

Social Support Factors as Moderators of Community Violence Exposure Among Inner-City African American Young Adolescents

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Using both surveys and the experience sampling method (ESM), community violence exposure, social support factors, and depressive and anxiety symptoms were assessed longitudinally among inner-city African American adolescents. Moderator models were tested to determine protective factors for youth exposed to community violence. Several social support factors emerged as protective–stabilizing forces for witnesses of violence both cross-sectionally and longitudinally, including maternal closeness, time spent with family, social support, and daily support (ESM). Contrary to hypotheses, several social support factors demonstrated a promotive–reactive effect such that, in conditions of high victimization, they failed to protect youth from developing symptoms. Effects did not differ by outcome or sex, though sex differences in findings emerged. Protective–stabilizing effects occurred more for witnessing violence, whereas promotive–reactive patterns occurred more for victimization. Results affirm social support factors as protective from the adverse effects of violence exposure, but they also suggest that some factors typically conceived as contributing to resilience might at times fail to protect youth in conditions of extreme risk.

Exposure to community violence represents an often uncontrollable stressor that characterizes the developmental context of many inner-city African American youth (Bell & Jenkins, 1993; Buka, Stichick, Birdthistle, & Earls, 2001; Warner & Weist, 1996). Rates of violence exposure among inner-city youth are consistently high, with as many as 40% to 50% reporting some

level of exposure (Schwab-Stone et al., 1995). Adolescents who are witnesses to or victims of violence are at risk for a host of adjustment difficulties, including depression (DuRant, Getts, Cadenhead, Emans, & Woods, 1995; Gorman-Smith & Tolan, 1998; Kliewer, Lepore, Oskin, & Johnson, 1998) and anxiety (Cooley-Quille, Boyd, Frantz, & Walsh, 2001; Kliewer et al., 1998).

Although much is known about the direct effects of violence exposure among children and adolescents, less is known about factors that moderate the relation between exposure and mental health outcome. Examination of such factors offers meaningful implications for the study of resilience among inner-city African American youth. Social scientists have long investigated the nature of resilience (e.g., Luthar & Zigler, 1991; Masten, Best, & Garmezy, 1990; Rutter, 1993), defined as a “dynamic process encompassing positive adaptation within the context of significant adversity” (Luthar, Cicchetti, & Becker, 2000, p. 543). Resilience is manifested in multiple pathways in life, and protective fac-

This research was funded by Grant R01–MH57938 from the National Institute of Mental Health awarded to Maryse H. Richards.

We acknowledge the contributions of Reed Larson, Karin Nussbaum, Monika Kent, Heather Edl, Berkleé Cochand, and the many research assistants at Loyola University Chicago and the University of Illinois at Urbana–Champaign without whom collection of this valuable data would not have been possible. We are extremely grateful for the students, school administrators, teachers, and parents who volunteered their time to participate in this research.

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tors can operate in several possible ways. Luthar et al. differentiated among three types of protective factors of specific relevance to this study. First, a protective–stabilizing factor is present when no change in outcome occurs despite increasing risk. In contrast, a protective–enhancing factor is present when competence is increased in the context of stress. Such a factor may facilitate the development of competence by allowing children to “engage” with the stressor (Luthar et al., 2000, p. 547). Finally, a protective–reactive factor “generally confers advantages but less so when stress levels are high” (p. 547). Luthar et al. also identified potential moderators as vulnerability factors. Vulnerable–stable effects occur when the vulnerability a factor confers remains stable with increases in stress or exposure to risk. By contrast, vulnerable–reactive effects occur when vulnerability increases concurrent with increases in stress or exposure to risk. A promotive–reactive effect occurs when a moderator effect occurs at low levels of risk but fails to impact outcome at high levels.

The purpose of this article is to explore this conceptualization of resilience using data from a longitudinal study of African American young adolescents living in inner-city Chicago. Guided by the theoretical notion that children experience myriad ecological systems in their daily lives that influence their development (Bronfenbrenner, 1979), this study utilized the experience sampling method (ESM; Csikszentmihalyi & Larson, 1987) to obtain information on the daily experience of youth as a supplement to a traditional survey research design. With a theoretical focus on the role of social and personal relationships as instrumental in the dynamic process of resilience, this study was concerned with the ability of social support factors to moderate the effects of violence exposure among urban African American youth. More specifically, we conceptualized social support as a general perception of the availability of interpersonal relationships reflected in the daily social ecology of development. As such, we assessed social support in multiple ways: (a) as a context-independent construct at a single point in time (assessed using survey), (b) as a context-dependent construct over several points in time (assessed using the ESM), (c) as reflected in the perception of maternal closeness (assessed using survey), and finally (d) as reflected in the amount of time spent with family (assessed using ESM). Taking advantage of both generality (i.e., surveys) and greater specificity (i.e., daily reports using ESM) in measurement, this conceptualization permitted a multimethod exploration of the possible protective role of social support.

Social Support

Social support as protective or “stress-buffering” among youth at risk for adverse mental health out-

comes is consistent with theories of human development that ascribe primacy to interpersonal relationships in the complex trajectory of the life course (e.g., attachment theory, Bowlby, 1969; interpersonal theory, Sullivan, 1953). Conceptualizations of social support as protective in the process of child development and adjustment also resonate strongly with theories of development that recognize the vital role of ecological context (e.g., Bronfenbrenner, 1979, 1986; Tietjen, 1989). Although social support has been variously operationalized and measured, empirical research lends support to the basic notion of perceived social support as protective against the negative effects of stress in the lives of children and adolescents (Cohen & Wills, 1985; Gottlieb, 1991; Sandler, Miller, Short, & Wolchik, 1989). Research has suggested, however, that adolescent boys and girls experience diverse types of social support and that sex differences in the nature of social support in adolescence are evident (Belle, 1989; Coates, 1987).

Consistent with the theoretical and empirical literature on the role of social support in human development, we conceptualized social support and interpersonal relationships as moderating the impact of violence exposure on internalizing symptoms. Social support factors provide youth with opportunities to voice their exposure and thus process their experiences with peers, family, and other adults. This opportunity likely facilitates coping with the stressful experience of violence exposure and subsequently enhances both the self-esteem and perceived sense of control by youth (see Sandler et al., 1989). Although many studies with inner-city African American youth have failed to discover moderator effects for social support, virtually all studies find an inverse relation between support and internalizing symptoms (e.g., Berman, Kurtines, Silverman, & Serafini, 1996; DuBois, Felner, Brand, Adan, & Evans, 1992; Johnson & Kliewer, 1999; Kliewer et al., 1998; White, Bruce, Farrell, & Kliewer, 1998), and some find limited support for a moderational relation (e.g., Zimmerman, Ramirez-Valles, Zapert, & Maton, 2000). Kliewer and colleagues (1998) discovered a moderating effect of social support on intrusive thinking for African American young adolescents exposed to violence, although social strain appeared to have a stronger moderational effect than social support.

The variation in findings is likely due to lack of consistency in operationalization, measurement and statistical techniques among studies. With increasing conceptual and statistical clarity on moderator effects (Holmbeck, 1997, 2002), as well as theoretical advances in the study of resilience (Luthar et al., 2000), comes the need to continue research on relations among variables that have yielded inconsistent patterns in empirical research. This study contributes to this effort to empirically examine moderators, but it also offers a richer perspective on social support by supplementing surveys with the time-sampling design of the

ESM. In this way, the immediate experience of social support is examined in addition to a broad perception of social support assessed at a single time point.

Parent–Adolescent Relationships

Research on parent–child and parent–adolescent relationships, particularly for African American youth, has focused on presence versus absence (e.g., Hetherington & Stanley-Hagan, 1986; Mott, 1994). Other family factors can ameliorate the outcomes of violence exposure for youth (Martinez & Richters, 1993; Richters & Martinez, 1993). For example, parenting practices such as supervision, support, and engagement with youth in urban neighborhoods can shape how youth are affected by violence (Burton & Jarrett, 2000; Gorman-Smith & Tolan, 1998; Hill & Madhere, 1996).

In addition to specific parenting practices, aspects of the relationship between parent and adolescent might protect youth from the effects of violence exposure. In particular, family cohesion, as a measure of the quality and closeness of parent–adolescent relationships, represents an important buffer of the effects of stress in violent environments (Gorman-Smith, Tolan, Zelli, & Huesmann, 1996; Kliewer & Kung, 1998). Cohesive families may directly address their children's needs, provide high-quality emotional support, and communicate with children that resources are available to help them cope with extrafamilial challenges (Kliewer, Sandler, & Wolchick, 1994). Low levels of family cohesion have been associated with increased symptoms of anxiety and depression for youth who have witnessed violence (Gorman-Smith & Tolan, 1998). Youth from more cohesive families exhibit fewer externalizing problems (e.g., conduct problems; Plybon & Kliewer, 2001). Kinship support is associated with reduced psychological distress in economically disadvantaged African American adolescents (Taylor & Roberts, 1995). Assessments of cohesion and kinship support, however, reflect a larger family environment, whereas assessments of the parent–child relationship offer insights into the individual experience of a dyad. The perceived closeness to parents of youth may protect youth from the negative effects of violence exposure by providing them with the emotional support of a trusted caregiver in times of stress.

Time Spent With Family

Research on cultural patterns of family relationships indicates that African Americans place great importance on the family (Billingsley & Morrison-Rodriguez, 1998; Harrison, Wilson, Pine, Chan, & Buriel, 1990; Littlejohn-Blake & Darling, 1993). Time-use research reveals that African American adolescents spend

approximately the same percentage of time with their families as Indian adolescents whose cultural values are oriented toward collectivism (Larson, Richards, Sims, & Dworkin, 2001). When compared with time-use studies of European American youth (e.g., Larson & Richards, 1991), African American youth spend considerably more time with family (Larson et al., 2001). This research suggests a particularly salient role of the family as a source of both potential social influence and potential social support for inner-city African American youth. Time spent with family might serve to protect youth from violence exposure in general, but it also might, in the context of exposure, protect youth from experiencing emotional distress. Increased time in the family context might afford youth the opportunity to process the difficult emotions that can result from violence exposure. Whereas time-use research has examined the amount of time youth spend with family, previous studies have not assessed the potential moderating role of time spent with family on the negative effects of stressors.

This Study

The purpose of this study was to explore the ability of social support factors to moderate the relation between community violence exposure and internalizing symptoms over time. Primary (i.e., victimization) and secondary (i.e., witnessing) violence exposure were examined separately as they appear to affect youth in different ways (O'Donnell, Schwab-Stone, & Mueeed, 2002). Our hypotheses centered on the general notion that factors related to social support represent positive forces in human development. As such, we conceptualized these factors as protective during adolescence both concurrently with exposure to risk and over time. We hypothesized that variables related to social support would moderate the relation between community violence exposure and internalizing symptoms and that, on probing, these moderator effects would be considered protective in the conceptualization of resilience offered by Luthar et al. (2000).

Method

Participants

A sample of 196 African American sixth graders were recruited from six public schools in inner-city Chicago. Because the purpose of the study was to examine moderators and effects of violence exposure, schools were selected based on high neighborhood crime statistics obtained from the Chicago Police Department for the year preceding data collection. Of youth recruited from the schools, 58% agreed to partic-

ipate. This participation rate is consistent with other studies conducted with inner-city youth (e.g., Allison et al., 1999; Cooley-Quille & Lorion, 1999). Written child assent and parent consent were required for participation. As an incentive to participate, students received prizes at the end of data collection such as gift certificates, sports equipment, and games.

The sample consisted of youth from relatively low-income households, with a median family income between \$10,000 and \$20,000 as reported by a parent or guardian. Most parents (83%) had at least completed a high school degree, with 10% reporting a college or graduate or professional degree. Nearly half the sample (48%) were single-parent households. The median number of people living in the household was five.

Of the 196 participants who completed questionnaires, the time-sampling instrument, and whose parent or guardian completed instruments at Time 1, 159 of the youth were able to be located 1 year later. The nonretained youth were similar to the retained youth in terms of parental marital status, annual household income, and parental education. There were no significant differences between retained and nonretained youth in depressive symptoms or anxiety at Time 1.

Procedure

Following the procedures of the ESM, participants carried watches for a 1-week period that were programmed to signal at random times approximately every 90 min when the youth were not in school. To minimize disruption in the school context, participants received two signals during the school day. This signaling schedule was designed to optimize sampling of time when the youth may have been at risk for exposure to violence. When signaled, the youth completed a brief self-report form in a diary they carried for the week. Participants were instructed carefully in how to complete these forms by trained research assistants, and research staff visited participants each day at school to ensure accurate compliance with the ESM. Over the course of the week, youth responded to as many as 51 signals. As a minimum inclusion criterion for ESM data, youth who responded to fewer than 15 signals were excluded from analyses. The median response rate to signals was 42, yielding an 82% compliance rate. This response rate is consistent with acceptable standards of compliance with the ESM (see Larson, 1989; Larson et al., 2001). During the daily school visit, research personnel also administered surveys. To ensure confidentiality and the quality of the data, data collection occurred in small groups and was closely supervised by research personnel. Youth were provided a packet of questionnaires for a parent or guardian to complete. One year later, when participants were in the seventh grade, they were invited to

again participate in the study. The same procedures were repeated in the second year of data collection.

Measures

Exposure to violence. Participants completed a self-report questionnaire based on the "My Exposure to Violence Interview" (Buka, Selner-O'Hagan, Kindlon, & Earls, 1997). Youth rated how often they had been exposed in the past year to violent acts, both as a witness and a victim, using a 5-point scale ranging from 0 (*never*) to 4 (*four or more times*). Based on the perpetrator of the violence, we constructed a community violence scale, with witnessing and victimization subscales. Because we were interested exclusively in this study in *community* violence, perpetrators who were family members were excluded. Perpetrators were coded into categories, and the community violence scale included categories of perpetrators such as stranger, person in the neighborhood, drug dealer, and gang member. The witness subscale consisted of 13 items and included questions such as "Have you heard or seen a fight that made you feel afraid?" and "Have you seen someone being killed by another person?" The scores from these responses were averaged to represent the level of witnessing violence. The victimization subscale consisted of 12 items and included questions such as "Have you been hit, kicked, or beat up by someone?" and "Have you been threatened with a knife or a gun?" The scores from these responses were averaged to represent the level of victimization. The two subscales correlated significantly at .60 ($p < .001$), but separate scales were retained so that we could examine both primary and secondary violence exposure independently. Independent examination of witnessing and victimization is beneficial because research suggests differential associations depending on the type of violence exposure (see Buka et al., 2001). Independent examination also allows for greater specificity in exploring relations among variables, and it responds to the need for more research on secondary violence exposure.

Social support. To obtain a broad report of adolescent-perceived support, youth completed an adaptation of the Survey of Children's Social Support (Dubow & Ullman, 1989). The version of this survey administered contained 24 items in which respondents rated both the perceived availability of social support sources (e.g., family, friends, other adults), as well as a subjective appraisal of the quality of support received. Items were rated on a 5-point scale ranging from 1 (*never*) to 5 (*always*) and included questions such as "How often do you find someone when you are in trouble or are sick?" and "I can count on family for advice and help." The 24 items were averaged to yield a sum-

mary score of social support for each participant. Reliability for this scale was .82.

Daily support. To supplement this rating of support obtained via questionnaire, a perceived social support index based on ESM data (daily support) was constructed. When signaled, participants were asked to rate on a 7-point bipolar scale their perceptions of the friendliness and helpfulness of those individuals with whom they were at the time of signal. The scale ranged from 1 (*very unfriendly* or *very unhelpful*) to 7 (*very friendly* or *very helpful*), and responses to the two items were averaged across signals to obtain an index of daily perceived social support. Reliability for the measure was .50.

Parent–adolescent relationship. To assess the quality of the parent–adolescent relationship, youth completed a brief questionnaire based on measures created by Blyth and Foster-Clark (1987). Using a 5-point scale ranging from 1 (*not at all*) to 5 (*very much*), respondents rated the level of paternal and maternal involvement in their lives on seven items for each parent (e.g., “I share my inner feelings with my father” and “I am satisfied with the relationship I have with my mother”). The same set of questions was asked for both father and mother, but due to the large proportion of the sample that did not live with their fathers (48%), we examined only the mother–adolescent relationship. The maternal closeness scale yielded an alpha of .85.

Time spent with family. Using the ESM reports, the percentage of time spent with family members was calculated. At the time of each signal, participants responded to the question, “Who were you with?” Participants indicated family members from a list of possibilities: mother, father, sibling(s), and extended relatives. Responses were coded into categories such as *with family* and *with friends*. Interrater reliability for this coding process ranged from .96 to .98. For each participant, a global percentage of time spent with specific individuals and groups was calculated, resulting in a measure of time spent with family. This measurement of time has been used in many studies employing either the ESM or other time-sampling frameworks (e.g., Larson et al., 2001).

Anxiety. The trait subscale of the State–Trait Anxiety Inventory for Children (Spielberger, Edwards, Montuori, & Lushene, 1973) was used to assess anxiety. This scale is a 20-item measure on which youth rate the frequency of anxiety symptoms on a 3-point scale ranging from 1 (*hardly ever*) to 3 (*often*). Questionnaire items include “I worry about school” and “I get a funny feeling in my stomach.” The scale yielded an alpha of .90 at Time 1 and .91 at Time 2.

Depressive symptoms. Participants completed the Children’s Depression Inventory (Kovacs, 1985), a self-report instrument on which youth rate their level of symptoms for the 2 weeks prior to administration on a 3-point scale (e.g., 0 [*I am sad once in a while*] to 2 [*I am sad all the time*]). Responses to the 27 items on this scale are added to provide a summary score of depressive symptoms for each participant. The scale yielded an alpha of .88 at both Times 1 and 2. Although the creation of a composite internalizing variable is a common practice with measures of depression and anxiety, we opted to retain anxiety and depression as separate scales reflecting two components of internalizing symptoms for two reasons. First, we were interested in exploring different patterns of results for depression versus anxiety. Second, there is literature suggesting both distinctive and overlapping features of the two (e.g., Kendall & Watson, 1989). Because the two constructs were assessed by separate instruments, we chose to focus on the distinctiveness of the outcomes with regard to the hypothesized protective factors.

Results

Analytic Strategy

To address our research questions, we conducted a series of hierarchical multiple regression analyses, examining both the cross-sectional and longitudinal data with two predictors (witnessing and victimization), four moderators (social support, daily support, maternal closeness, and time spent with family), and two outcomes (anxiety and depressive symptoms). To examine both outcomes with both predictors at two different time points, we tested a total of 32 regression equations. Of the 32 models tested, 11 revealed statistically significant moderator effects. The structure of regression models is presented in the appendix. A stepwise approach was taken to order of entry, with control variables in Step 1 (i.e., family income and exposure to family violence¹), main effects in Step 2, two-way interactions in Step 3, and three-way interactions in Step 4. Longitudinal analyses controlled for Time 1 outcome, adding an additional step.

To achieve power of at least .80 at the .05 significance level with a medium effect size, we estimated that a sample size of 107 was large enough for our number of planned analyses (Cohen, 1992). Therefore, we determined that our sample size was adequate to maintain an acceptable level of power. In each case, we plotted and probed significant interactions using tech-

¹Exposure to family violence, as with community violence exposure, was assessed in terms of both witnessing and victimization. For all regressions, we matched the family violence control with the predictor. For example, when witnessing was the predictor, we controlled for witnessing family violence.

niques outlined by Aiken and West (1991) and Holmbeck (2002) to determine the significance of the slopes of regression lines. Correlations separated by sex are presented in Table 1. Table 2 offers a summary of significant interactions, including statistics for each model and regression coefficients.²

Correlations

Witnessing community violence was significantly associated with increased depressive symptoms both cross-sectionally ($r = .13, p < .05$) and longitudinally ($r = .16, p < .05$). These relations held for girls only, however (see Table 1). Victimization was significantly associated with increased depressive symptoms, also both cross-sectionally ($r = .14, p < .05$) and longitudinally ($r = .18, p < .01$). These relations held for boys only when correlations were calculated separately by sex. The relation between either witnessing or victimization and anxiety symptoms was not significant when examining correlations for the entire sample. However, witnessing violence was significantly associated with increased anxiety for girls cross-sectionally.

In terms of the hypothesized moderators, lower reports of maternal closeness were associated with higher anxiety at Time 1 ($r = -.16, p < .05$) and higher depressive symptoms at both Time 1 ($r = -.28, p < .001$) and Time 2 ($r = -.17, p < .05$). Examined by sex, these relations held only for girls. Lower social support was associated with increased anxiety both cross-sectionally ($r = -.27, p < .001$) and longitudinally ($r = -.16, p < .05$), as well as higher depressive symptoms at Time 1 ($r = -.51, p < .001$) and Time 2 ($r = -.32, p < .001$). These relations held both cross-sectionally and longitudinally for girls, but only cross-sectionally for boys. Less time spent with family was associated with higher anxiety ($r = -.15, p < .05$) and more depressive symptoms ($r = -.13, p < .05$) at Time 1 only. These relations held for girls only. Lower ESM reports of daily support were associated with increased anxiety both cross-sectionally ($r = -.20, p < .01$) and longitudinally ($r = -.15, p < .05$), as well as higher depressive symptoms both cross-sectionally ($r = -.25, p < .001$) and longitudinally ($r = -.28, p < .001$). For boys, these relations held for anxiety at Time 1 and depression at Time 2 only, whereas all associations were significant for girls.

Anxiety

Regression analyses revealed one two-way and one three-way interaction predicting anxiety cross-section-

ally, and two three-way interactions longitudinally. A two-way interaction between witnessing community violence and maternal closeness at Time 1 revealed that, when reports of maternal closeness were low, witnessing violence predicted higher anxiety, $F(5, 186) = 3.50, p < .01, R^2 = .09$. This interaction suggests a protective–stabilizing effect for maternal closeness, because youth who reported high levels of maternal closeness in the context of high witnessing did not report increased anxiety. This protective–stabilizing relation emerged for several of our analyses, and the Witnessing \times Maternal Closeness interaction is depicted in Figure 1. A Sex \times Witnessing \times Social Support interaction at Time 1 revealed a protective–stabilizing role for social support for girls only, $F(9, 187) = 4.74, p < .001, R^2 = .19$. Girls reporting low social support endorsed the highest levels of anxiety in the context of high witnessing. Girls who reported high social support in the context of high witnessing did not report elevated anxiety symptoms.

Longitudinally, a significant Sex \times Witnessing \times Social Support interaction revealed social support as a promotive–reactive factor over time for girls. Girls who reported high social support and low witnessing at Time 1 reported less change in anxiety at Time 2, but girls with high social support who witnessed more violence at Time 1 reported greater increases in anxiety at Time 2, $F(10, 149) = 9.52, p < .001, R^2 = .39$. The same relation emerged for victimization, $F(10, 149) = 9.28, p < .001, R^2 = .38$, revealing that social support represented a promotive–reactive factor for girls in terms of both primary and secondary violence exposure.

For girls, time spent with family emerged as a protective–stabilizing factor over time for anxiety symptoms. A Sex \times Witnessing \times Time With Family interaction revealed that girls who reported less time with family in the context of high witnessing at Time 1 reported a greater increase in anxiety at Time 2, $F(10, 136) = 8.83, p < .001, R^2 = .39$ (see Figure 2). In contrast, girls who spent more time with family reported no significant increase in anxiety as a function of witnessing violence. The longitudinal data from boys demonstrated no significant interaction for anxiety.

Depressive Symptoms

Using depressive symptoms as the outcome, five significant interactions emerged cross-sectionally, as well as one significant interaction longitudinally. Although the model testing maternal closeness as a moderator of witnessing violence indicated a significant interaction, $F(5, 187) = 4.27, p < .01, R^2 = .10$, probing of the interaction revealed that the slope of neither regression line was significantly different from zero. Inspection of the plot suggested a protective–stabilizing role for maternal closeness for youth who reported high witnessing of violence. High maternal closeness in the

²Statistical details for each step in the 11 significant regression equations are not included for ease of interpretation in the table and the text. Information presented is limited to the overall model and the final interaction step for each equation. More detailed statistics are available on request from the authors.

Table 1. Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Anxiety (T1)													
2. Depressive Symptoms (T1)	.442**												
3. Anxiety (T2)	.683**	.195											
4. Depressive Symptoms (T2)	.487**	.408**	.518**										
5. Witness (T1)	-.064	.055	.041	.159	.165	.021	-.030	-.048	-.163*	-.189*	.090-	.083	-.017
6. Victim (T1)	.009	.211*	.064	.312**	.750**	.399**	-.047	-.105	-.092	-.191*	-.058-	.041	-.005
7. Maternal Closeness (T1)	-.026	-.180	-.089	-.101	.105	.043	-.047	-.105	.029	-.155-	.155-	.048	.163
8. Social Support (T1)	-.259**	-.484**	-.093	-.200	-.023	-.166	.340	.037	.146	.410**	-.085	-.135	-.082
9. Time With Family (T1)	-.112	-.028	-.090	-.061	.039	.028	.021	.037	.146	.056-	.045	.035	.095
10. Daily Support (T1)	-.235*	-.152	-.121	-.253*	.046	.006	.390**	.216*	.049	.056-	-.020	-.161	.001
11. Family Witness	-.045	-.073	.146	.101	.060	.167	.059	-.110	-.051	.070	.124	-.374**	.022
12. Family Victim	.080	-.042	.033	-.042	.055	.169	.001	.063	.005	-.098	-.072	.083	a
13. Family income	.029	-.106	.134	-.021	.142	.186	-.079	-.031	-.252*	-.072	.250*	.083	a
M boys	10.59	7.50	8.93	6.96	3.47	1.70	3.87	3.82	46.94	6.16	.12	.06	20.338
SD	8.34	7.71	7.66	7.58	5.16	4.07	.89	.60	21.67	.91	.61	.41	14.591
M girls	12.88	8.65	11.98	7.35	3.23	1.35	4.03	3.90	50.77	6.23	.30	.05	21.279
SD	7.78	7.54	7.51	6.91	3.70	2.36	.96	.68	21.11	.77	1.12	.45	18.969

Note: Boys—lower left-hand quadrant; girls—upper right-hand quadrant.

aNo variance in family victim.

* $p < .05$ (two-tailed), ** $p < .01$ (two-tailed).

Table 2. Regression Coefficients and Pattern Types for Significant Interactions

	<i>F</i>	<i>df</i>	Model <i>R</i> ²	Step <i>R</i> ² Change	<i>B</i>	<i>SE B</i>	β	Pattern
Anxiety (Time 1)								
Witness \times Maternal closeness	3.50**	5, 186	.09	.02*	-.04	.02	-.15*	PS
Sex \times Witness \times Social support	4.74***	9, 187	.19	.02*	.70	.31	.31*	Girls: PS
Anxiety (longitudinal)								
Sex \times Witness \times Social support	9.52***	10, 149	.39	.02*	-.63	.29	-.33*	Girls: PR
Sex \times Victim \times Social support	9.28***	10, 149	.38	.02*	-1.75	.75	-.73*	Girls: PR
Sex \times Witness \times Time with family	8.83***	10, 136	.39	.02*	.02	.01	.24*	Girls: PS
Depressive Symptoms (Time 1)								
Witness \times Maternal closeness	4.27**	5, 187	.10	.02*	-.04	.02	-.15*	<i>ns</i>
Witness \times Time with family	4.47**	5, 177	.11	.04**	.01	.00	.20**	PR
Victim \times Social support	17.82***	5, 191	.32	.02*	-.41	.19	-.18*	<i>ns</i>
Sex \times Witness \times Daily support	4.49***	9, 162	.20	.04**	-.62	.22	-.29**	Boys: PS
Sex \times Victim \times Daily support	4.77***	9, 162	.21	.05**	-1.55	.50	-.55**	Girls: PR Boys: PS
Depressive Symptoms (Longitudinal)								
Sex \times Victim \times Maternal closeness	4.43***	10, 143	.24	.03*	0.2	.09	.23*	Boys: PR

Note: PS = protective-stabilizing; PR = promotive-reactive; *ns* = neither slope was significantly different from zero.

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

context of high witnessing was associated with fewer depressive symptoms, compared with youth reporting less maternal closeness in the context of high witnessing. A similar pattern occurred for the Victimization \times Social Support interaction, which indicated a significant coefficient, $F(5, 191) = 17.82, p < .001, R^2 = .32$, but the slopes were not significantly different from zero. The plot of this interaction suggested a protective-stabilizing role for social support in the context of high victimization.

The equation testing time with family as a moderator of witnessing violence revealed that youth who spent more time with family in the context of high witnessing also reported high depressive symptoms, $F(5, 177) = 4.47, p < .01, R^2 = .11$. This finding reveals time with family as a promotive-reactive factor for youth. In conditions of low witnessing, youth reporting more time with family also reported fewer depressive symptoms than youth who spent less time with family, revealing time with family as protective. But at high levels of exposure, time with family did not protect youth from experiencing depressive symptoms.

Two significant three-way interactions predicting depressive symptoms at Time 1 were discovered. The Sex \times Witnessing \times Daily Support interaction revealed a protective-stabilizing effect of daily support for boys, $F(9, 162) = 4.49, p < .001, R^2 = .20$. Boys who reported low daily support in the context of high witnessing reported high levels of depressive symptoms. The Sex \times Victimization \times Daily Support interaction (Figure 3) revealed daily support as a promotive-reactive factor for girls but a protective-stabilizing factor for boys, $F(9, 162) = 4.77, p < .001, R^2 = .21$. Girls who reported high daily support in the context of high victimization reported more depressive symptoms, suggesting that the protective function of daily support fails in

very high conditions of exposure. Boys who reported low daily support in the context of high victimization reported high depressive symptoms, whereas victimization was not associated with depressive symptoms among boys with high daily support. This pattern suggested a protective-stabilizing effect of daily support for boys.

The single significant longitudinal interaction predicting depressive symptoms at Time 2 revealed maternal closeness as a promotive-reactive for boys over time. Probing of the Sex Victimization \times Maternal Closeness interaction indicated that, for boys reporting high maternal closeness at Time 1, low victimization predicted fewer depressive symptoms, $F(10, 143) = 4.43, p < .001, R^2 = .24$. High victimization predicted increased depressive symptoms over time for boys reporting high maternal closeness at Time 1. This finding suggests that at high levels of risk, maternal closeness fails to reduce vulnerability for depression.

Discussion

This study explored moderators of the relation between community violence exposure and symptoms of depression and anxiety over time. Factors related to social support moderated the relation between the risk factors and outcomes assessed, and two specific types of moderational relations emerged: protective-stabilizing and promotive-reactive. Although we conceptualized the moderators explored in this study as generally positive factors in human development and thus hypothesized primarily protective effects, several factors emerged as promotive-reactive.

The results affirmed the notion that social support factors represent positive forces in human develop-

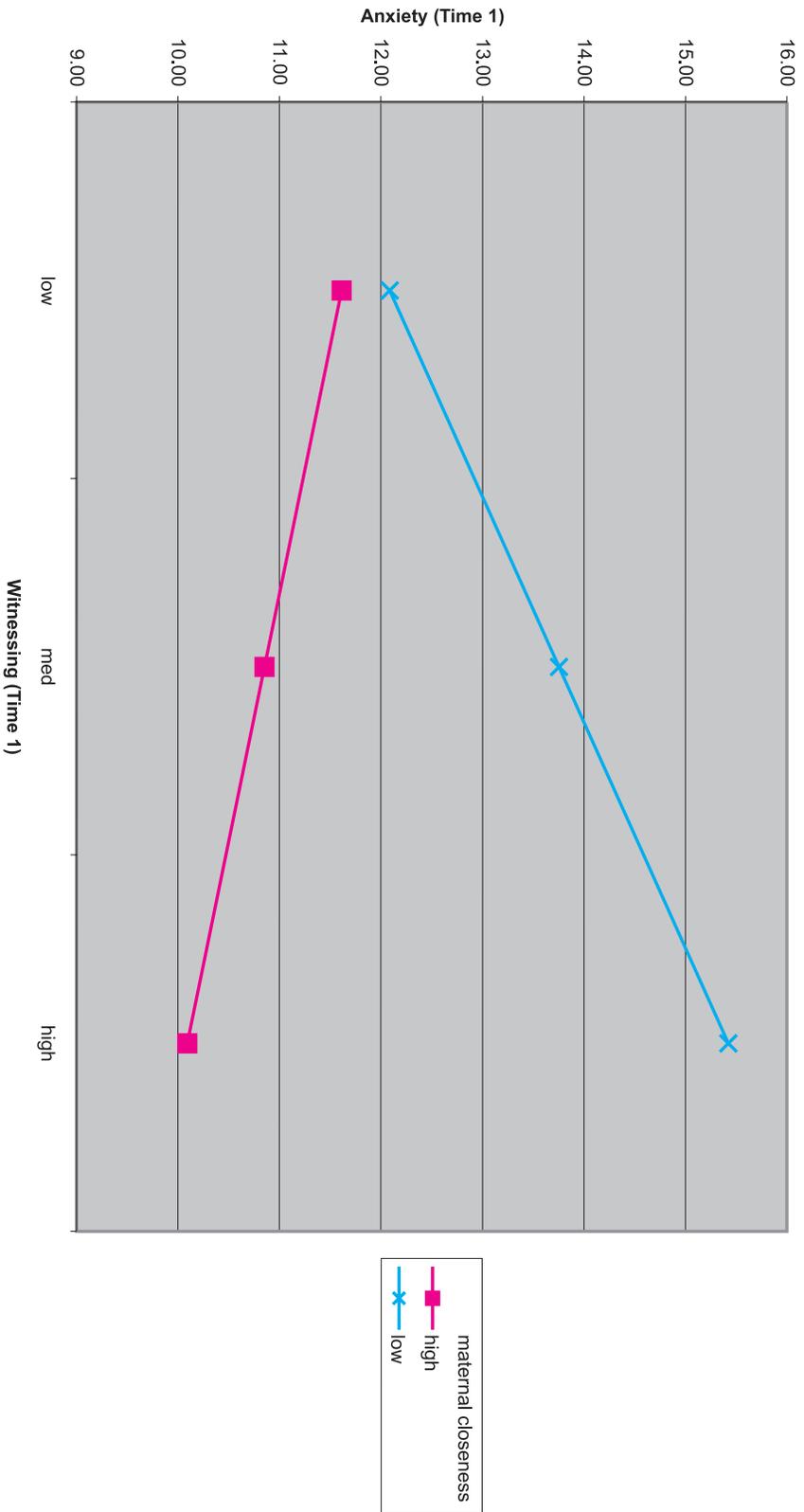


Figure 1. Protective-stabilizing effect of maternal closeness for anxiety.

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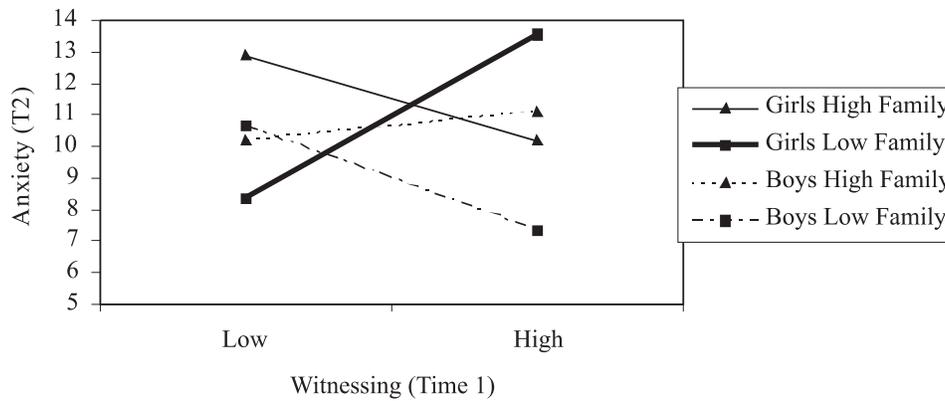


Figure 2. Protective–stabilizing longitudinal effect of time with family for girls (anxiety).

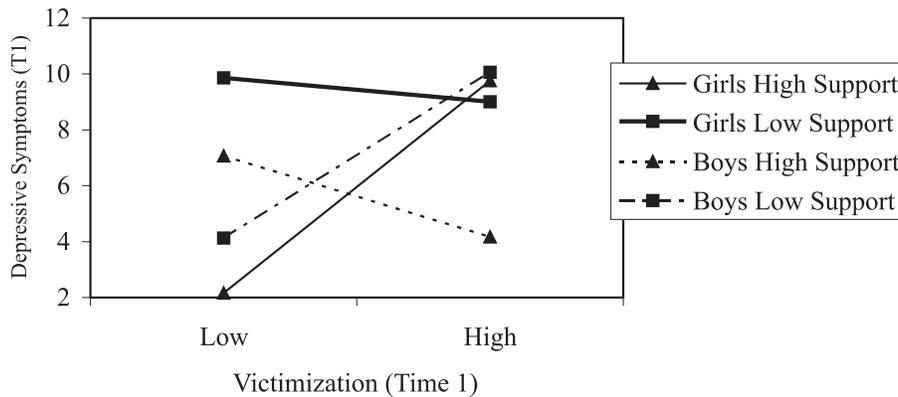


Figure 3. Daily support as a promotive–reactive factor for girls and protective–stabilizing factor for boys (depressive symptoms).

ment that protect youth from the adverse impact of violence exposure. Perceptions of social support at both the context-independent (i.e., survey) and context-dependent (i.e., ESM) level demonstrated a protective–stabilizing effect in analyses. Other variables that we conceptualized as reflective of social support in the lives of youth—namely, maternal closeness and time spent with family—also exerted a protective–stabilizing effect. The pattern of effects differed slightly by predictor, outcome, and sex of the participant, but the findings revealed a general story of social support as a protective and stabilizing force in the lives of adolescents. This effect appeared to occur more frequently with witnessing than with victimization. Although the effects of witnessing violence often appear to be as harsh as those of victimization (Martinez & Richters, 1993), the effects of witnessing violence may be ameliorated more easily than those that occur from being the victim of an attack.

In contrast to the discovery of protective–stabilizing effects, several of our hypothesized moderators emerged as promotive–reactive factors in the conceptual scheme of Luthar et al. (2000). In conditions of extreme risk, especially high victimization, social support factors that appeared protective in low levels of risk failed to reduce the vulnerability for adverse men-

tal health outcomes. This pattern of findings is most likely related to the intensity of the stressor assessed (i.e., violence exposure). Protection against the negative effects of extreme risk factors such as violence exposure likely requires an arsenal of internal and external resources accessible to the individual. Thus, the discovery that social support appeared not to provide a protective effect at very high levels of violence exposure is not entirely surprising, given the traumatic nature of such life events (Cooley-Quille et al., 2001; Fitzpatrick & Boldizar, 1993; Mazza & Reynolds, 1999). The lack of protection at high levels of exposure occurred more frequently with victimization than with witnessing violence. The emotionally damaging effects of victimization by community violence may overwhelm the potentially health-promoting effects of such protective elements as closeness with a mother or the daily experience of friendliness and helpfulness of others. Research with urban youth reveals that victimization may be more detrimental to well-being than witnessing violence or lack of exposure (O’Donnell et al., 2002). Patterns of findings such as these are indicative of a situation of overwhelming risk, in which factors that exert a protective effect at low or moderate levels of risk fail to buffer youth in high conditions of risk. The stressor (e.g., violence exposure) over-

whelms the individual, and vulnerability to develop symptoms is virtually inevitable.

This study is particularly strengthened by its multidimensional conceptualization of social support and its multimethod approach. The exploration of different kinds of social support—particularly the daily experience and time-use aspects of support—represents an important addition to our understanding of social support. The amount of time youth spent with their families exhibited a protective–stabilizing effect in some instances and a promotive–reactive effect in others. In particular, time with family appeared to protect girls who witnessed violence from developing more anxiety symptoms over time. In contexts of high violence exposure, time with family failed to protect youth from experiencing depressive symptoms. With a different sample of urban African American young adolescents, Richards and colleagues (2004) found that time with family, as a component of protective time, was associated with less exposure to violence, which was in turn related to fewer symptoms of distress and delinquent behaviors. Harrison and colleagues (1990) offered a representation of the African American family experience as protective, positing that “through patterns of kin contact and interaction that are proximal, available, frequent, and functional, a family provides its members with a sense of group and personal identities, behavioral rules, roles and responsibilities, and emotional affiliations and attachments” (p. 299). Our findings lend empirical credence to the idea of the family as an essential protective agent for youth (cf. Reese, Vera, Simon, & Ikeda, 2000), though they also suggest a failure to protect youth from certain symptoms at very high levels of violence exposure.

This study offers a unique contribution to the literature on resilience among inner-city youth exposed to violence in its application of both procedural (e.g., Holmbeck, 2002) and theoretical advances (e.g., Luthar et al., 2000) with a representative high-risk sample of youth. The study is also strengthened by its longitudinal design and use of both traditional survey methods and the ESM. The study also offers an important contribution in our examination of secondary violence exposure (i.e., witnessing violence), which has received less attention in the literature than victimization (Buka et al., 2001). Despite these methodological strengths, the study possesses some limitations. First, several measures were either adaptations of other scales or were created specifically for this study, limiting information on the general psychometric properties of instruments. Despite this disadvantage, the scales yielded acceptable internal reliability coefficients in general with our sample. Second, all of our measures relied exclusively on the self-reports of youth. Third, the number of tests conducted may have enhanced the possibility of Type I error. Finally, although the longitudinal research design allows for

statements of possible causal connections among variables, the lack of an experimental design prohibits definitive statements about causality.

As a major social challenge of our time, the ability to identify protective contexts for human development among youth at risk is recognized as a responsibility of social scientists who work in the inner city. With this responsibility in mind, we undertook this effort to delineate specific social, relational, and experiential moderators of the effects of community violence exposure. From this basic research approach comes the increasing need for community-based and applied research that will promote the optimal development of urban youth.

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APPENDIX

Structure of Regression Models

1. Cross-sectional interaction $Y = (\text{family income} + \text{family violence}) + (\text{sex} + \text{exposure} + \text{social support}) + (\text{sex} * \text{exposure} + \text{sex} * \text{support} + \text{exposure} * \text{support}) + (\text{sex} * \text{exposure} * \text{support})$ Variables entered as follows:
 - Step 1 (control variables): Family income, family violence
 - Step 2 (main effects): Sex, violence exposure, social support
 - Step 3 (two-way interactions): All two-way interaction terms
 - Step 4 (three-way interactions): All three-way interaction terms
2. Longitudinal interaction $Y = (\text{T1 outcome}) + (\text{family income} + \text{family violence}) + (\text{sex} + \text{exposure} + \text{support}) + (\text{sex} * \text{exposure} + \text{sex} * \text{support} + \text{exposure} * \text{support} + \text{sex} * \text{exposure} * \text{support})$
 - Step 1: Time 1 control (baseline)
 - Step 2: Other control variables
 - Step 3: Main effects
 - Step 4: Two-way interactions
 - Step 5: Three-way interactions

Note. *Exposure* refers to either witnessing or victimization (separate regressions tested by predictor). *Family violence* refers to either family witnessing or family victimization, entered to be consistent with the predictor (i.e., when witnessing was the predictor, family witnessing was controlled). *Support* refers to the social support factor examined as a moderator in the model (e.g., daily support, maternal closeness).

Received December 4, 2002
Accepted September 11, 2003