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Can Organized Youth Activities Protect Against Internalizing Problems Among Adolescents Living in Violent Homes?

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Abstract

Using longitudinal data from a subsample of Hispanic, African American, and white youth enrolled in the Project on Human Development in Chicago Neighborhoods ($N = 1,419$), we examined the effects of both parental involvement in domestic violence and youth participation in organized out-of-school-time activities on internalizing symptoms during adolescence. We also examined the extent to which participation in organized activities protected youth against the internalizing consequences of domestic violence. We found that intensive participation in either afterschool programs or extracurricular activities was inversely associated with youth internalizing problems. Moreover, we found that intensive participation in afterschool programs weakened the association between parents' domestic violence and youths' internalizing problems.

Keywords

domestic violence; organized youth activities; afterschool programs; extracurricular activities; internalizing problems

Nationally representative data suggest that nearly 10% of youth under the age of 18 are exposed to domestic violence (Finkelhor, Turner, Ormrod, & Hamby, 2009). The consequences of this exposure may be far reaching; youth exposed to domestic violence are at elevated risk for numerous adverse outcomes (Evans, Davies, & DiLillo, 2008; Foster & Brooks-Gunn, 2009; Margolin & Gordis, 2000). Internalizing problems such as depression and anxiety, which often emerge in adolescence (Compas, Ey, & Grant, 1993; Costello, Mustillo, Erkanli, Keeler, & Angold, 2003), are among these outcomes, and they present the mental health community with a special challenge. High rates of untreated internalizing disorders (Avenevoli, Knight, Kessler, & Merikanga, 2008) suggest that internalizing symptoms are easy for parents, school personnel, and health professionals to miss. Yet, the consequences of internalizing problems are potentially devastating. Many studies have identified positive associations between depression, anxiety, and suicidality (see Hawgood & De Leo, 2008; Mo cicki, 2001 for reviews).

Because the internalizing symptoms of adolescents from violent homes may not always elicit the attention of the mental health community, it is important to determine whether

these youth might derive psychological benefits from other resources that are available to the general population. Thus, in the present study, we asked whether participation in organized out-of-school-time activities might reduce the strength of the associations between parental involvement in domestic violence and adolescents' subsequent internalizing problems. Organized activities are clearly a relevant part of youths' lives in the United States; nationally representative data suggest that nearly 70% of 10- to 19-year olds participate in them (Bouffard et al., 2006). The potential benefits of participation in organized activities have been extensively documented (see Durlak, Weissberg, & Pachan, 2010; Feldman & Matjasko, 2005 for reviews), but few have asked whether participation in these activities might protect youth against the mental health consequences of family dysfunction or trauma (though see Bohnert & Garber, 2007; Mahoney, Schweder, & Stattin, 2002 for exceptions). Nonetheless, ecological theories of human development (Bronfenbrenner, 1977) strongly support the idea that protective resources in one developmental context may offset the costs of risk factors in other developmental contexts.

The present study draws on this ecological perspective as we explore the link between participation in organized activities and internalizing problems among youth from violent and non-violent homes. Because participation in organized activities is a multi-dimensional construct (Bohnert, Fredricks, & Randall, 2010), we consider the implications of both the type of activities in which youth participate (i.e., afterschool programs versus extracurricular activities) and the amount of time that they spend in these activities (i.e., hours per week). Further, given evidence that the effects of participation in some organized activities may vary by age (Gottfredson, Gerstenblith, Soule, Womer, & Lu, 2004), we consider whether youth age moderates the effects of participation. The rationale for these questions is elaborated below, following a brief discussion of parents' domestic violence and youth internalizing problems.

Domestic Violence and Youth Internalizing Problems

The term, domestic violence, refers to physical violence committed by one or both partners in an intimate adult relationship (Fantuzzo & Mohr, 1999). Numerous studies suggest that there is a positive association between youths' exposure to domestic violence and their internalizing problems (e.g. Kennedy, Bybee, Sullivan, & Greeson, 2009; Moylan et al., 2010; Mrug & Windle, 2010; Zinzow et al., 2009), and a recent meta-analysis suggests that this association is sizeable ($d = .48$; Evans et al., 2008).

There are several different explanations for the link between parental involvement in domestic violence and youths' internalizing problems. Some research shows that associations between domestic violence and youth internalizing are mediated by maternal depression or poor parenting practices (Dehon & Weems, 2010; Huang, Wang, & Warrener, 2010; Owen, Thompson, Shaffer, Jackson, & Kaslow, 2009), whereas other empirical and theoretical work suggests that family violence affects youth more directly, compromising emotional security (Davies & Cummings, 1994) and self-efficacy (Caprara, Gerbino, Paciello, Di Giunta, & Pastorelli, 2010; Lynch & Cicchetti, 1998), and thereby leading to internalizing problems. None of these explanations should be viewed as competing. Moreover, all of these explanations are relevant to understanding how participation in organized youth activities might protect against the internalizing consequences of parental involvement in domestic violence. Below, we discuss the mechanisms through which participation in organized activities may protect youth against the internalized consequences of domestic violence. First, however, we define organized activities and review research on the links between participation and adolescents' internalizing problems.

Organized Activities and Youth Internalizing Problems

Organized youth activities are defined as those that: 1) provide structured activities for youth, 2) operate on a regular basis during non-school hours, 3) are supervised by adults, and 4) include multiple youth participants (Mahoney, Harris, & Eccles, 2006). Among such activities, extracurricular activities and afterschool programs are perhaps the most frequently studied. Interestingly, these two types of activities are often studied in entirely separate spheres, or, they are investigated under the heading of organized activities with little regard for their differences. Yet several important distinctions can be made between extracurricular activities and afterschool programs. First, the variety of experiences offered to youth through these activities often differs. Extracurricular activities – which refer to group-based activities such as school- or community-sponsored sports teams, music ensembles, and hobby clubs – provide youth with opportunities to build skills in a single domain (e.g., sports or music). Afterschool programs (e.g., 21st Century Community Learning Centers, Boys and Girls Clubs, and the YMCA), however, are typically multifaceted and provide youth with a mix of academic, social, cultural, and recreational activities (Dynarski, Moore, Mullens, Gleason, James-Burdumy et al., 2003; Redd, Cochran, Hair, & Moore, 2002). Differences in the variety of experiences offered to youth follow from differences in the goals of extracurricular activities versus afterschool programs; the former generally aims to promote specialized skill-building whereas the latter typically aims to promote the healthy development of the whole child. Extracurricular activities and afterschool programs also have different organizational structures. Afterschool programs often have formal administrative hierarchies and employ numerous adults to provide programming. Extracurricular activities, on the other hand, are not formally administered programs; they are simply activities for groups of youth with similar interests that are led by a single adult or a small number of adults with an affiliation to a school or community-based organization.

Despite their differences, afterschool programs and extracurricular activities are both thought to promote healthy adolescent development because they offer supports and opportunities that are of known developmental value to youth, including: (1) physical and psychological safety, (2) appropriate structure, (3) supportive relationships, (4) opportunities to belong, (5) positive social norms, (6) support for efficacy and mattering, (7) opportunities for skill building, and (8) the integration of family, school, and community efforts (Eccles & Gootman, 2002). Many of these supports and opportunities are clearly relevant to the prevention of internalizing problems. Safety has long been considered critical for healthy psychological development (Maslow, 1943), and evidence suggests that social support may provide further protection against internalizing problems (Burton, Stice, & Seeley, 2004; Casey-Cannon, Pasch, Tschann, & Flores, 2006; Gore & Aseltine, 2003; Hurd & Zimmerman, 2010). Additionally, studies indicate that opportunities for the development of self-efficacy (e.g., through skill building or relationship building) may reduce youths' risks for internalizing problems (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999; Bandura, Caprara, Barbaranelli, Gerbino, & Pastorelli, 2003; Kim & Cicchetti, 2003; Muris, 2002).

Despite the strong theoretical connection between participation in organized activities and youth internalizing problems, relatively few empirical studies have examined this link. The adolescent outcomes measured in studies of organized activities are typically limited to positive outcomes (e.g., academic success, social competence, and civic engagement) and problem behavior (see Feldman & Matjasko, 2005; Roth & Brooks-Gunn, 2003a; 2003b). Indeed, we did not identify a single study on the link between participation in afterschool programs and internalizing problems during adolescence. Somewhat more attention has been devoted to exploring the link between adolescents' participation in extracurricular activities and internalizing problems. The findings are inconsistent, however. Several studies suggest that participation in extracurricular activities may be inversely associated with adolescent

internalizing problems (Bohnert, Kane, & Garber, 2008; Fredericks & Eccles, 2010; Mason, Schmidt, Abraham, Walker, & Tercyak, 2009; Rose-Krasnor, Busseri, Willoughby, & Chalmers, 2006), whereas others suggest that there is no association between extracurricular participation and internalizing problems (Bohnert & Garber, 2007; Darling, 2005; Denault & Poulin, 2009). More research is needed to adjudicate between these contradictory findings.

Given the known benefits of the developmental supports and opportunities provided by many extracurricular activities and afterschool programs, we hypothesize that the weight of the evidence will ultimately support inverse associations between participation in organized activities and adolescents' internalizing problems. Although participation in either type of activity may be beneficial, the present study examined the effects of participation in extracurricular activities and afterschool programs separately. The differences between these two types of activities may have implications for the level of protection against internalizing problems that each offers. For example, there may be more adults involved in afterschool programs than extracurricular activities; thus, there may be more non-parental adult support available to youth in afterschool programs versus extracurricular activities. However, the opportunities for specialized skill-building offered by extracurricular activities, compared to the more diffuse activity offerings provided by some afterschool programs, may provide youth with more opportunities for mastery and the development of self-efficacy. These statements reflect mere speculation, but they highlight the potential importance of considering the protective capacities of extracurricular activities and afterschool programs separately.

A further consideration is whether the protective capacities of extracurricular activities and afterschool programs depend on the amount of time that youth spend in them. The amount of time that youth spend in organized activities is often quantified along three dimensions: intensity, or the amount of time that youth devote to activities during specified intervals (e.g., hours per week); duration, or the length of time that youth participate (e.g., number of months or years of involvement); and, breadth, or the variety of activities in which youth participate (e.g., afterschool programs + school sports + school arts activities = 3 types of activities). Data on duration and breadth were not available for the present study, but we were able to assess the intensity of youths' participation. Extant studies generally show that youth who participate more, versus less, intensively in extracurricular activities demonstrate more positive outcomes (greater academic achievement, less risk behavior, and better socioemotional adjustment; Gardner, Roth, & Brooks-Gunn, 2008; Mahoney et al., 2006; Rose-Krasnor et al., 2006). However, we know little about the specific association between participation intensity and internalizing problems. To our knowledge, no one has examined the link between the intensity of participation in afterschool programs and adolescents' internalizing problems, and only two studies have explicitly considered the links between the intensity of adolescents' extracurricular participation and internalizing problems (Darling, 2005; Denault & Poulin, 2009; both of which revealed non-significant associations). This question deserves more study. In the present study, we examined internalizing problems as a function of both moderate and intensive participation in afterschool programs and extracurricular activities. We hypothesized that participation at either level would be protective, but that the effects of intensive, versus moderate, participation would be greater.

Domestic Violence and Youth Internalizing in the Context of Organized Activities

Drawing on the theory and research outlined above, we also asked whether participation in extracurricular activities or afterschool programs might moderate, or weaken, the association between parental involvement in domestic violence and adolescent internalizing problems.

This line of inquiry is consistent with ecological models of human development (Bronfenbrenner, 1977), which suggest that protective processes in one developmental context may offset the consequences of risk factors in other developmental contexts. Although there is much empirical evidence to support ecological models of development, we know of no studies that have specifically explored the multiplicative effects of organized activity participation and domestic violence on adolescents' internalizing problems. Moreover, to our knowledge, only two studies have explored interactions between organized activity participation and other indicators of family dysfunction in models of youth internalizing; one found that organized activity participation did not weaken associations between maternal depression and youth internalizing (Bohnert & Garber, 2007), whereas the other found that organized activities protected against depressed mood among adolescents with detached parent-child relationships (Mahoney et al., 2002). Thus, there is little direct evidence regarding the potential for organized activities to protect youth against the internalizing consequences of parents' domestic violence.

There are, however, several plausible mechanisms through which participation in organized activities may at least partially offset the internalizing consequences of family violence. First, to the extent that organized activities provide a safe physical space away from home, they may reduce youths' overall exposure to domestic violence and related familial risk factors for internalizing problems (e.g., parent depression; Roustit, Campoy, Chaix, & Chauvin, 2010). Second, when youth form trusting relationships with non-parental adults and peers in organized activities, the tendency for domestic violence to destabilize youths' emotional security and trigger internalizing problems may be less pronounced. Indeed, several studies suggest that social support may weaken the association between witnessing family violence and youth internalizing (Kennedy, Bybee, Sullivan, & Greeson, 2010; Muller, Goebel-Fabbri, Diamond, & Dinklage, 2000). Finally, if youth's conflict-ridden homes leave them feeling helpless and unable to control their environments, the opportunities for skill- and relationship-building offered by organized activities may facilitate the development of self-efficacy and, thereby, protect against internalizing problems (see Kim & Cicchetti, 2003; Schuck & Widom, 2003).

Given the similar developmental supports and opportunities provided by extracurricular activities and afterschool programs, we hypothesized that participation in either type of activity, particularly when intensive, should weaken the associations between parents' domestic violence and adolescents' internalizing problems. However, given the aforementioned differences between extracurricular activities and afterschool programs, we considered the possibility that these two types of activities may not offer identical levels of protection against the internalizing consequences of parents' domestic violence. Thus, in the present study, the moderating capacities of extracurricular and afterschool program participation were considered separately.

The Protective Capacities of Organized Activities as a Function of Youth Age

In a final line of inquiry, we asked whether the effects of organized activities on adolescents' internalizing problems might vary as a function of youth age, among both youth in general and youth from violent homes. Participation in afterschool programs declines as children move into adolescence (Carver & Iruka, 2006). Extracurricular activities, however, are often most accessible to older adolescents (Mahoney, Larson, & Eccles, 2005). Thus, the relevance of particular organized activities in youths' lives may change over time. It is unclear, however, whether the effects of organized activities vary by age. To our knowledge, only one study has examined age differences in the effects of organized activities on a construct related to internalizing; in this study, age was not a

significant moderator (Rose-Krasnor et al., 2006). Studies of other outcomes suggest that age may indeed moderate the effects of organized activities. For example, Gottfredson et al. (2004) found that participation in afterschool programs protected against delinquency among middle school but not elementary school students. The moderating role of age therefore merits further investigation. Thus, in the present study, we asked whether the protective capacities of extracurricular activities and afterschool programs varied by age, among both youth in general and youth from violent homes.

The Present Study

Using data from a longitudinal study of urban adolescents, we conducted four sets of analyses. First, we examined longitudinal associations between parental involvement in domestic violence and internalizing problems in adolescence. Second, we examined longitudinal associations between the intensity of youths' participation in two types of organized activities – extracurricular activities and after school programs – and youth internalizing problems. Third, we tested for whether participation in extracurricular activities or afterschool programs, measured at two different levels of intensity (i.e., moderate and intensive), reduced the strength of the association between parents' domestic violence and adolescents' internalizing problems. Finally, we tested for whether age moderated (1) the main effects of participation in either type of organized activity on internalizing, and (2) the interactions between organized activity participation and domestic violence in models predicting internalizing (i.e., we tested for three-way interactions between age, organized activity participation, and domestic violence).

Method

Sample

The present study used data from the Project on Human Development in Chicago Neighborhoods (PHDCN) – a multilevel, longitudinal study of 6,228 youth. Violence was among the original foci of the PHDCN; thus, the data include measures of violence exposure seldom found in longitudinal studies of non-clinical populations. Although the PHDCN includes both individual- and neighborhood-level data, we used data from the individual-level Longitudinal Cohort Study (LCS) only. Between 1994 and 1997, youth in 7 age groups (0, 3, 6, 9, 12, 15, and 18 years), or cohorts, were recruited for the PHDCN-LCS from 80 racially and economically diverse Chicago neighborhoods (see Sampson, Raudenbush, & Earls, 1997 for neighborhood sampling details). The study was explained to potential participants as an effort to understand common urban problems such as violence. Informed parent consent was obtained for all youth participants. Youth and their primary caregivers (88% of whom were mothers) were assessed over 3 waves at 2–2½ year intervals. Retention rates were relatively high; 86% and 77% of the original sample enrolled at waves 2 and 3, respectively (Martin & Schoua-Glusberg, 2002).

Data for the present analyses were taken from the first and second waves of the PHDCN-LCS. Measures of domestic violence, participation in organized activities, and control variables were constructed using wave 1 data. Dependent measures of youth internalizing were taken from wave 2. Because the present study focused on the prediction of internalizing problems in adolescence, we limited our sample to youth who had reached adolescence by wave 2 (i.e., youth in cohorts 9, 12, and 15 who were, respectively, 11, 14, and 17 years old at wave 2). Given our focus on domestic violence, we further limited our sample to youth whose primary caregivers were married, had cohabited with a partner, or had been involved in a dating relationship during the year preceding wave 1 data collection. Our resulting eligible sample consisted of 1,927 youth. When running analyses, we further

restricted our sample to youth with non-missing data on our dependent variable ($N = 1,419$; see discussion of missing data below).

On average, youth in the analytic sample were 11.82 years old ($SD = 2.41$) at wave 1 and 13.87 years ($SD = 2.47$) at wave 2. The sample was evenly split by gender (49.5% female) and ethnically diverse (51.0% Hispanic, 30.5% African American, 15.2% white, and 3.2% other). Over half of youth lived with two married biological parents (55.4%); 40.7% of youths' primary caregivers had some education beyond high school. Youth, on average, came from homes with 5.48 residents ($SD = 2.00$) and a per capita annual income of \$6,584 ($SD = \$5,117$).

To determine whether excluding cases with missing outcome data introduced bias, we compared our analytic sample to all eligible cohort 9, 12, and 15 youth ($N = 1,927$) on the following demographic characteristics: gender, race and ethnicity, age, family structure, caregiver education, income, and family size. We found differences on two characteristics: family structure and race and ethnicity. Compared to youth in the eligible sample, youth in the analytic sample were more likely to be Hispanic (51.0%_{analytic} versus 46.6%_{eligible}; $\chi^2 = 11.24$, $df = 1$, $p < .01$), less likely to be African American (30.5%_{analytic} versus 33.7%_{eligible}; $\chi^2 = 6.39$, $df = 1$, $p = .01$), and more likely to live in two-parent homes (55.4%_{analytic} versus 52.4%_{eligible}; $\chi^2 = 5.23$, $df = 1$, $p = .02$).

Measures

Youth internalizing problems—A short version of the Youth Self Report (YSR; Achenbach, 1991a) was administered to youth at wave 2. Youth indicated the extent to which they had experienced each of 30 internalizing symptoms during the preceding 6 months (e.g., “I am unhappy, sad, or depressed;” 0 = *not true* to 2 = *very true*). Responses to these items were summed to yield a wave 2 internalizing score ($\alpha = .87$, $M = 11.53$, $SD = 8.02$; see Table 1). At wave 1, the Child Behavior Checklist (CBCL; Achenbach, 1991b) was administered to primary caregivers. The CBCL internalizing scale (31 items; $\alpha = .86$, $M = 8.17$, $SD = 7.12$), which parallels the YSR internalizing scale, was used as a control for youth internalizing at wave 1.

Youth organized activity participation—At wave 1, primary caregivers reported on whether their children were currently involved in, or had previously been involved in, each of two types of organized activities: school-based extracurricular activities and school- or community-based afterschool programs. Caregivers were then asked to report how many hours per week youth had participated in these activities. Sports teams, school clubs, and music groups were given to caregivers as examples of the types of activities that could be considered extracurricular activities. When reporting on youths' participation in afterschool programs, caregivers were asked to focus on formal afterschool programs (such as those described in the introduction to this paper) rather than on extracurricular activities. Caregivers were told that such programs might focus on recreation, the arts, academics, or some other form of enrichment. Notably, we found that participation in one type of activity was not significantly correlated with participation in the other (see Table 2).

For each of these two activities, we recoded caregiver reports of participation into three dummy variables: no participation, moderate participation (any amount the mean + 1 SD), and intensive participation (any amount > the mean + 1 SD). Non-participants served as the reference group in analyses. With respect to extracurricular activities, 54.4% of youth had not participated, 34.8% participated at a moderate level, and 10.8% participated intensively. Youth in the moderate extracurricular group participated approximately 1 to 6 hours per week ($M = 3.31$, $SD = 1.55$), and youth in the intensive group participated more than 6 hours per week ($M = 10.86$, $SD = 4.06$). With respect to afterschool programs, 71.7% of

youth had not participated, 17.4% participated at a moderate level, and 10.9% participated intensively. Youth in the moderate afterschool group participated approximately 1 to 5 hours per week ($M = 2.94$, $SD = 1.30$), and youth in the intensive group participated more than 5 hours per week ($M = 10.33$, $SD = 5.01$).

Parental involvement in domestic violence—The Conflict Tactics Scale (CTS; Straus, 1979) was given to primary caregivers at wave 1. The CTS assesses how adults resolve conflicts with their partners. Primary caregivers indicated how often they or their partners had engaged in each of 9 forms of physical violence toward each other in the preceding year (e.g., how many times have you slapped [your partner]? 0 = *never* to 6 = *20 or more times*; $\alpha = .86$). Because past year frequencies for each type of violence were low (range: $M = 0.01$ times, $SD = 0.19$ to $M = 0.59$ times, $SD = 1.22$), responses to each item were recoded such that 0 = *never* and 1 = *one or more times*. The recoded responses to these 9 item were then summed ($M = 1.12$, $SD = 1.93$). Over a third (38.1%) of youths' primary caregivers reported involvement in at least one form of violence in the prior year. As indicated by the low sample mean on this scale, however, caregivers who reported domestic violence typically reported involvement in only a few types.

Control variables—In all analyses we controlled for the following demographic characteristics: youth gender, youth race and ethnicity, household per capita income, parent education (0 = *primary caregiver reported no education beyond high school* and 1 = *primary caregiver reported some education beyond high school*), family size, family structure (1 = *two married biological parents* and 0 = *other family structures*), and youth age at wave 1.

Analytic Strategy

Treatment of missing data—Missing data were multiply imputed. Multiple imputation and the analysis of multiply imputed data involves four steps: (1) Generating multiple copies of a dataset, (2) substituting plausible values for all missing values in each dataset (conditional on the observed values in the dataset and random error), (3) analyzing each imputed dataset separately, and (4) combining estimates from separate analyses of each imputed dataset (von Hippel, 2007).

We used the multivariate Imputation by Chained Equations program (ICE) in STATA 11.0 (StataCorp, College Station, Texas, USA) – which uses a switching regression approach – to perform multiple imputation (see Royston, 2004 for details). We generated 50 imputed datasets (current guidelines recommend generating at least 20 datasets; Enders, 2010). Table 1 provides information on the percentage of data imputed for each variable in our analysis. Following recent recommendations, we included all of our independent and dependent variables in our imputation models. However, prior to testing our hypotheses, we deleted the values that were imputed for wave 2 internalizing problems. Thus, analyses ultimately included only cases with complete data on wave 2 internalizing problems. Guidelines recommending the deletion of imputed outcome values prior to analysis draw on evidence that including these values in regression models generates excessive noise (von Hippel, 2007).

General analytic approach—We used linear regression to explore the associations between domestic violence, organized activity participation, and youths' internalizing problems. Robust standard errors were used to account the clustering of youth within neighborhoods. Analyses were conducted in STATA 11.0 using the "micombine" command to generate average estimates of regression coefficients across the 50 imputed datasets.

Results

Main Effects of Domestic Violence on Youth Internalizing Problems

Consistent with extant research, we found that parental involvement in domestic violence was positively associated with adolescents' internalizing problems at wave 2 ($b = 0.35$, $SE = 0.12$, $t = 2.89$, $p < .01$; see Table 3, Model 1), even after controlling for youth demographic characteristics and youths' internalizing problems at wave 1. The standardized version of the coefficient for domestic violence, $\beta = .09$, can be interpreted as a measure of the size of the effect of parental involvement in domestic violence on adolescents' internalizing problems. This coefficient indicates that an increase of one standard deviation on the domestic violence scale corresponds to an increase of .09 standard deviations, or 0.68 points, on the internalizing scale. Thus, the effect of domestic violence on youth internalizing problems was relatively small.

Following these analyses, we sought to determine whether our findings reflected true longitudinal associations between domestic violence at wave 1 and youth internalizing problems at wave 2, or simply capitalized on continuity in domestic violence between waves 1 and 2. We repeated the analyses described above with a control for a virtually identical measure of domestic violence at wave 2. However, post-estimation Wald tests, which compared the effects of wave 1 domestic violence on internalizing before and after controlling for wave 2 domestic violence, indicated that controlling for wave 2 domestic violence did not weaken the association between domestic violence at wave 1 and internalizing at wave 2. (Analyses were conducted via the *suest* and *test* commands in STATA 11.0; Weesie, 1999). Moreover, domestic violence at wave 2 did not predict youth internalizing problems. Consequently, we did not control for wave 2 domestic violence in subsequent analyses. Slight differences in the questions asked at waves 1 and 2 may explain the differences in the effects of these two measures of domestic violence. At wave 1, caregivers were asked *how often* they or their partners engaged in each of 9 forms of violence (these responses were then recoded into binary form), whereas at wave 2, caregivers were simply asked *whether* they or their partners engaged in each of these 9 forms of violence. Future studies should repeat these analyses using truly identical measures of prior and current domestic violence.

Main Effects of Participation in Organized Activities on Youth Internalizing Problems

We hypothesized that participation in extracurricular activities and afterschool programs as measured at wave 1, whether moderate or intensive, would be inversely associated with youth's internalizing problems at wave 2. We expected, however, that the effects of intensive participation would be stronger than the effects of moderate participation. To test this hypothesis, we added predictors representing moderate and intensive extracurricular and afterschool participation (versus non-participation) to the model of youth internalizing problems described above. Results partially conformed to our expectations. Consistent with our hypothesis, intensive extracurricular participants demonstrated fewer internalizing symptoms at wave 2 than did youth who did not participate in extracurricular activities ($b = -1.43$, $SE = 0.57$, $t = -2.54$, $p = .01$; see Table 3, Model 2). Contrary to our hypothesis, however, we found that moderate extracurricular participants had no fewer internalizing symptoms at wave 2 than did youth who abstained from extracurricular activities. Similar findings emerged in analyses of afterschool participation. Intensive afterschool participants had fewer internalizing problems than did youth who did not participate in afterschool programs ($b = -1.81$, $SE = 0.60$, $t = -3.01$, $p < .01$), but there were no differences between moderate and non-participants on internalizing problems at wave 2.

Stated in practical terms, intensive extracurricular participants scored, on average, 1.43 points lower on wave 2 internalizing than did youth who did not participate in extracurricular activities. Moreover, intensive afterschool participants scored, on average, 1.81 points lower on wave 2 internalizing than did youth who did not participate in afterschool programs. Effect size computations suggest that both of these effects are small (Cohen's $d = 0.19$ and 0.25 for extracurricular activities and afterschool programs, respectively). Notably, however, the reductions in internalizing scores associated with intensive participation in either type of activity were greater than the increase in internalizing scores (i.e., 0.68 points) associated with a one standard deviation increase in domestic violence.

Participation in Organized Activities as a Moderator of the Link between Domestic Violence and Youth Internalizing Problems

We hypothesized that participation in extracurricular activities or afterschool programs, whether moderate or intensive, would weaken the association between parental involvement in domestic violence at wave 1 and youth internalizing problems at wave 2. We expected, however, that the moderating effects of intensive participation would be greater than the moderating effects of moderate participation. To test this hypothesis, we built on the model of internalizing described above and added terms to represent the interactions between moderate and intensive activity participation and domestic violence (see Table 3, Model 3).

Findings from these analyses were partially in line with our hypotheses. We found a significant interaction between domestic violence and intensive participation (versus nonparticipation) in afterschool programs ($b = -0.83$, $SE = 0.29$, $t = -2.93$, $p < .01$; Table 3, Model 3). Follow-up tests of simple slopes (see Aiken & West, 1991) revealed that when youth did not participate in afterschool programs, domestic violence was significantly and positively associated with youth internalizing problems ($b = 0.50$, $SE = 0.18$, $z = 2.80$, $p < .01$; see Figure 1). When youth participated intensively in afterschool programs, however, domestic violence did not significantly predict youth internalizing ($b = -0.34$, $SE = 0.27$; $z = -1.24$, $p = .22$). Counter to our hypothesis, there was no interaction between domestic violence and moderate participation (versus nonparticipation) in afterschool programs. Moreover, interactions between domestic violence and participation in extracurricular activities were not statistically significant.

It was surprising that these analyses revealed substantial differences in the moderating roles of extracurricular activities versus afterschool programs. To ensure that the discrepant findings for extracurricular activities and afterschool programs were not due to differences between these activities in the cutoffs used to define intensive participation (our analyses used +1 SD as the cutoff for intensive participation, which translated, approximately, to more than 5 hours per week for afterschool programs and more than 6 hours per week for extracurricular activities), we conducted supplemental analyses wherein intensive participation was defined as 6 or more hours per week for both types of organized activities. Results from these analyses were substantively identical to those obtained with our distributionally-based intensity measures.

The Protective Capacities of Organized Activities as a Function of Age

Finally, we tested for the possibility that both the main and moderating effects of participation in organized activities varied as a function of youth age at wave 1. Given insufficient extant research on this question, we offered no hypotheses regarding the role of age and instead approached these analyses from an exploratory perspective. To the model described above, we first added terms to test for two-way interactions between youth age and our measures of moderate and intensive participation in extracurricular activities and

afterschool programs at wave 1 (see Table 3, Model 4). Among the four interactions terms that were added to the model, only one – the interaction between youth age and moderate extracurricular participation – was a significant predictor of internalizing at wave 2 ($b = 0.54$, $SE = 0.21$, $t = 2.61$, $p = .01$). We used regions of significance testing to probe this interaction (see Preacher, Curran, & Bauer, 2006 for a description of the web utility used to perform these tests) and found that when youth were less than 11.43 years old at wave 1, moderate extracurricular participation was inversely associated with internalizing at wave 2. When youth were 11.43 years or older at wave 1, however, moderate extracurricular participation did not significantly predict internalizing at wave 2.

After testing for two-way interactions between youth age and participation in organized activities, we tested for three-way interactions between youth age, domestic violence, and participation in organized activities. No significant three-way interactions emerged.

Discussion

Parental involvement in domestic violence was an all too common occurrence in the present study. Whereas nationally representative data suggest that nearly 10% of American youth are exposed to domestic violence (Finkelhor et al., 2009), roughly 38% of parents in our sample reported involvement in domestic violence during the year preceding wave 1 data collection. High rates of domestic violence in our sample may be attributable to socioeconomic factors; the average household income in the present study was substantially lower than the national average at the time of wave 1 data collection (\$26,336 annually for a family of four in our study versus \$59,564 nationally; U.S. Census Bureau, 1995). Consistent with this perspective, research suggests that low socioeconomic status is a risk factor for domestic violence (Fantuzzo, Boruch, Beriama, Atkins, & Marcus, 1997). Nonetheless, the high rates of domestic violence observed in our study are troubling; in keeping with the extant literature (see Evans et al., 2008 for review), we found a small but positive longitudinal association between domestic violence and internalizing problems during adolescence.

Notably, however, our findings suggest that organized youth activities may be a source of protection against internalizing problems during adolescence. We found that intensive participation in either extracurricular activities or afterschool programs was inversely associated with subsequent internalizing problems. Moderate levels of participation in extracurricular or afterschool programs, however, did not protect against internalizing problems for most youth. These findings are roughly consistent with several prior studies which have found that more, versus less, intensive participation in organized activities predicts more advantageous outcomes (e.g., better academic performance, fewer behavioral problems; Gardner et al., 2008; Mahoney et al., 2006; Rose-Krasnor et al., 2006). Little research, however, has examined the link between participation intensity and youths' internalizing problems, and, to our knowledge, no studies have simultaneously examined the effects of intensive participation in extracurricular activities and afterschool programs on internalizing problems. Our findings therefore make a unique contribution to the literature. Future studies should build on these findings and attempt to explain why participation in these organized activities is, among most youth, only linked to fewer internalizing problems when it is intensive. It may be that the processes that explain the protective capacities of organized activities – processes such as the development of supportive relationships – require frequent participation.

We found, however, that among one subgroup of youth – those who were less than 11.43 years of age at wave 1 – even moderate participation (versus non-participation) in extracurricular activities predicted fewer subsequent internalizing symptoms. The same was

not true for afterschool programs; moderate levels of participation in afterschool programs were not associated with internalizing problems among youth of any age. Differences in the developmental supports offered by extracurricular activities versus afterschool programs might explain differences in the protective potency of moderate participation in these two types of activities during early adolescence. For example, extracurricular activities offer youth opportunities to build skills in one specialized area and may thus, in comparison to afterschool programs, provide more opportunities for mastery and the development of self-efficacy. Self-efficacy, in turn, may be particularly important for staving off internalizing problems among younger youth as they are confronted with the potentially destabilizing biological and social changes of early adolescence (see Brooks-Gunn & Graber, 1994 on the biological and social changes of puberty). This explanation is speculative, however, and should be explored further.

Notably, moderate levels of participation in organized activities were not enough to offset the psychological consequences of parental involvement in domestic violence among the youth in our sample, regardless of age or the type of activity in which they participated. We found, however, that intensive participation in afterschool programs reduced the strength of the association between parental involvement in domestic violence and youths' subsequent internalizing problems. To our knowledge, the present study is the first study to have considered the possibility that participation in organized activities might blunt the psychological consequences of parents' domestic violence. Additional research will be necessary to replicate our findings, but they are consistent with many studies which suggest that resources in one developmental context may offset the costs of risk factors in other developmental contexts (e.g., Criss, Pettit, Bates, Dodge, & Lapp, 2002; Ozer, 2005; Farrell, Henry, Mays, Schoeny, 2011; Pettit, Bates, & Dodge, 1997; Sentse, Lindenberg, Omvlee, Ormel, & Veenstra, 2010).

It was somewhat surprising that it was only intensive participation in afterschool programs – not extracurricular activities – that weakened associations between domestic violence and youths' subsequent internalizing problems. Although, as noted above, the developmental supports and opportunities provided by organized activities may vary somewhat from activity to activity, extracurricular activities and afterschool programs are thought to provide youth with roughly similar supports and opportunities. Nonetheless, investigators have not, to our knowledge, systematically compared the supports and opportunities provided by extracurricular activities versus afterschool programs. Thus, it is conceivable that afterschool programs are more likely than are extracurricular activities to provide the specific supports and opportunities that are needed to protect youth from violent homes against internalizing problems. For example, social support may be particularly important for preventing internalizing problems among youth exposed to family violence, and afterschool programs may offer more social support than extracurricular activities (due, perhaps, to the larger number of adults involved in many afterschool programs, or to the explicit emphasis of many afterschool programs on promoting healthy development). Future research should consider this possibility in the context of a larger, systematic effort to determine which types of organized activities are most likely to provide the developmental supports and opportunities needed by youth from violent homes.

Limitations

It is important to consider several limitations when drawing conclusions from the present study. First, at wave 1, parents were asked to indicate whether their children were currently involved in, or had previously been involved in, extracurricular activities and afterschool programs. A recall period was not specified, thereby increasing the probability of memory-related reporting errors. Moreover, our measures of participation in organized activities may, for some youth, reflect participation that occurred significantly prior to wave 1. Thus, our

findings cannot support conclusions about the implications of the precise timing of activity participation for the development of internalizing problems in adolescence. It is noteworthy, however, that we identified significant associations between participation in organized activities and internalizing despite the fact that some youths' participation may have occurred long before wave 1. This suggests that the mental health benefits of organized activities may be long-lasting.

Second, although our measures of participation in organized activities captured the intensity of youths' participation, they did not capture two other potentially important dimensions of the amount of time that youth devote to organized activities – duration and breadth. The data needed to measure duration (i.e., the length of time that youth were involved in activities) and breadth (i.e., the variety of extracurricular activities in which youth participated) were not available. However, greater participation duration and breadth have been linked to more positive youth outcomes, and both of these dimensions of participation may be correlated with participation intensity (Bohnert et al., 2010). Thus, our findings should be replicated in analyses that control for both duration and breadth.

Third, our reliance on parental reports for three key variables – prior youth internalizing problems at wave 1, youth participation in organized activities, and domestic violence – is a limitation. The availability of a youth-reported measure of internalizing problems at wave 2 was an asset; however, the most conservative tests of our hypotheses would have required the use of an identical youth-reported control for internalizing at wave 1. Only parent reports of wave 1 internalizing problems were available for all of the cohorts in our sample, however. The use of parent reports of youth participation in organized activities was also less than ideal. Studies on organized activities typically rely on youth reports of participation, based on the assumption that adolescents have firsthand knowledge of their own participation and are therefore the most accurate reporters. Finally, parents may not be the most reliable reporters of their own involvement in domestic violence, as social desirability biases can lead to underreporting (Arias & Beach, 1987). Youth or multi-informant reports may thus provide more reliable sources of data on domestic violence.

Last, we caution readers against generalizing our findings to populations not represented in the present study. Our sample included only urban youth and was, on average, somewhat economically disadvantaged. This may explain why rates of participation in organized activities in our sample (46% and 28% of youth participated in extracurricular activities and afterschool programs, respectively) were lower than those found in nationally representative samples (70%; Bouffard et al., 2006). Studies suggest that family income and rates of participation in many organized activities are indeed inversely related (Wimer et al., 2006). It is unclear whether similar findings would emerge in a sample of more economically advantaged youth. It would also be ill-advised to extend the findings from the present study to other countries where organized activities may be less common. The ubiquity of organized activities in the United States may reflect the conventional American notion that structured, supervised activities during the after-school hours are beneficial – a cultural perspective that may enhance the protective effects of organized activities, but that may or may not be shared in other countries. Finally, our sample was representative of the general population of Chicago youth at the time of data collection; it was not, however, representative of populations at very high risk for exposure to domestic violence (e.g., shelter populations) or clinical populations of youth referred to treatment for internalizing problems. More research is needed to determine whether our findings would extend to these populations.

Conclusions

In conclusion, findings from the present study suggest that intensive participation in organized youth activities may protect against internalizing problems in adolescence. Moreover, intensive participation in afterschool programs may reduce the strength of associations between parents' domestic violence and youths' internalizing symptoms. These findings are particularly encouraging in light of evidence that youth at risk for internalizing problems often do not receive mental health treatment (Avenevoli et al., 2008). Organized activities may thus provide an accessible system of support for high risk youth from violent homes who do not elicit the attention of the mental health community. Accordingly, efforts should be made to boost rates of participation in organized activities – particularly afterschool programs – among subgroups of youth who are at risk for exposure to domestic violence (e.g., low-income youth). Moreover, very frequent participation in afterschool programs should be encouraged and facilitated among these youth. These findings should not, of course, be interpreted as evidence that youth exposed to domestic violence should forgo mental health treatment in favor of participation in organized activities. Although participation in organized activities exerted a significant protective effect on youth internalizing problems, these effects were small. Organized activities should therefore be considered only one of a multitude of resources and services that may protect youth against the psychological consequences of parents' domestic violence.

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Figure 1.

This graph represents the interaction between intensive afterschool participation (versus nonparticipation) and parent domestic violence at wave 1 in a model predicting youth internalizing symptoms at wave 2. The adverse effect of domestic violence on internalizing is significant for youth who did not participate in afterschool programs, but there is no effect of domestic violence among youth who participated intensively in afterschool programs.

Table 1

Descriptive Statistics for All Study Variables

Variables	Percent of sample	Mean (SD)	Percent of data imputed
Internalizing problems (wave 2) ^I	--	11.53 (8.02)	0.0%
Internalizing problems (wave 1) ^I	--	8.17 (7.12)	0.6%
Parental domestic violence (wave 1)	--	1.12 (1.93)	3.2%
Afterschool participation (wave 1)			2.3%
No participation	71.7%	--	
Moderate participation	17.4%	--	
Intensive participation	10.9%	--	
Extracurricular participation (wave 1)			4.9%
No participation	54.4%	--	
Moderate participation	34.8%	--	
Intensive participation	10.8%	--	
Family size (wave 1)	--	5.48 (2.00)	1.4%
Household per capita income (wave 1)	--	6,584 (5,117)	5.1%
Parent education > high school (wave 1)	40.7%	--	3.4%
Two married parent family (wave 1)	55.4%	--	0.1%
Race and ethnicity			0.0%
Hispanic	51.0%	--	
African American	30.5%	--	
White	15.2%	--	
Other	3.2%	--	
Male	50.5%	--	0.0%
Age (wave 1)	--	11.82 (2.41)	0.0%

Note. *N* = 1,419. All statistics were computed using imputed data (except for variables in which no data were missing in the selected analytic sample).

^I Note that measures of internalizing problems were based on parent reports at wave 1 and youth reports at wave 2. Table 2

Table 2

Correlations Among All Study Variables (N = 1,419)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Internalizing (w2)	--													
2. Internalizing (w1)	.21***	--												
3. Domestic violence (w1)	.11***	.16***	--											
4. Afterschool participation (hours/week; w1)	-.09***	-.06*	.01	--										
5. Extracurricular participation (hours/week; w1)	-.05	-.02	.06	.03	--									
6. Family size (w1)	.03	.04	.05	-.02	-.04	--								
7. Per capita income (w1)	-.08**	-.14***	-.14***	.05	.10**	-.48***	--							
8. Parent education (w1)	-.07*	-.07**	-.09**	.12***	.15***	-.23***	.41***	--						
9. Two married parents (w1)	-.04	-.07*	-.14***	-.05	-.04	.09*	.15***	-.06*	--					
10. Hispanic	.10***	.13***	-.09*	-.10**	-.14***	.19***	-.27***	-.35***	.25***	--				
11. African American	-.03	-.06	.14***	.07	.13***	-.06	.01	.22***	-.39***	--				
12. Other	.01	-.03	-.00	.02	-.01	-.06*	.06	.13**	.03	--				
13. White	-.11***	-.09*	-.06	.05	.03	-.16**	.34***	.14**	.14**	--				
14. Male	-.15***	-.04	.01	.05	.01	-.00	.03	.01	.02	.01	--			
15. Age (w1)	-.02	.09**	.00	-.06*	.19***	-.05	.05	-.03	-.05	-.00	.01	-.01	.01	--

Note. w = wave.

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

Table 3

Predicting Internalizing Problems at Wave 2 (N=1,419)

	Model 1	Model 2	Model 3	Model 4
Predictors	<i>b</i> (SE)	<i>b</i> (SE)	<i>b</i> (SE)	<i>b</i> (SE)
Intercept	11.60 (0.66) ***	12.16 (0.67) ***	12.11 (0.67) ***	12.06 (0.68) ***
Parent domestic violence	0.35 (0.12) **	0.36 (0.12) **	0.50 (0.18) **	0.49 (0.18) **
Moderate afterschool	--	0.12 (0.58)	0.21 (0.58)	0.16 (0.59)
Intensive afterschool	--	-1.81 (0.60) **	-1.73 (0.59) **	-1.79 (0.60) **
Moderate extracurricular	--	-0.73 (0.46)	-0.74 (0.46)	-0.65 (0.47)
Intensive extracurricular	--	-1.43 (0.57) *	-1.38 (0.56) *	-1.35 (0.68) *
Family size	0.03 (0.14)	0.04 (0.14)	0.01 (0.14)	0.01 (0.14)
Household per capita income	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Parent education>high school	-0.49 (0.54)	-0.32 (0.54)	-0.24 (0.54)	-0.23 (0.54)
Two married parent family	-0.54 (0.51)	-0.61 (0.51)	-0.52 (0.49)	-0.53 (0.50)
African American	1.13 (0.59)	1.19 (0.59) *	1.16 (0.60)	1.06 (0.61)
Hispanic	2.26 (0.59) ***	2.16 (0.60) **	2.10 (0.62) **	2.08 (0.64) **
Other	2.54 (1.31)	2.47 (1.28)	2.38 (1.28)	2.26 (1.28)
Male	-2.34 (0.44) ***	-2.28 (0.44) ***	-2.30 (0.44) ***	-2.26 (0.44) ***
Age	-0.14 (0.10)	-0.12 (0.10)	-0.11 (0.10)	-0.29 (0.14) *
Prior youth internalizing	0.20 (0.03) ***	0.19 (0.03) ***	0.19 (0.03) ***	0.19 (0.03) ***
Moderate afterschool X parent domestic violence	--	--	0.27 (0.41)	0.25 (0.40)
Intensive afterschool X parent domestic violence	--	--	-0.83 (0.29) **	-0.79 (0.29) **
Moderate extracurricular X parent domestic violence	--	--	-0.30 (0.26)	-0.31 (0.26)
Intensive extracurricular X parent domestic violence	--	--	-0.01 (0.40)	0.00 (0.40)
Age X moderate afterschool	--	--	--	-0.01 (0.29)
Age X intensive afterschool	--	--	--	-0.13 (0.25)
Age X moderate extracurricular	--	--	--	0.54 (0.21) *
Age X intensive extracurricular	--	--	--	0.26 (0.31)
R ²	0.08	0.09	0.10	0.10

Note. All predictors were measured at wave 1.

*
 $p < .05$,

**
 $p < .01$,

***
 $p < .001$