

Assessing the Association between Participation in Extracurricular Activities and Delinquent Behavior among Justice-Involved Young Men

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Extracurricular activities (ECAs) have been found to promote positive youth development and protect against misconduct and minor delinquency. However, little research has examined whether ECA participation predicts delinquency among at-risk young men or considered how delinquent behavior, in turn, impacts ECA participation. This study examined extracurricular participation over three years in a sample of 1,216 justice-involved young men ($M_{\text{age}} = 15.29$). Approximately half of the sample participated in ECA each year. A cross-lagged panel model was used to examine the bidirectional association between ECA participation and two types of delinquency, school misconduct and criminal offending. The results suggest that ECA participation did not consistently predict subsequent delinquency. Rather, justice-involved young men who engaged in more delinquency were less likely to participate in ECAs.

Approximately two-thirds of U.S. high school students participate in school-based after-school extracurricular activities (ECAs) such as sports, band, and other school-based clubs (NCES, 2012). Participation in ECAs may play an important role in positive youth development by promoting psychological resiliency, academic achievement, and self-esteem (Fredricks & Eccles, 2008; Gadbois & Bowker, 2007). Further, ECA participation may protect against or reduce criminal behavior among adolescents by strengthening the bond that youth have to conventional society (Hirschi, 1969). Indeed, cross-sectional studies employing large, nationally representative samples (Fleming et al., 2008; Guest & McRee, 2009) and studies of ethnic minority (Bohnert, Richards, Kohl, & Randall, 2009) and low-income youth (McHale et al., 2005)

indicate that participation in organized after-school ECAs is typically associated with lower levels of misconduct, antisocial behavior, and risk-taking.

The current study broadens the literature by examining ECA participation among justice-involved young men who were arrested for the first time and processed by the juvenile justice system. Justice-involved young men may benefit greatly from the associated social and psychological outcomes of ECA participation (e.g., stronger academic engagement, better mental health). By strengthening their bonds to conventional institutions (Hirschi, 1969) and connecting them with positive peers and adult role models (Simpkins, Eccles, & Becnel, 2008), ECA participation may discourage continued offending among justice-involved young men. Prior work that has found a protective effect of ECA participation against delinquency has largely focused on less severe forms of misconduct. For example, studies have investigated how ECA participation impacts antisocial acts such as being disruptive in public or being disrespectful to adults in school (Fleming et al., 2008; Guest & McRee, 2009). However, researchers have yet to determine

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whether ECA participation also protects justice-involved young men from re-engaging in more serious offenses such as assault, drug dealing, or robbery.

In the present study, we first examined the rate and degree of ECA participation among a sample of young men who had been arrested for the first time. Next, we investigated the association between ECA participation, criminal offending behavior, and school misconduct over the three years following their first arrest. Importantly, much of the literature on activities and delinquent behavior fails to consider whether ECA participation may be associated with lower rates of offending because youth who commit criminal offenses are less likely to participate in those activities in the first place. Prior work has identified factors such as academic achievement, family factors, and peer networks that influence ECA participation (Good & Willoughby, 2011; Simpkins, Fredricks, & Eccles, 2012; Simpkins, Vest, Delgado, & Price, 2012; Vandell, Larson, Mahoney, & Watts, 2015), yet no studies to date have examined how delinquency might also have an effect. Accordingly, the present study examined the bidirectional effects of ECA participation and two types of delinquency, school misconduct and criminal offending.

The Effects of Extracurricular Activity Participation

Many researchers within the field of adolescent development have asked whether and how adolescents benefit from participating in ECAs. Hirschi's (1969) social control theory posits that individuals who are more bonded to conventional society, that is, attachment and commitment to social norms and institutions, are less likely to commit an offense. One way to increase this bond among adolescents is through youths' engagement in organized ECAs. In essence, youth who are engaging in organized, adult-supervised activities have stronger ties to the larger community and therefore have a lower propensity toward committing criminal acts. In his theory of social capital, Coleman (1961) suggested that different values and norms associated with peer groups participating in different types of activities can influence a youth's interests and behaviors. Presumably, if adolescents are involved in structured, supervised activities and associate with peers who do not engage in delinquent behaviors, they will also be less likely to engage in delinquency. Adolescents' identity formation and friendship networks are also related to ECA

participation (Eccles & Barber, 1999). Those who participated in ECAs not only exhibited lower rates of risky behavior, but were more likely to identify themselves as academically oriented and to have had fewer friends involved in delinquent behaviors. While these theories vary on the mechanisms through which extracurricular activities promote positive behaviors—social bonds, peer groups, identity—they all suggest that extracurricular involvement should reduce the risk of delinquency.

Although ECA participation is theorized to have positive psychological and social outcomes, empirical research examining the association between ECA participation and delinquency has produced mixed findings. Farb and Matjasko (2012) reviewed 52 empirical studies on extracurricular involvement and adolescent development. In the review, several cross-sectional studies found that extracurricular participation is associated with greater positive peer networks, self-esteem, and psychosocial adjustment. Yet, results from other studies in the review suggest that ECA participation can also be linked to negative outcomes such as increases in risky behavior, depressive symptoms, and association with peers involved in delinquent behavior. Overall, Farb and Matjasko (2012)'s review suggests that the impact of ECA participation on adolescent outcomes is mixed, and that the relation may be qualified by the type of activity, the level of adult supervision, as well as the quality of peer relationships in the activity. Other cross-sectional and longitudinal studies employing samples of U.S. middle school and high school students have found that ECA participation is associated with lower rates of delinquent behavior (Agans et al., 2014; Busseri, Rose-Krasnor, Willoughby, & Chalmers, 2006; Guest & Mcree, 2009; Landers & Landers, 1978).

However, evidence from longitudinal analyses investigating the impacts of participating in specific types of ECAs suggests that sports participation is associated with increased rates of minor delinquent behavior (Fauth, Roth, & Brooks-Gunn, 2007; Miller, Melnick, Barnes, Sabo, & Farrell, 2007). Using nationally representative data from the Youth Development Study, Hartmann and Mas-soglia (2007) found that youth who were involved in sports during high school were more likely to drive while drunk and display angry or violent behavior at work. This association was not found among students who participated in arts or school clubs. Additional studies have found that sports participation in particular is related to increased illegal alcohol use and risky behavior (Fredricks &

Eccles, 2008; Hoffmann, 2006). Thus, while participation in academic and social extracurricular activities, such as art or school clubs, may impart psychological and social benefits among youth, participating in athletics may sometimes be associated with increased delinquency.

The Effect of Delinquency on Extracurricular Activity Participation

Just as ECA participation may affect delinquent behavior, delinquency may affect youths' participation in ECAs. However, only a few studies to date have explored the inverse correlation between ECA participation and delinquency. Among a sample of middle- and working-class European American 5th to 8th graders, sports participation did not predict lower offending, but youth who engaged in offending tended to participate in athletics less over time (Larson, 1994). This pattern may be due to athletes being kicked off their teams when they are caught for offenses or that sports teams may enroll youth who are less likely to act out. In addition, some youth who offend may choose not to participate in ECAs because they feel estranged from school or because other behaviors that are often associated with delinquency may conflict with the demands of certain ECAs (e.g., substance use may make it difficult to excel in certain sports). Another longitudinal study of community 13- to 17-year-olds produced similar results (Persson, Kerr, & Stattin, 2007). Compared to youth who engaged in delinquent behaviors, adolescents who did not engage in delinquency were more likely than to join and remain in ECAs, and adolescents who remained in ECAs over the course of one year exhibited more positive adjustment than youth who quit ECAs and hung out in the streets.

The Present Study

The present study had two aims. Because this is the first study to our knowledge to examine activity involvement among justice-involved young men, we took a descriptive look at school-based ECA involvement over the course of three years. Specifically, we identified the proportion of justice-involved young men who engaged in ECAs, the number of days per week they participated, and the types of activities that they were involved in during the three years following their first arrest. Further, we examined how involvement in school-based organized activities (i.e., whether or not they participate and the number of days they

participate) predicted two types of delinquency, school misconduct and offending, and how delinquent behavior predicted changes in ECA participation. The protective effect of ECAs might differ depending on the severity of antisocial acts. As such, while prior work has found that ECAs help to reduce minor delinquency, it is important to examine whether ECA participation contributes to lower rates of serious offending as well. In accordance with previous work (Farb & Matjasko, 2012), we hypothesized that justice-involved male young men participating in ECAs would engage in less criminal behavior and school misconduct. We also hypothesized that delinquent behavior would predict lower rates and intensity of ECA involvement, which aligns with findings by Larson (1994). As we noted earlier, most studies to date have focused on how ECA involvement influences delinquency; however, whether delinquent behavior predicts involvement in ECAs should also be examined. While investigating the mechanism underlying the relation between offending and ECA involvement is beyond the scope of this study, identifying whether a reciprocal relation exists is an important first step toward better understanding how ECAs might be leveraged to improve adolescent outcomes.

METHOD

Participants

Data were drawn from the Crossroads Study, a longitudinal study that prospectively examines the effects of juvenile justice system contact on the development of 1,216 male adolescents. Participants were interviewed biannually for three years following their first arrest, which were for a range of low-level offenses such as vandalism, theft, or possession of illegal substances for personal use. The participants, ages 13–17 years at the baseline interview, were recruited from three sites: Orange County, California ($N = 532$); Jefferson Parish, Louisiana ($N = 151$); and Philadelphia, Pennsylvania ($N = 533$). Three sites are necessary in order to reduce the possibility that findings would reflect idiosyncrasies of local practices or offenders. Sample size differs by site, reflecting the rate of eligible offenders in each region. In addition, the sites selected represent three culturally distinct regions of the country (East, South, and West) and contribute to demographic diversity in the study sample. Despite the overall decline in juvenile offending during the past decade (Hockenberry &

Puzzanchera, 2015), youth of color are increasingly overrepresented in every level of justice system processing (Delone & Delone, 2017). Compared to White youth, Black and Latino youth are more likely to be stopped by police, arrested, and receive harsh sentences. Representative of the disproportionate number of racial/ethnic minority adolescents who come into contact with the justice system, the Crossroads sample was diverse: Latino (45.81%), Black/African American (36.92%), White (14.80%), and self-identified other race (2.47%).

Procedure

The study procedures were approved by the Institutional Review Board (IRB) at all three sites. A Privacy Certificate issued by the Department of Justice protects participants' identities and responses from subpoenas, court orders, or any other type of involuntary disclosure. Prior to conducting interviews, signed parental consent and participant assent were obtained. Participants were informed about what participation would entail and were told that participation was voluntary. Participants were interviewed within 6 weeks after the disposition hearing for their first arrest. Follow-up interviews were then conducted 6, 12, 18, 24, 30, and 36 months after their initial interview. Interviews were conducted face-to-face with a trained research assistant using a secure, computer-administered program and typically lasted 2-3 hours. Participants were paid for each interview, with increased payment amounts at each time point to encourage study retention. Out of the 1,216 participants who joined the study and completed the baseline interview, 96% completed the 6-month interview, 94% the 12-month interview, 94% the 18-month interview, 93% the 24-month interview, 92% the 30-month interview, and 91% the 36-month interview.

Measures

Involvement in extracurricular activities. At each interview, participants who were enrolled in high school were asked about their involvement in school-based ECAs. Participants were asked about their involvement in the following school-based activities: athletic teams, cheerleading, student government, music/band, school clubs, national honor society, and newspaper/yearbook. Because prior work has found athletics may be associated with increased delinquency (Fauth et al., 2007; Miller et al., 2007) and the number of individuals

participating in each nonathletic activity was limited, we categorized ECAs into three types: athletics only, arts/clubs only, and athletics/arts/clubs. Two indicators were calculated: ECA participation and ECA intensity. ECA participation is a dichotomous variable that reflects whether or not the individual reported participating in at least one ECA (0 = no, 1 = yes). ECA intensity reflects the number of days per week the individual reported spending in ECAs during the preceding six months, with response options ranging from 0-7 days per week. In addition to examining overall activity participation, indicators were created for athletics, arts, and school clubs (Fredricks & Eccles, 2008; Lipscomb, 2007). In order to capture activities that are seasonal in nature (i.e., sports), ECA data from the 6- and 12- month interviews were combined to measure ECA participation during the year after the individual's arrest, the 18- and 24-month interviews were combined to measure participation during the second year after arrest, and the 30- and 36-month interviews were combined to measure participation during the third year after arrest. Descriptive statistics for ECA participation and intensity are presented in Table 1.

School misconduct. School misconduct was assessed at each interview using a 9-item measure of School Misconduct based on established self-report measures assessing misbehavior in school (Cernkovich & Giordano, 1992; Eccles, Wigfield, & Schiefele, 1998). Participants were asked to report the frequency (1 = not at all, 2 = once or twice, 3 = several times, 4 = often/ many times) with which they engaged in 9 various types of school-related misconduct (e.g., getting kicked out of class, getting in trouble for disturbing the class). Responses were mean-scored to arrive at an overall index of school misconduct. A misconduct score for each year was calculated by averaging misconduct scores from the 6- and 12-month interviews, the 18- and 24-month interviews, and the 30- and 36-month interviews. Descriptive statistics are presented in Table S1 in the supplemental materials.

Offending. Offending was assessed at each interview using the Self-Report of Offending scale (SRO; Survey, Huizinga, Esbensen, & Weiher, 1991). Participants self-reported their involvement in 24 different criminal activities (e.g., theft, drug dealing, homicide). A baseline variety score was calculated to indicate the number of different types of offenses the individual had committed during the six months preceding their first arrest. During

TABLE 1
Participation in Extracurricular Activities

	Youth Participating in ECAs							
	Overall Sample		Athletics Only		Arts and School Clubs Only		Athletics, Arts, and School Clubs	
	Participation (%)	Average number of days/week	% participating	Average number of days/week	% participating	Average number of days/week	% participating	Average number of days/week
Baseline (N = 1,149)	49.9	4.1	51.6	4.17	44.4	3.99	4.0	5.29
Year 1 (N = 994)	55.7	3.5	50.3	3.12	43.7	2.98	6.1	4.40
Year 2 (N = 820)	50.5	3.5	52.3	3.12	43.6	2.98	4.2	4.89
Year 3 (N = 678)	48.5	3.2	50.5	3.22	47.1	2.61	2.4	3.71

Note.. The Athletics, Arts, and School Clubs category represents youth who participate in both types of activities.

each of the subsequent interviews, participants were asked again if they had committed any of the 24 offenses. A reoffending variety score for each year was calculated to assess the variety of offenses committed during each of the three years following the baseline interview. Widely used in criminological research, variety scores are highly correlated with measures of seriousness of antisocial behavior, but are less prone to recall bias than frequency scores of self-reported antisocial behaviors (Hindelang, Hirschi, & Weis, 1981; Thornberry & Krohn, 2000). Offending at each timepoint was skewed due to a large portion of participants reporting engaging no offenses at baseline (36.02%), Year 1 (35.84%), Year 2 (47.51%), and Year 3 (55.11%).

Grades. Grades were assessed at each time point that participants were enrolled in school. Young men self-reported their overall grades using an 8-point Likert scale ranging from 1 (Mostly below D's) to 8 (Mostly A's), with higher scores indicating better grades.

Probation status. Probation status was assessed at each timepoint using data obtained from official justice system records (0 = not on probation, 1 = on probation). Participants on probation are required to comply with the conditions of supervision and rehabilitation determined by justice system officials. These may include weekly meetings with probation officer, community service, weekly drug tests, or participation in rehabilitation programs. As a result, being on probation may limit the opportunity for extracurricular activities and delinquent behavior.

Covariates. At baseline, participants self-reported general demographic information, including age ($M = 15.3$, $SD = 1.3$) and race/ethnicity. Race/ethnicity was recoded into two dummy variables (Latino = 1, non-Latino = 0; Black = 1, non-Black = 0) since prior work has consistently found that minority youth tend to be overrepresented in school punishment compared to White youth despite exhibiting similar levels of school misconduct (Morris & Perry, 2016; Skiba et al., 2011), and that Black and Latino youth are less likely to participate in ECAs than White youth (Brown & Evans, 2002; Darling, 2005; Randall & Bohnert, 2009). Adolescents from higher socioeconomic backgrounds have a greater likelihood of participating in ECAs than those from lower socioeconomic households (Bartko & Eccles, 2003;

Fredricks & Eccles, 2008). Therefore, parent education was included in our study as a proxy for socioeconomic status (Galobardes, Lynch, & Smith, 2007). Participants provided self-reports on the highest level of education obtained by their parents. The highest level obtained by either parent was used as an indicator of parent education. Approximately 29.2% of participants reported that their parents had not graduated from high school and 70.8% of participants reported that at least one parent who had graduated from high school. Prior research supports the validity of this measure for use with adolescent samples (Lien, Friestad, & Klepp, 2001). At baseline, participants were also asked to complete the Wechsler Abbreviated Scale of Intelligence (Wechsler, 1999). A full-scale IQ estimate ($M = 88.4$, $SD = 11.6$) was created by combining scores from the verbal ability and matrix reasoning scales. Previous research has found that intelligence is related to adolescent offending (Loeber & Farrington, 2012). Therefore, IQ was used as a covariate in all analyses.

Plan of Analysis

First, frequencies were calculated to determine the proportion of participants who were involved in ECAs, the types of activities in which they were involved, and the average number of days per week they participated (Table 1). *t* Tests and chi-square tests were used to examine differences in demographics and behavior between individuals who did and did not participate in ECA were also examined (Table S2 in the supplemental materials). Next, zero-order correlations were calculated to examine the associations among the key study variables (Table S3 in the supplemental materials). Last, bidirectional associations between ECA participation and self-reported offending were assessed with cross-lagged panel modeling (CLPM) using Mplus 7.31 (Muthén & Asparouhov, 2015). Dichotomous ECA participation and continuous ECA intensity were examined in the analyses. For ECA participation, the weighted least squares with mean and variance adjustment (WLSMV) estimator was used, which can be used with dichotomous outcome variables. For ECA intensity, the maximum-likelihood parameter estimates with standard errors (MLR) estimator was used. Model fit was evaluated using the comparative fit index (CFI) and the root-mean-square error of approximation (RMSEA) in addition to chi-square, as chi-square often provides a high rate of false negatives when the model actually fits the

data well (Hu & Bentler, 1999; Schumacker & Lomax, 2004).

The first cross-lagged panel model was estimated to evaluate the bidirectional association between ECA participation and school misconduct. The second cross-lagged panel model was estimated to evaluate the association between ECA intensity and school misconduct. Cross-lagged models with ECA types examined separately (i.e., athletics and arts/clubs) were also estimated to examine the association between ECA intensity and school misconduct by activity type. If the direction and number of significant associations were similar in the athletic and arts/club models, then the results of the combined ECA model were reported in the main text. If the direction and number of significant associations were different in the athletic and arts/club models, then the results of the separated athletic and arts/clubs ECA models were reported in the main text. Each of these analyses was repeated to examine the bidirectional association between ECAs and offending.

Each cross-lagged panel model contained one-year stability paths estimated within construct (e.g., self-reported offending at baseline predicting self-reported offending at year one). In addition, we account for concurrent covariances between constructs observed at the same time point (e.g., ECA participation at baseline correlated with self-reported offending at baseline). Finally, cross-lagged paths between the variables assess the extent to which ECA participation predicted changes in delinquent behavior one year later as well as the extent to which delinquent behavior predicted changes in ECA participation one year later. Each stability and cross-lagged path was constrained to be equal over time. Chi-square difference tests were conducted to determine if models with unconstrained paths were a better fit to the data. Unconstrained models are only reported if they are significantly better fit to the data. Baseline reports of ECA and delinquency were regressed onto the covariates: baseline age, race/ethnicity, IQ, and parent education. Additionally, ECA participation and delinquency at each timepoint were regressed onto concurrent grades and probation status. The level of parent education was also coded as categorical, with less than a high school diploma as the comparison group. Unstandardized estimates for these covariates are provided in Table S4 in the supplemental materials.

Missing data. Attrition was a concern due to the cross-sequential design of the Crossroads

Study. Because participants were recruited into the study at different ages (13-17), by Year 3, some participants had already left school and thus were no longer participating in school-based ECAs. Therefore, we investigated missing data patterns within the dataset prior to estimating the cross-lagged panel model. We examined the 12 variables of interest (school misconduct, offending, and ECA participation, measured at four timepoints) and found that 15.5% of the data were missing on average, with a range from 0% missing for self-reported offending at baseline to 50.3% for ECA participation at Year 3.

We investigated the missing information and effects of attrition further by testing whether there were substantial mean differences in our variables as a function of whether or not data were missing. To examine the effects of attrition, we tested differences in predictors and covariates between participants who had complete data at all four time points and participants with missing data at one or more time points. Participants with complete data ($n = 459$) were younger ($d = -.82$) and reported receiving higher grades at baseline ($d = .22$), Year 1 ($d = .16$), and Year 3 ($d = .27$). Participants with complete data reported lower levels of offending at baseline ($d = -.20$) and Year 1 ($d = -.19$), and higher misconduct in Year 3 ($d = .19$). Participants with complete data were more likely to be involved in ECAs at baseline ($\chi^2(1, N = 1,200) = 15.26, p < .001$), Year 1 ($\chi^2(1, N = 1,036) = 5.94, p = .02$), Year 2 ($\chi^2(1, N = 860) = 20.81, p < .001$), and Year 3 ($\chi^2(1, N = 611) = 5.60, p = .02$). These variables were included in the model to help estimate missing data (Enders, 2010).

To preserve cases with missing data, we used the multiple imputation option in Mplus (Rubin, 1987). To ensure that we did not impute data for individuals no longer enrolled in school, we estimated the cross-lagged model with a subsample of young men who reported being enrolled in school at each timepoint ($n = 678$). Of this subsample, 66 participants were not included in the analyses due to missing data for baseline school misconduct ($n = 1$), IQ ($n = 1$), probation status ($n = 37$), and parent education ($n = 36$). Our final analytic sample size for the cross-lagged models was 613 young men. Descriptive statistics for this subsample are presented in Table S1 in the supplemental materials. Although our study contains skewed variables (school misconduct and offending), we chose multiple imputation under a normal model and imputed skewed variables as they were. Although it is typical to transform skewed variables to satisfy

the normality assumption of imputation models, we did not use this approach since transformation may introduce nonlinearity and residual non-normality (von Hippel, 2013). We estimated 20 imputed datasets to account for the percentage of missing data (Graham, Olchowski, & Gilreath, 2007). Each model fit statistic is the average value across 20 imputed datasets.

RESULTS

Proportion and Intensity of ECA Participation

Frequencies were calculated to determine the percentage of young men involved in ECAs. For the individuals that reported participating in ECAs, the average days per week of participation and the percentage involved in athletics and arts/clubs were also calculated (Table 1). At the baseline interview, 49.9% of the sample reported participating in ECAs. Of those who were involved in ECAs, 51.6% participated in athletics, 44.4% participated in arts and clubs, and 4.0% participated in both types of ECAs. Looking at intensity of participation, young men in athletic ECAs reported participating an average of 4.17 days of the week, young men in arts and school clubs reported participating 3.99 days a week, and those in both types of ECAs reported participating 5.29 days a week. The patterns of ECA participation for the following three years are presented in Table 1.

Demographic and behavioral differences between young men who did and did not participate in ECAs were calculated (Table S2 in the supplemental materials). At baseline, young men who did and did not participate in ECAs engaged in similar levels of offending and school misconduct. Compared to individuals not in ECAs, a greater proportion of individuals participating in ECAs self-identified as Black, while a smaller proportion self-identified as Latino. Individuals participating in ECAs also reported higher parent education than those not involved in ECAs. The demographic and behavioral differences between the groups in following three years are presented in Table S2.

Bidirectional Association Between ECAs and School Misconduct

The first set of cross-lagged panel models evaluated the bidirectional association between ECAs and school misconduct. Because the results were similar for each activity type, the results for the

separate athletics and arts/clubs models are reported in the supplemental materials (Figures S1 and S2). The model for overall ECA participation and school misconduct is shown in Figure 1. Results of the chi-square difference test indicated the unconstrained model (i.e., stability and cross-lagged path between ECA participation and school misconduct not constrained to be equal over time) was a better fit to the data ($\Delta\chi^2(10) = 31.10$). The overall model fit was acceptable, $\chi^2(84) = 222.41$, CFI = .91, RMSEA = .05. The results suggest that ECA participation and school misconduct were relatively stable over time. At each timepoint, school misconduct predicted lower ECA participation one year later. Interestingly, ECA participation at Year 1 was associated with increased misconduct at Year 2, while participation at Year 2 was associated with lower school misconduct at Year 3.

The second set of cross-lagged models examined the bidirectional association between ECA intensity and school misconduct. Because the results differed for each activity type, the results for the separate athletics and arts/clubs models are reported here. The model for athletics ECA intensity and school misconduct is shown in Figure 2a. The chi-square difference test indicated the unconstrained model was a better fit to the data ($\Delta\chi^2(10) = 28.47$). The overall model fit was acceptable, $\chi^2(84) = 281.69$, CFI = .91, RMSEA = .06. Athletics ECA intensity and school misconduct were relatively stable. The results indicated that individuals who reported higher levels of school misconduct at baseline participated in athletics ECAs for fewer days during Year 1. A similar pattern was found between school misconduct at Year 1 and athletics ECAs

during Year 2. Athletics ECA intensity did not predict future school misconduct.

The model for arts/clubs ECA intensity and school misconduct is shown in Figure 2b. The unconstrained model was a better fit to the data ($\Delta\chi^2(10) = 26.20$). The overall model fit was mediocre, $\chi^2(84) = 339.94$, CFI = .89, RMSEA = .07. Arts/clubs ECA intensity and school misconduct were relatively stable over time. Results indicated that individuals who reported higher levels of school misconduct at baseline participated in arts/clubs ECAs for fewer days during Year 1. An inverse pattern was observed between arts/clubs ECA intensity during Year 1 and school misconduct during Year 2. Individuals who participated in arts/clubs ECAs for a greater number of days reported higher levels of school misconduct the subsequent year.

Bidirectional Association Between ECAs and Offending

The third set of cross-lagged panel models evaluated the bidirectional association between ECAs and self-reported offending. Because the results were similar for each activity type, the results for the separate athletics and arts/clubs models are reported in the supplemental materials (Figures S3 and S4). The model for overall ECA participation and offending is shown in Figure 3. Results of the chi-square difference test indicated there was no difference in the fit of the constrained (i.e., stability and cross-lagged path between ECA and offending are constrained to be equal over time) and unconstrained models ($\Delta\chi^2(10) = 9.16$), therefore we report the results of the constrained model. The

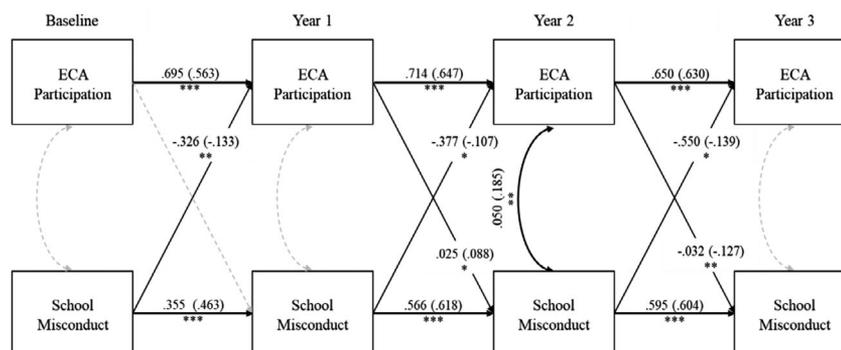


FIGURE 1 Cross-lagged Panel Model Examining the Bidirectional Association Between School Misconduct and ECA Participation. ($n = 613$). Notes. Significant unstandardized coefficients with standardized coefficients in parentheses are presented. Dashed lines designate nonsignificant pathways, all nonsignificant coefficients are excluded from the figures. Concurrent grades, concurrent probation status, parent education, IQ, race, and baseline age are included as covariates. * $p < .05$, ** $p < .01$, *** $p < .001$.

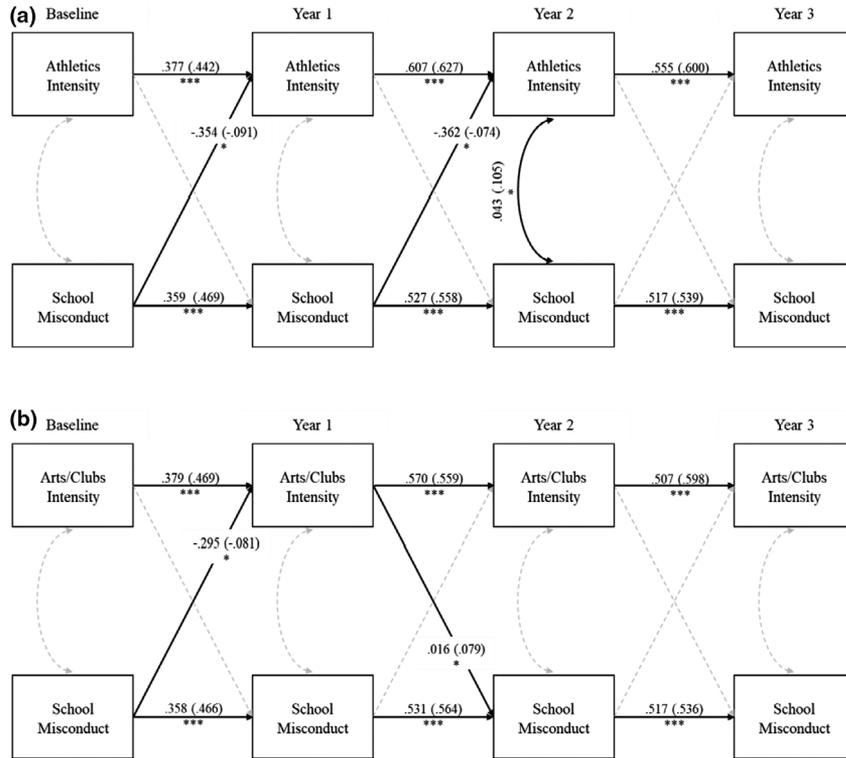


FIGURE 2 Cross-lagged Panel Model Examining the Bidirectional Associations Between School Misconduct and ECA Intensity. ($n = 613$). Notes. Significant unstandardized coefficients with standardized coefficients in parentheses are presented. Dashed lines designate nonsignificant pathways; all nonsignificant coefficients are excluded from the figures. Concurrent grades, concurrent probation status, parent education, IQ, race, and baseline age are included as covariates. * $p < .05$, ** $p < .01$, *** $p < .001$.

model fit the data well, $\chi^2(94) = 244.50$, CFI = .92, RMSEA = .05. ECA participation and offending were relatively stable over time. The results indicate ECA participation was not predictive of offending, but that individuals who reported higher levels of offending were less likely to be involved in ECAs one year later.

The fourth set of cross-lagged panel models evaluated the bidirectional association between ECA intensity and self-reported offending. Because the results differed for each activity type, the results for the separate athletics and arts/clubs models are reported. The model for athletics ECA intensity and offending is depicted in Figure 4a.

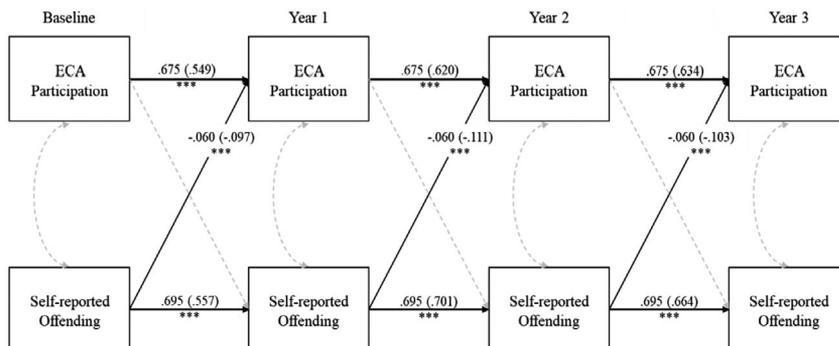


FIGURE 3 Cross-lagged Panel Model Examining the Bidirectional Associations Between Self-reported Offending and ECA Participation. ($n = 613$). Notes. Significant unstandardized coefficients with standardized coefficients in parentheses are presented. Dashed lines designate nonsignificant pathways; all nonsignificant coefficients are excluded from the figures. Concurrent grades, concurrent probation status, parent education, IQ, race, and baseline age are included as covariates. * $p < .05$, ** $p < .01$, *** $p < .001$.

The chi-square difference test indicated that unconstrained model was a better fit to the data ($\Delta\chi^2(10) = 38.44$). The overall model fit was acceptable, $\chi^2(84) = 281.69$, CFI = .91, RMSEA = .06. Athletics ECA intensity and offending were relatively stable over time. The results indicate that individuals who reported higher levels of offending at Year 1 participated in athletics ECAs less frequently at Year 2. A similar pattern was found between offending at Year 2 and athletics ECA intensity at Year 3. Athletics ECA intensity did not significantly predict future offending at any timepoint. The model for arts/clubs ECA intensity and offending is depicted in Figure 4b. The unconstrained model was a better fit to the data ($\Delta\chi^2(10) = 25.18$). The overall model fit was mediocre, $\chi^2(84) = 339.94$, CFI = .89, RMSEA = .07. Arts/clubs ECA intensity and offending were relatively stable over time. Results indicated there were no consistent associations between arts/clubs ECA intensity and offending.

Overall, these findings suggest that the direction of influence generally flows from delinquency to ECA participation and intensity rather than the

reverse. Whereas young men with greater engagement in delinquency were less likely to participate in ECAs, young men who participated in ECAs did not tend to differ in their subsequent delinquent behavior.

DISCUSSION

The current study is one of the first to examine ECA participation and serious offending among justice-involved young men. First, we investigated the rate and intensity of ECA participation within our sample. During each of the first three years following their first arrest, around 50% of the sample indicated that they were involved in some type of ECA. In comparison, approximately 70% of high school students from a nationally representative school-based sample participated in ECAs (Feldman & Matjasko, 2005). We also found that young men in this sample preferred athletics over arts and school clubs and participated in their respective activities, on average, four days per week at baseline. Athletics are the most popular activities among community male adolescents as well

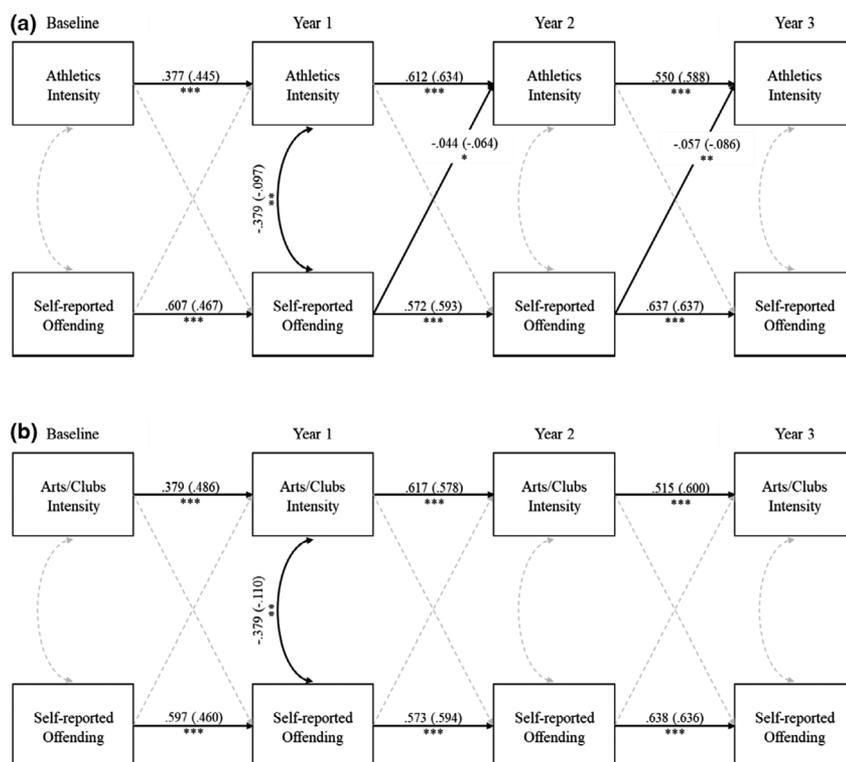


FIGURE 4 Cross-lagged Panel Model Examining the Bidirectional Association Between Self-reported Offending and ECA Intensity. ($n = 613$). Notes. Significant unstandardized coefficients with standardized coefficients in parentheses are presented. Dashed lines designate nonsignificant pathways; all nonsignificant coefficients are excluded from the figures. Concurrent grades, concurrent probation status, parent education, IQ, race, and baseline age are included as covariates. * $p < .05$, ** $p < .01$, *** $p < .001$.

(Schaefer, Simpkins, Vest, & Price, 2011). Consistent with prior work examining community youth (Simpkins et al., 2008), we also found that our sample participated in ECAs approximately four days per week, on average. Thus, while justice-involved young men are less likely to participate in ECAs than are community youth, justice-involved young men who participate in ECAs do so for the same amount of time each week as community youth. In all likelihood, particular ECAs have predetermined time demands (e.g., the frequency of practice for athletic teams), that affect justice-involved and non-justice-involved youth similarly.

Building on research suggesting that ECA participation is associated with a reduced likelihood of committing an offense (Fleming et al., 2008) and that greater antisocial behavior affects ECA participation (Larson, 1994), we took advantage of the longitudinal design of the Crossroads Study and examined the bidirectional relations between delinquency and ECA participation. Contrary to our hypotheses, we found that neither ECA participation nor intensity consistently predicted future school misconduct or criminal behavior. However, our results indicated that both increased school misconduct and offending reduced the likelihood of ECA participation. Our finding that ECA participation and the intensity of participation did not robustly predict offending conflicts with both the social control and social capital theories of crime (Coleman, 1961; Hirschi, 1969). It is possible that ECAs are not strong enough socializing influences to realign the values of justice-involved young men with those of conventional society, or that justice-involved young men may not form relationships with peers who model positive behavior or adult ECA advisors who are potential mentors.

Our findings regarding the association between ECA involvement and delinquent behavior are not entirely surprising considering the mixed findings in the literature. While some studies have found that ECA involvement reduces delinquency among adolescents (Agans et al., 2014; Gardner, Roth, & Brooks-Gunn, 2009; Landers & Landers, 1978), others have shown that participating in ECAs is actually a risk factor for antisocial behavior and misconduct (Farineau & McWey, 2011; Samek, Elkins, Keyes, Iacono, & McGue, 2015). One explanation for the discrepant findings may be differences in the measurement of delinquency. Our measure of delinquent behavior includes a large breadth of both minor school misconduct and serious offenses, which is uncommon in the extracurricular activities literature. Indeed, the severity and type of

delinquency assessed matters when evaluating the protective effect of ECAs. One study examining the association between ECA participation and a variety of offenses found that ECA participation was associated with less sexual activity but not serious criminal behavior (Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2007). However, the results of our study indicate ECA participation was not a robust predictor of either minor or serious delinquent behavior. Thus, it is possible that the mixed findings are driven by the fact that researchers have not considered whether ECA participation is associated with less delinquency because individuals engaged in delinquent behaviors are less likely to select into ECAs.

Interestingly, we found that the association between delinquency and ECAs differed between athletics compared to arts and school clubs. While previous research employing community samples suggest that youth participating in athletics engaged in more delinquent behavior than youth participating in art and clubs (Fauth et al., 2007; Fredericks & Eccles, 2008; Hartmann & Massoglia, 2007; Miller et al., 2007), we found almost no evidence that athletics participation or arts/clubs participation were associated with increased delinquent behavior among justice-involved young men. Instead, our results indicated that justice-involved young men who engaged in increased school misconduct and offending were less likely to participate in athletics ECAs though that relation was not evident for arts and school clubs. The seemingly discrepant findings between the results of this study and prior ECA research may just reflect the different stages of ECA participation. Our results describe how delinquent behavior determines who participates in ECAs, while previous research describes how delinquent behavior varies among youth involved in ECAs. School-based activities have selection and eligibility criteria, and it is possible that these criteria vary for athletics versus arts and school clubs. Exclusionary processes that happen during the activity, such as a coach or teacher reducing participation time or kicking a young man out of a group for misconduct, could also vary across these two types of activities. Negative experiences, such as increased time demands and social exclusion by teammates and peers, are more prevalent among athletics activities compared to other types of activities (Larson, Hansen, & Moneta, 2006). The heightened potential for exclusion and negative experiences within athletics could explain the different findings for athletics and arts/clubs participation.

Continued research on both types of ECA participation is imperative for understanding how ECAs contribute to adolescent behavior.

ECAs are also just one context in which adolescents learn prosocial skills and interact with positive peers and adult role models. According to Bronfenbrenner's ecological systems theory, ECAs would be just one of the microsystems that can impact adolescent development (Bronfenbrenner & Morris, 2006). Having a positive influence from only one context may not be enough to influence a young man's delinquent behavior if other aspects of his life such as the school environment, family context, or peer relationships are not positive influences. Future studies should explore whether activity participation improves other developmental outcomes for justice-involved young men that have been found to benefit community youth, such as psychological resiliency and self-esteem (Fredricks & Eccles, 2008; Gadbois & Bowker, 2007).

The current study has several strengths. Our study benefited from the large, diverse sample of male adolescents. Concerningly, Black and Latino youth tend to participate in ECAs at lower rates and with less consistency than White youth (Fredricks & Simpkins, 2012). The disparate participation rates may be attributed in part to economic inequality—Black and Latino youth are more likely to live in disadvantaged neighborhoods and attend schools with fewer resources to support ECAs (Leventhal & Dupéré, 2019; Reardon, Fox, & Townsend, 2015). Further, levels of educational attainment, a key predictor of ECA participation (Meier, Hartmann, & Larson, 2018), are generally lower among Black and Latino households (Snyder & Dillow, 2012). Thus, it is important to examine the association between ECA participation and delinquency, particularly if offending and school misconduct may further reduce the likelihood of participation in ECAs. Due to the longitudinal design of the Crossroads Study, we were able to examine long-term ECA participation and bidirectional effects of ECA participation and delinquency over the course of three years. Lastly, the majority of research on the relation between ECA participation and adolescent outcomes has focused on community youth. The sample used in this study was unique in that it was comprised of young men who were previously arrested for an offense. Although the primary aim of the juvenile justice system is to rehabilitate offenders and prevent recidivism, adolescents who have had contact with the juvenile justice system are at the greatest risk for continued offending (Mennis & Harris, 2011;

Snyder & Sickmund, 2006). Thus, it is important to study whether ECA participation has a protective effect on the behavior of at-risk young men.

Despite these strengths, there are several study limitations that must be acknowledged. First, we did not explore the potential effect ECA participation may have on minor crime, academic, or psychosocial outcomes. Previous research has found that ECA participation increases prosocial development (i.e., well-being, academic adjustment) (Fredricks & Eccles, 2008). Future research should investigate whether these positive effects are observed among young men involved in the justice system. Second, while a longitudinal design allowed for the analysis of young men's ECA participation and delinquency over the three years following their first arrest, the current study is limited by a lack of information on their ECA participation during the years prior to their first arrest. Childhood activity experiences play a large role in adolescents' ECA participation and adult civic engagement (Vandell et al., 2015). Third, data on school misconduct and offending were gathered solely from self-report and not from teacher report or official records. Although there are advantages to using self-report data, such as capturing behaviors that might not have been discovered by teachers or police, incorporating reports of misconduct and offending from other sources in addition to self-reports would strengthen findings in future studies. Fourth, the current analyses only included young men, thus our findings cannot generalize to young women. Considering there are gender differences in the intensity and types of ECA participation (Eccles, Barber, Stone, & Hunt, 2003; Feldman & Matjasko, 2007; Hoffman, 2006), it is important to consider whether the patterns observed in this study are consistent among young women. Finally, the present study lacked information on the presence of adult role models in the ECAs and whether there were positive or negative peer influences in different types of ECAs. Previous research suggests that these aspects of ECAs can impact an individual's likelihood of engaging in delinquency (Simpkins et al., 2008). Given these findings, it would be worthwhile for future studies to investigate how various characteristics of ECAs may influence the relation between ECA participation and offending.

An additional limitation to our study is our inability to examine the mechanisms through which delinquent behavior predicted lower ECA participation. Arrests and continued contact with law enforcement disrupt ECA involvement by changing the social networks of youth involved in

delinquent behavior. Compared to noninvolved youth, youth involved in the justice system are more likely to join gangs and to associate with delinquent peers following juvenile justice intervention (Bernburg, Krohn, & Rivera, 2006). Prior work has also speculated that schools may be restricting youths' access to activities if they engage in delinquency (e.g., Larson, 1994). Indeed, the "criminal" label that is often unfairly applied to youth involved in justice system may change the way school officials view and treat youth and limit their access to opportunities (Bernburg & Krohn, 2003). For example, Kirk and Sampson (2013) found that an arrest increased the probability of dropout and lowered the likelihood of college enrollment, even after accounting for numerous individual and environmental confounds. The researchers posited that institutional responses to delinquent behavior, such as punitive or exclusionary school policies, likely contributed to educational disengagement. Unfortunately, the information needed to address the potential mechanisms underlying our findings was not gathered from the participants or their schools. Our results highlight the need for further research into why young men who are involved in delinquent behaviors are opting out or being kicked out of ECAs. Studies that gather detailed information about ECA participation may provide insight into how school officials, coaches, and instructors can modify policies and practices to best recruit, retain, and benefit justice-involved young men.

Despite these limitations, the results of the current study make important contributions to the extracurricular and delinquency literature. We found little evidence of a protective effect of ECA participation in our sample of justice-involved young men. Rather, our results indicated that increased delinquent behavior, both school misconduct and offending, reduced the likelihood that young men participated in ECAs. Further, we found little evidence of an association between delinquency and the number of days young men participate in ECAs. Although our findings suggest that ECA participation might not be very effective in reducing either minor or serious offending among first-time justice-involved young men, such activities should not be excluded from rehabilitation or delinquency-prevention efforts. Research shows that ECA participation promotes a number of positive outcomes, such as greater well-being and academic success, that are important to healthy adolescent development and long-term success (Simpkins, 2015). Perhaps finding a way to

encourage young men to continue participating in ECAs after an encounter with the justice system could strengthen their bonds to conventional society and lower their likelihood of later offending or continued justice system involvement. As such, postarrest interventions might focus on keeping justice-involved young men in ECAs to increase their propensity for prosocial behavior and improve developmental outcomes.

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Supporting Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Table S1 Descriptive Statistics for the Full Sample and the Cross-Lagged Model Analytic Sample.

Table S2 Demographic and Behavioral Differences Between Youth Participating in ECAs.

Table S3 Intercorrelations of Study Variables for Full Sample ($N=1,216$).

Table S4 Unstandardized Coefficients for Covariates.

Figure S1 Cross-lagged Panel Model Examining Bidirectional Associations Between School Misconduct and ECA Participation in Athletics. ($n= 613$).

Figure S2 Cross-lagged Panel Model Examining Bidirectional Associations Between School Misconduct and ECA Participation in Arts and Clubs. ($n= 613$).

Figure S3 Cross-lagged Panel Model Examining Bidirectional Associations Between Self-Reported Offending and ECA Participation in Athletics. ($n= 613$).

Figure S4 Cross-lagged Panel Model Examining Bidirectional Associations Between Self-Reported Offending and ECA Participation in Arts and Clubs. ($n= 613$)