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Association with Delinquent Peers: Intervention Effects for Youth in the Juvenile Justice System

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Abstract

Although association with delinquent peers is a recognized precursor to ongoing delinquency problems, youth in the juvenile justice system are commonly prescribed intervention services that aggregate delinquent youth. However, little is known about the process variables that mediate the relationship between aggregating youth in intervention settings and poor subsequent outcomes. We examined data from two randomized intervention trials (one male sample and one female sample) with delinquent adolescents placed either in Multidimensional Treatment Foster Care (MTFC) or in group care. Path analyses suggested that the MTFC youth had fewer associations with delinquent peers at 12 months than did the group care youth. Further, associating with delinquent peers during the course of the intervention mediated the relationship between group condition and 12-month delinquent peer association. Implications for the development of interventions with delinquent youth are discussed.

Keywords

juvenile justice; delinquency; peer; gender; adolescent

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There is little question that youth who socialize with peers who engage in delinquent behavior are at increased risk for delinquency and substance use–related activities (Dishion, 2000; Dishion & Loeber, 1985; Dishion & Medici Skaggs, 2000; Elliott, Huizinga, & Ageton, 1985; Elliott & Menard, 1996; Hawkins, Catalano, & Miller, 1992; Hops, Davis, & Lewin, 1999; Oetting & Beauvais, 1990; Patterson, Dishion, & Yoerger, 2000). For example, using structural equation modeling with a sample of at-risk boys, Patterson et al. (2000) showed a significant path from early involvement with deviant peers to growth in new forms of antisocial behavior from age 10 through age 18; in a second model, they showed that the contribution of early involvement with deviant peers to later growth in new forms of antisocial behavior was mediated by deviancy training assessed at age 14, accounting for 53% of the variance in later growth in new forms of antisocial behavior.

In addition, there is accumulating research suggesting that interventions that aggregate at-risk peers together can produce iatrogenic effects (Dishion, McCord, & Poulin, 1999). Dishion and colleagues (1999) examined data from two peer-group intervention studies and found that youth in the experimental group had increased adolescent problem behavior and negative life outcomes in adulthood, whereas youth in the control conditions did not show such effects. Dishion and colleagues suggested that, compared with low-risk youth, high-risk youth may be

particularly vulnerable to negative outcomes as a result of peer aggregation. If replicated, Dishion et al.'s findings have immediate implications for youth in the juvenile justice system, because peer aggregation is the most common intervention approach for juvenile justice youth. Peer aggregation for juvenile justice youth first occurs in the juvenile detention facility, where the peer network consists solely of youth who have exhibited acts of severe delinquency. Second, upon their release from detention, youth are often mandated by court judges to spend time in group care facilities with other delinquent youth while making the transition from detention to family or to independent living settings. Both instances provide an opportunity for youth to associate with peers who have histories of delinquency.

Despite evidence that peer aggregation can lead to negative outcomes, little is known about which populations are most vulnerable to iatrogenic peer aggregation effects and about which mediating processes link peer aggregation to poor outcomes. In this paper, we focus on the effects of peer aggregation in juvenile justice-referred boys and girls who have participated in a randomized intervention trial designed to reduce delinquency. Youth in the intervention condition participated in Multidimensional Treatment Foster Care (MTFC), where each youth was individually placed in a treatment foster family recruited from the local community (Chamberlain, 2003). Youth in the control condition participated in group care interventions, the services-as-usual for this population.

Summary of Prior Work on the MTFC Model

The MTFC model was originally funded by the Oregon Youth Authority in 1983 to provide a community-based alternative to incarceration for boys with serious and chronic delinquency (Chamberlain, 2003). It was selected as a National Blueprint Program by the U.S. Office of Juvenile Justice and Delinquency Prevention (Elliott, 1998) and as an Exemplary Program for Safe, Disciplined, and Drug-free Schools by the U.S. Department of Education; further, it was highlighted twice ("Children and Mental Health" & "Prevention of Violence") in a U.S. Surgeon General's report (U.S. Department of Health and Human Services, 1999).

Two randomized trials examining the efficacy of MTFC have been completed to date. In the first trial, Chamberlain found that MTFC boys had significantly lower rates of official and self-reported delinquency in a 12-month follow-up and lower rates of violent offending in a 24-month follow-up than did group care youth (Chamberlain & Reid, 1998; Eddy, Whaley, & Chamberlain, 2004). A second trial began in 1996 to examine the efficacy of MTFC with an adolescent female population. Results from the girls' trial generally paralleled the boys' trial, with MTFC girls spending fewer days in locked settings, having fewer parent-reported delinquent behaviors, and showing a trend toward fewer arrests at the 12-month follow-up (Leve & Chamberlain, 2004a).

Eddy and Chamberlain (2000) examined mediational factors in the boys' sample, with several factors mediating the relationship between group condition and boys' criminal referral and self-reported delinquency rates. The mediating variables included close and consistent supervision, effective discipline, adult mentoring, and separation from delinquent peers. Mediational analyses in the girls' sample are currently underway. Overall, these published studies demonstrate that MTFC effectively reduces general delinquency for boys and girls. However, 12-month intervention outcomes on peer relations and peer association have not been previously examined. This paper combines the boys' and girls' data from the randomized samples described above and extends prior work by examining the effect of the MTFC intervention on delinquent peer associations.

Hypotheses

Guided by work suggesting iatrogenic effects of peer aggregation (e.g., Dishion et al., 1999), we first hypothesized that boys and girls randomly assigned to the MTFC intervention would show lower levels of association with delinquent peers at a 12-month follow-up than would youth assigned to group care interventions. Second, we hypothesized that associating with delinquent peers while in the intervention setting would mediate the association between group condition and 12-month association with delinquent peers.

Method

Participants

The sample consisted of 153 youth (72 boys and 81 girls) who were referred for out-of-home care due to problems with chronic delinquency by juvenile court judges in the state of Oregon (1991–2002; Chamberlain, 2003). Youth were randomly assigned into the experimental (i.e., MTFC) or the control (i.e., group care [GC]) condition. Nine other girls and 7 other boys who were referred for care never entered out-of-home treatment placement during the study timeline (owing to lengthened detention sentences or to returning home) and were thus not considered further in analyses. The randomized sample consisted of 73 MTFC youth (36 boys and 37 girls) and 80 GC youth (36 boys and 44 girls). Analyses included all 153 intent-to-treat youth, although there was variability in the dosage of the intervention received (e.g., the range of out-of-home care was 3–610 days for GC and 8–718 days for MTFC). The mean length of stay in the randomized intervention placement was 218 days for boys and 174 days for girls, with no significant differences by group condition.

At the baseline assessment, the boys were 12–17 years old ($M = 14.4$; $SD = 1.3$), and the girls were 13–17 years old ($M = 15.3$; $SD = 1.1$). Eighty-three percent of the boys and 74% of the girls were Caucasian, with the majority of the remaining youth being African-American, Hispanic, or American Indian. In contrast, 92% of the boys and 93% of the girls living in the region at the time of the study were Caucasian (U.S. Department of Commerce, 1992). Prior to entering the study, boys had an average of 13.5 ($SD = 8.7$) lifetime criminal referrals, and girls had an average of 11.9 ($SD = 8.9$) lifetime criminal referrals. At the baseline assessment, 56% of the boys and 68% of the girls resided in single-parent families, and 37% of the boys and 32% of the girls lived in families with an income of less than \$10,000. There were no significant differences between the MTFC and the control group on these demographic characteristics.

Procedure

Participants and their caregivers were assessed prior to or immediately upon placement in their randomly assignment treatment setting (baseline [BL]) and again at 3-, 6-, 12-, 18-, and 24-months postbaseline. The BL assessment and the 6-, 12-, 18-, and 24-month assessments consisted of a standardized interview and several questionnaires pertaining to parenting and to the youth's behavior, cognitive skills, and mental health. In addition, juvenile court records were collected for each youth. The 3-month (boys and girls) and 6-month (girls only) assessment consisted of a standardized interview and questionnaires focused on characteristics and behaviors of the intervention setting. All interviews were conducted in person and lasted approximately 2 hours. The average time between BL and intervention entry was 56 days for boys and 47 days for girls, with no significant differences by group. Upon exit from the intervention setting, youth were reunified with their biological or other aftercare family (56%), began living independently (23%), returned to detention settings for subsequent criminal offenses (15%), or remained in some type of treatment setting (6%).

Intervention Conditions

Experimental condition—MTFC is based on social learning principles and involves placing one youth in a treatment foster family recruited from the local community. Prior to accepting a study youth, foster parents receive 20 hours of pre-service training conducted by case managers and current MTFC foster parents. Training focuses on behavior management methods to provide youth with a structured daily living environment, which includes close supervision and clear rules and limits. Ongoing supervision of MTFC foster parents occurs during weekly foster parent meetings, with program staff members available on call (24 hours a day, seven days a week) to assist with behavior management of the youth. On a weekly basis, each youth participates in individual therapy focused on skill building, and the youth's parents (or other aftercare resource) participate in family therapy. In addition, each youth participates in an individualized, in-home, daily point and level program, and program staff members maintain daily telephone contact with the foster parents via the *Parent Daily Report* (Chamberlain & Reid, 1987) to monitor case progress and problems. Close monitoring of school attendance, performance, and homework completion is conducted for all youth, and psychiatric consultation, evaluation, and medication management is used as needed.

Experienced program supervisors with small caseloads (10 MTFC families each) supervise all clinical staff (i.e., family therapists, individual therapists, and skills trainers); maintain daily contact with MTFC parents to provide ongoing consultation, support, and crisis intervention; and coordinate the interventions in the foster family, peer, and school settings. Although these basic program components are standardized across all participants, some modifications were implemented by gender. For example, because gender-specific processes have been identified in previous research (Chamberlain & Reid, 1994; Crick, Ostrov, Appleyard, Jansen, & Casas, 2004; Underwood 2003), foster parents of the girls were trained to identify and provide sanctions for the girl's social/relational aggression, and girls were taught to avoid social/relational aggression and to self-regulate their emotions.

The implementation fidelity of the intervention model was monitored via the *Parent Daily Report* data on the youth's performance on the point and level system, the amount of unsupervised time, school attendance and performance, family and peer relationships, and foster parent stress level. A more complete description of the basic MTFC program components can be found in Chamberlain (2003).

Control condition—Youth attended one of 19 community-based group care programs, all located in Oregon. These programs represented the services-as-usual for youth referred to out-of-home care by the juvenile justice system. Group care programs had 2–52 youth in residence ($M = 21$) and generally used a shift staff model. Although the group care programs differed somewhat by theoretical orientation, most endorsed cognitive behavioral and positive peer culture approaches, had on-site schooling, and offered individual and group therapy for the youth.

Measures

Delinquent peer association at the 12-month follow-up—Association with delinquent peers was measured at the 12-month assessment via self-report and caregiver report. Youth completed the *Describing Friends Questionnaire* (DFQ; Capaldi & Dishion, 1985), which assesses the extent to which youth associate with friends who engage in delinquent activities. Each youth indicated how many of their friends engaged in 13 different antisocial activities (e.g., cheating on tests, stealing, and getting drunk) during the prior 6-month period on a scale from 1 (*none of my friends*) to 5 (*all of my friends*). Interitem alphas were acceptable (.92 for boys and .94 for girls). The 13 items were aggregated into a self-report peer delinquency

scale. Means and standard deviations for all variables used in this report are included in Table 1 by group.

Caregivers completed the *Child Behavior Checklist* (CBCL; Achenbach, 1991) at the 12-month assessment. The CBCL is an empirically derived measure of youth's behavior problems; caregivers rated the youth on 112 behavior problems on a scale ranging from 0 (*not true*) to 2 (*very true or often true*). One item, "hangs out with kids who get in trouble," was used in the present study. A second caregiver-report item, "hangs out with kids who steal," rated on a scale ranging from 1 (*not true*) to 3 (*often true*), was drawn from the *Overt-Covert Aggression Questionnaire* (Capaldi & Patterson, 1989).

The two caregiver-report items were rescaled into a 1–5 scale to match the youth-report instrument scale. The caregiver-report items correlated .55 ($p < .001$) and were thus aggregated into a single caregiver-report scale. The caregiver- and self-report scales correlated .32 ($p = .001$) and were aggregated into a single construct of 12-month delinquent peer association.

Covariates—To control for BL characteristics, we specified three control variables: age, gender, and BL delinquent peer association. Age was included as a covariate because of the age variation in our sample and because prior studies have shown that boys and girls who become arrested at an earlier age have poorer outcomes (Leve & Chamberlain, 2004b; Patterson, Forgatch, Yoerger, & Stoolmiller, 1998). Youth gender—1 (*girls*) and 2 (*boys*)—and BL delinquent peer association were included to control for their effects on 12-month delinquent peer association. BL delinquent peer association during the prior 6-month period was measured using the DFQ (boys' BL $\alpha = .88$; girls' BL $\alpha = .86$). There were no significant differences on the control variables by group.

Intervention setting: Delinquent peer association The youth's association with delinquent peers while living in the intervention setting was measured 3–6 months postbaseline using an aggregate of youth and caregiver reports. The following variables were rated on Likert-type scales and then standardized and aggregated to form a delinquent peers construct for the intervention setting (boys' $\alpha = .82$; girls' $\alpha = .60$): (a) youth self-report on how frequently they hang out with kids who steal, (b) youth self-report on how frequently they hang out with peers who misbehave, (c) youth self-report on how frequently they hang out with peers who behave well (reverse coded), (d) youth self-report on how much they are influenced by negative peers (single item asked in 3–5 daily telephone interviews and aggregated across the calls), and (e) caregiver report on how much the youth is influenced by negative peers (single item asked across 3–5 daily telephone interviews and aggregated across the calls).

Results

Analytical Approach

To study the effectiveness of the MTFC intervention (MTFC = 1; GC = 0) on the association with delinquent peers, we first conducted a path analysis with full information maximum likelihood (FIML) using *AMOS 5.0* (Arbuckle & Wothke, 1999). Next, we examined whether associating with delinquent peers while living in the intervention setting mediated the intervention effectiveness. To do so, we followed Baron and Kenny's (1986) guidelines and examined whether four mediating conditions were met: (a) a direct effect of group condition on 12-month delinquent peer association, (b) a direct effect of group condition on intervention setting delinquent peer association, (c) a direct effect of intervention setting delinquent peer association on 12-month delinquent peer association, and (d) a decrease in significance of the direct path from group condition to 12-month delinquent peer association in the presence of the intervention setting delinquent peer association (Baron & Kenny, 1986; Judd & Kenny, 1981).

The FIML approach applied in the analyses allows for the inclusion of state-of-the-art methods for treating missing data (Schafer & Graham, 2002). The sample had complete data available on age, gender, and group condition; data on BL delinquent peer association were available for 99% of the sample, data on delinquent peer association during treatment were available for 75% of the sample, and data on 12-month delinquent peer association were available for 94% of the sample. Therefore, there was a small amount of missing data. Intervention setting data were missing because the intervention interviews occurred in the treatment setting at 3 and 6 months postbaseline. Some youth had left their treatment settings by that time and/or were in-between placements; thus, their intervention setting data could not be collected. We used the FIML approach to estimate means, variances, and covariances for the missing cases based on the observed data. This approach to missing data is generally superior to (and produces less bias than) mean imputation, pairwise deletion, or listwise deletion, even when the data are not missing at random (Wothke, 2000). To test whether the data in the present study were missing at random, we examined the estimated means and covariances for each of the variables included in the path model. Examination of the estimated means and covariances using Little's Missing Completely at Random Test indicated that our data met the stringent assumption of missing completely at random, $\chi^2(15) = 12.52, p = .64$, suggesting the appropriateness of proceeding with FIML analyses.

The AMOS model fit was examined using the χ^2 statistic, the comparative fit index (CFI) statistic, and the root-mean-square-error of approximation (RMSEA); χ^2 significance levels above .05, CFI indices above .90, and RMSEA values below .05 indicate a good model fit (Browne & Cudeck, 1993).

Descriptives

The correlation matrix with the full set of analytic variables is shown in Table 2. All variables central to the mediational hypothesis were significantly correlated at .24 or higher with one another. For example, group condition was significantly associated with intervention setting delinquent peer association ($r = -.48, p < .001$) and with 12-month delinquent peer association ($r = -.24, p < .01$), and intervention setting delinquent peer association was significantly associated with 12-month delinquent peer association ($r = .38, p < .001$). In addition, BL delinquent peer association was significantly associated with 12-month delinquent peer association ($r = .27, p < .01$) and with gender ($r = -.27, p < .01$).

Effects of the MTFC Intervention

The means for the 12-month outcomes suggested that MTFC youth had fewer associations with delinquent peers than did GC youth (see Table 1). To examine the statistical significance of these patterns, we conducted a path analysis with group condition as a predictor; age, gender, and BL delinquent peer association as covariates; and 12-month delinquent peer association as the outcome. As shown in Figure 1, the intervention condition had a significant effect on 12-month delinquent peer association, with MTFC youth having lower levels of 12-month delinquent peer association than GC youth ($\beta = -.22, p < .01$). There was also a significant effect from BL delinquent peer association, with higher BL delinquent peer association predicting higher delinquent peer association at follow-up ($\beta = .24, p < .01$). The correlation between gender and BL delinquent peer association was also significant, with girls self-reporting higher levels of delinquent peer association than boys ($r = -.27, p < .01$). The model accounted for 11% of the variance in 12-month delinquent peer association, and the fit indices suggested that the model fit the data well, $\chi^2(5) = 4.49, p = .48$; CFI = 1.00; RMSEA = .00.

Mediating Effects of Associating with Delinquent Peers During the Course of the Intervention

We tested a mediational model to examine whether associating with delinquent peers while living in the intervention setting mediated the effectiveness of the intervention. To control for

the stability of delinquent peer association, and to test for systematic differences in the randomized placement settings, we included a path from BL delinquent peer association to delinquent peer association while living in the intervention setting. As is shown in Figure 2, all four conditions for the mediational test were met: (a) The direct path from group condition to delinquent peer association at 12 months was significant in the absence of the mediator ($\beta = -.22, p < .01$; shown in Figure 1), (b) the direct effect of group condition on intervention setting delinquent peer association was significant ($\beta = -.45, p < .001$), (c) the direct effect from intervention setting delinquent peer association on 12-month delinquent peer association was significant ($\beta = .27, p < .01$), and (d) the path from group condition to 12-month delinquent peer association became nonsignificant in the presence of the mediator ($\beta = -.09, ns$). The overall model fit was acceptable, $\chi^2 = 6.82, p = .45$; CFI = 1.00; RMSEA = .00, and the predictors accounted for 22% of the variance in intervention setting delinquent peer association and 17% of the variance in 12-month delinquent peer association.

Discussion

In this study, we examined the extent to which juvenile justice-referred youth associated with delinquent peers during and following treatment placements designed to reduce problems with delinquency. Youth were randomly assigned to out-of-home intervention conditions (MTFC or GC) that differed in several important ways. In the MTFC condition, youth were individually placed into family settings; in the GC condition, youth were placed into group care settings in close proximity to other delinquent peers ($M = 21$ youth per setting). Models of deviancy training suggest that aggregating antisocial youth together provides a context for the reinforcement of rule-breaking and antisocial talk and behaviors. Youth gain practice and experience in antisocial behaviors with delinquent peers and subsequently perform such acts in the community and other settings, causing eventual escalations in drug use, severe delinquent behavior, and violence (Capaldi, Dishion, Stoolmiller, & Yoerger, 2001; Dishion, Andrews, & Crosby, 1995; Dishion, Capaldi, Spracklen, & Li, 1995; Dishion, Eddy, Haas, Li, & Spracklen, 1997).

Given the potential for GC youth to have more opportunities to interact with delinquent peers than MTFC youth, we hypothesized an intervention effect on the association with delinquent peers. We found that MTFC youth had fewer associations with delinquent peers at the 12 month follow-up than did GC youth. This finding extends our prior work with this sample of juvenile justice youth by providing evidence that, in addition to reducing general delinquency levels (e.g., Chamberlain & Reid, 1998; Leve & Chamberlain, 2004a), MTFC is significantly better than the control condition in reducing youth's delinquent peer association. In addition to the main effect of the intervention, delinquent peer association following treatment declined for youth in *both* conditions.

This finding is important because prior work has shown that peer aggregation can lead to increases in deviant peer associations in at-risk populations (e.g., Dishion et al., 1999). The present study suggested that, among youth with chronic delinquency, group-level increases in delinquent peer association following intervention were not present. The decline for both groups may be due, in part, to ceiling effects resulting from the high baseline levels of delinquent peer association. In addition, because prior studies have identified iatrogenic effects in *long-term* follow-up assessments (e.g., Dishion et al., 1999), the eventual effects of peer aggregation may not have fully unfolded in the 12-month period examined here. Longer-term studies are needed to make more definitive conclusions about potential iatrogenic effects of peer aggregation in juvenile justice populations.

The intervention main effects found in the present study do not provide any process explanations as to *why* MTFC results in a greater reduction of delinquent peer association than

GC. Peer aggregation may be a key factor because the number of peers in the two treatment settings differed substantially. However, MTFC and GC intervention settings differ on factors in addition to the number and type of peers in the intervention setting. For example, although the caretaking adults in both conditions were trained to closely supervise the youth's activities, the adult:youth ratio in MTFC settings allowed more opportunity for one-on-one adult mentoring and individualized youth monitoring. In prior work with the boys from the current sample, Eddy and Chamberlain (2000) found that positive adult mentoring relationships mediated the association between intervention condition and general delinquency. Thus, a mediational model is needed to address whether delinquent peer association during the course of the intervention is the causal factor driving the group differences in the 12-month outcomes found in this study.

The results from our mediational path model suggested that, regardless of group condition, youth who had high levels of delinquent peer association (as reported by youth and their caregivers) while they were in their randomly assigned intervention setting had the highest levels of delinquent peer association at the 12 month follow-up. Delinquent peer association while living in the intervention setting completely mediated the effect of group condition, suggesting that it is a key factor responsible for continued engagement with delinquent peers after treatment.

These findings expand upon prior work showing the powerful effect that delinquent or deviant peer association can have (Dishion et al., 1999; Hawkins et al., 1992). First, the results suggest that the deleterious effects of delinquent peer association can be extended to juvenile justice populations. The delinquency levels in the current sample were extremely high for all youth (e.g., an average of more than 11 prior criminal referrals per youth), yet even within a sample where all the youth are highly delinquent, variation in delinquent peer association predicted later outcomes.

Second, our results suggest that delinquent peer association during treatment affects later delinquent peer association above and beyond group condition effects and continuity in delinquent peer association from BL. Thus, the demonstrated effectiveness of MTFC in prior studies might result from its ability to successfully limit youth association with delinquent peers. Interventions for juvenile justice youth that include clear mechanisms for limiting delinquent peer association may have optimal success (e.g., interventions that provide constant supervision, limited opportunities for interacting with peers in the absence of adult supervision, and behavioral consequences for engaging in delinquent activities).

Third, the results of the current study extend the developmental significance of delinquent peer associations to include its relevance for delinquent girls. Prior work with delinquent girls has suggested the importance of peers in the development and maintenance of delinquency (Pawlbly, Mills, & Quinton, 1997; Rutter, Quinton, & Hill, 1990) but has not determined whether the precursors to and the sequelae of delinquent peer association differ by gender. This study suggests that the mediational effects of delinquent peer association were present for both sexes, despite the fact that girls' reported higher BL delinquent peer association than did boys.

Although our study is unique in its ability to extend prior research on the effects of delinquent peer associations to a juvenile justice population, using a multiagent and multimethod approach and including males and females, limitations to our sampling constraints and our measurement approach should be noted. First, our sample was somewhat small and was comprised of youth who already exhibited severe delinquency problems. It is unclear whether similar effects would be present in adolescent populations with less severe delinquency problems. Second, we used identical measures for both sexes, though some variables and constructs may uniquely contribute to the development of delinquency for each sex (e.g., social/relational aggression;

Crick et al., 2004; Underwood, 2003). The inclusion of variables shown to be more predictive for one sex could strengthen the current models. Despite these limitations, the results from the present study suggest that MTFC is more effective than GC in reducing delinquent peer associations in a 12-month follow-up and that delinquent peer association during the intervention mediated the effects of group condition.

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$$\chi^2 = 4.49, df = 5, p = .48, CFI = 1.00, RMSEA = .00$$

Figure 1.
Intervention effects on delinquent peer association.

$$\chi^2 = 6.82, df = 7, p = .45, CFI = 1.00, RMSEA = .00$$

Figure 2.

Delinquent peer association: Mediating effects of association with delinquent peers during treatment.

Table 1
Means and Standard Deviations of Covariates, Mediator, and Outcomes

Measure	MTFC		GC	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
BL covariates				
Age	15.05	1.40	15.11	1.05
Gender (percent male)	49	-	45	-
DFQ	3.01	.78	3.10	.76
Mediator				
Delinquent peer association	-.33	.59	.36	.69
12-month outcomes				
DFQ	2.09	.88	2.58	.89
CBCL peer item	2.93	1.51	3.10	.76
OCAQ peer item	2.31	1.29	2.83	1.55

Note. MTFC = Multidimensional Treatment Foster Care; GC = group care; BL = baseline; DFQ = Describing Friends Questionnaire; CBCL = Child Behavior Checklist; OCAQ = Overt-Covert Aggression Questionnaire.

Table 2

Correlations

	1	2	3	4	5	6
1. Group condition						
2. BL delinquent peer association						
3. BL Age						
4. Gender						
5. Intervention delinquent peer association						
6. 12-month delinquent peer association						

Note. BL = Baseline.

**
 $p < .01$.

 $p < .001$.