.e., peer support) may buffer the effects of stress on alcohol use.

NOTES

1. Previous research that has relied on a risk factor approach has encouraged the use of more extreme cut-points including quartiles and tertiles to establish relative risk (see for example, Newcomb, 1992; Newcomb & Bentler, 1986; Scheier & Newcomb, 1991). However, given the exploratory nature of the current study and the need to create a replicable cut-point, the median was used for establishing high and low stress risk. Future studies may want to cross-validate these norm-referenced points as well as model more extreme tails of the distribution as indicators of heightened risk to determine the generalizability of these findings.

2. In a saturated path model not shown here (tested using Bentler's EQS [1989] program), the effects of life events, neighborhood stress, and competence on alcohol use were examined controlling for gender. Significant path coefficients were obtained for gender (= −.07, $p < .05$), positive life events (= .11, $p < .001$), and neighborhood stress (= −.07, $p < .05$), which closely match the regression coefficients obtained in the full regression model that contained all of the indicators of stress (personal and neighborhood) and the respective interaction terms. Several of the stress predictors were significantly correlated among themselves including negative life events and neighborhood stress (r = .06, $p < .05$), negative life events and competence (r = −.05, $p < .05$), positive life events and neighborhood stress (r = .11, $p < .001$) and neighborhood stress and competence (r = −.07, $p < .05$). This analytic technique provides a more refined (multivariate) look at the relations among the predictors and criterion. When a single degree of freedom was added to the model by constraining the nonsignificant negative life events–alcohol use path, the path between competence and alcohol use was marginally significant (= −.05, $p < .10$) [$\chi^2(1) = 1.43$, $p = .23$, Comparative Fit Index = .996], introducing the possibility that collinearity existed among the predictors in this model. The overlap between these predictors may contribute to the different obtained findings in the life events–competence model and the neighborhood stress–competence model (i.e., there are correlated residuals among predictors).

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