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Peer Group Deviancy in Organized Activities and Youths' Problem Behaviours

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### Abstract

The goal of this study was to examine whether youths' perceptions of the level of deviancy in their organized activity peer group predicted an increase in their antisocial behaviours and substance use. Their prior behaviour and the level of co-deviance with their friends were controlled. Moderators of this association were also examined, including characteristics of youths (i.e., gender) and activity contexts (i.e., type, degree of supervision, age and gender composition of the peer group). Participating youths ( $N = 185$ ;  $M_{age} = 14.34$ , 60% girls) were surveyed in Grades 8 and 9 using phone interviews and questionnaires. Results revealed that peer group deviancy predicted increases in youths' problem behaviours after controlling for covariates. In addition, this association was moderated by the age composition of the activity peer group for antisocial behaviours and by activity type for substance use. Overall, these findings draw attention to the possibility of negative peer group dynamics in organized activities.

*Keywords:* organized leisure activities, peer groups, problem behaviours.

### Peer Group Deviancy in Organized Activities and Youths' Problem Behaviours

Past research has shown that organized activities provide youths with socialization and learning experiences likely to promote interpersonal competence and school success over time (Eccles & Gootman, 2002; Larson, 2000; Mahoney, Larson, & Eccles, 2005; Mahoney, Lowe Vandell, Simpkins, & Zarrett, 2009). Organized activities, both at school (extracurricular activities) and in the community, are characterized by the presence of an adult leader, a peer group, rule-guided engagement, regular participation schedules, and an emphasis on skill-building (Larson, 2000; Mahoney & Stattin, 2000). Benefits of youth activity participation include lower rates of school dropout (Mahoney & Cairns, 1997; McNeal, 1995), better educational performance and aspirations (Eccles & Barber, 1999; Mahoney, Cairns, & Farmer, 2003), and lower levels of problem behaviours (Bohnert & Garber, 2007; Darling, 2005; Mahoney & Stattin, 2000) and depressed mood (Fredricks & Eccles, 2006; Mahoney, Schweder, & Stattin, 2002). As revealed by these studies, participating in organized activities in the adolescent years is likely to be positive for youth adjustment.

However, negative associations between youth activity participation and adjustment have also been documented, such as increased rates of antisocial behaviours and alcohol use among youths who participate in sports (Crosnoe, 2002; Denault, Poulin, & Pedersen, 2009; Eccles & Barber, 1999; Gardner, Roth, & Brooks-Gunn, 2009). In trying to explain these negative associations, this study focuses on the possible influence of deviancy in the activity peer group. The activity peer group refers to the group of youths who are participating in the activity with the adolescent. Deviancy in the activity peer group could take at least two forms. First, peers could disobey the rules and misbehave, thus disrupting and disorganizing the activity. Second, peers in the activity could show deviant behaviours, such as smoking cigarettes or drinking alcohol. In

other words, deviancy in the activity peer group would reflect group dynamics or peer characteristics that are not desirable in the context of organized activities.

### **Signs of Deviancy in the Activity Peer Group**

The importance of the activity peer group has been underlined in explaining the developmental benefits of organized activity participation in adolescence. Participating in organized activities gives youths the opportunity to make new friends and interact with peers outside of their usual friendship network (Dworkin, Larson, & Hansen, 2003; Patrick et al., 1999). Organized activities are also likely to “link adolescents to certain types of peers and to changes in peer contexts” (Barber, Stone, Hunt, & Eccles, 2005, p. 197). This should be positive as long as the behavioural characteristics of the activity peer group are positive. If the activity peer group shows signs of deviancy, however, the effects may be less favourable. Studies on the behavioural characteristics of the activity peer group have been limited and primarily fall within two lines of research. The first line of research has focused on the characteristics of youths’ usual friendship networks, rather than on the activity peer group specifically. Overall, this research suggests that youths who participate in organized activities have more academic friends and fewer deviant friends than youths who do not participate in such activities (Eccles & Barber, 1999; Fredricks & Eccles, 2005, 2006; Mahoney & Stattin, 2000; Simpkins, Eccles, & Becnel, 2008), suggesting that participation is likely to facilitate membership in a prosocial friendship network. Moreover, friends’ characteristics, such as their level of prosociality or deviancy, are likely to mediate the association between participation and adolescent adjustment (Fredricks & Eccles, 2005; Gardner et al., 2009; Simpkins et al., 2008). For instance, Fredricks and Eccles (2005) found that participation in school clubs predicted greater affiliations with prosocial peers, which in turn predicted greater school engagement. Conversely, Gardner et al. (2009) found that

the positive association between boys' participation in sports and nonviolent delinquency could be explained by greater affiliations with deviant peers in youths' usual friendship networks.

The second line of research has focused on the leisure contexts where deviant youths tend to congregate (e.g., recreation centres) and their negative associations with youth adjustment (Lansford, 2006; Mahoney & Stattin, 2000; Stattin, Kerr, Mahoney, Persson, & Magnusson, 2005). For instance, compared to youths in structured activities, Mahoney and Stattin (2000) found that youths who spent time in unstructured activity settings reported a greater number of deviant peers and showed higher levels of antisocial behaviour. Organized activities are not likely to attract deviant peers since these school- and community-based activities are characterized by the presence of an adult leader and rule-guided engagement (Larson, 2000; Mahoney & Stattin, 2000). Yet, even if youths and their usual friends are prosocial, if there is deviancy within an activity, each member might be influenced by the collective behaviours of the activity peer group (Eccles, Barber, Stone, & Hunt, 2003). As found by Rorie, Gottfredson, Cross, Wilson, and Connell (2011) in a study on after-school programs, deviancy training – through which peers reinforce each others' norm-breaking behaviours (Dishion, McCord, & Poulin, 1999; Dishion, Spracklen, Andrews, & Patterson, 1996; Patterson, Dishion, & Yoerger, 2000) – could be at play in the activity peer group and increase youths' problem behaviours. A study by Denault and Poulin (2008) found that the more boys perceived themselves to be socially integrated in their activity peer group, the greater their problem behaviours. However, their study, like most of those cited above, did not take the behavioural characteristics of the organized activity peer group into account.

To sum up, activity peer groups represent one peer context in youths' lives, adding to other peer contexts such as youths' usual friendship networks. Youths are likely to meet new peers in these activities and, as a result, form new friendships. Given that these activities are

structured, supervised, and focused on skill-building, peer interactions in these activities are likely to be positive. Nevertheless, the first goal of this study was to investigate the possible presence of negative peer group dynamics in the context of organized activities and whether this situation might be negatively associated with youths' adjustment. The second goal was to examine whether this situation was more likely to occur in some activity contexts than in others.

### **Possible Moderators of the Association between Deviancy in the Activity Peer Group and Youths' Problem Behaviours**

One variable that could act as a moderator in the association between deviancy in the activity peer group and adjustment is participants' gender. Given that boys are more likely to show problem behaviours than girls, it is possible that they are also more influenced by deviant peers or deviant peer group dynamics (Sim & Koh, 2003; Steinberg & Monahan, 2007; Steinberg & Silverberg, 1986). Another possible moderator is activity type. As noted by Eccles et al. (2003), behavioural differences in the peer groups and peer cultures associated with different types of activities might explain some of the individual behavioural differences associated with activity participation. For example, to explain the association between participation in sports and alcohol use, researchers have suggested the possibility of a sports subculture likely to value academic success, but also alcohol use or "partying" (Crosnoe, 2002; Eccles & Barber, 1999; Miller, Hoffman, Barnes, Farrell, Sabo, & Melnick, 2003). Since prior research suggests that a high degree of structure in activities is associated with less deviant behaviours (Mahoney & Stattin, 2000), the degree of adult supervision within these activities might also act as a moderator. Even though organized activities are characterized by the presence of an adult, the degree of supervision might differ from one activity to the next. For example, the activity leader might not always be there to supervise youths during the activity even though s/he is in charge. Two other characteristics of the activity context might also moderate the relationship between

deviancy in the activity peer group and youths' problem behaviours: the age and gender composition of the activity peer group. For instance, the presence in the activity of slightly older peers might increase the probability of deviant behaviours in the activity peer group since antisocial behaviours and substance use usually increase during mid-adolescence (for a review, see Chassin, Hussong, & Beltran, 2009; Farrington, 2009; Mayes & Suchman, 2006). As for the gender composition of the activity peer group, given the rationale provided earlier with regard to participants' gender, deviancy in the activity peer group and its possible influence on youths' adjustment might be greater in boys-only activities than in girls-only activities, and greater in mixed-gender activities than in girls-only activities.

### **Important Covariates**

The issue of selection effects has been widely explored in the literature on organized activities (Darling, 2005; Eccles & Barber, 1999; Fredricks & Eccles, 2006; McNeal, 1998). For instance, youths who are prone to problem behaviours might choose specific types of activities, which, collectively, could result in greater deviancy in the activity peer group and hence to greater problem behaviours. An example might be sports activities. As noted by Gardner et al. (2009), even though organized sports may provide access to deviant peers, prior problem behaviours may be necessary to prompt youths to select into deviant peer groups. As a result, youths' prior problem behaviours and co-deviancy in their usual friendship network were added as covariates to control for these documented effects. Given that selection effects have also been documented with respect to socioeconomic status – youths from higher SES families are more likely to participate in organized activities than youths from lower SES families (Eccles & Barber, 1999; Fredricks & Eccles, 2006; McNeal, 1998) – family income was also taken into account.

### **Study Objectives**

To examine deviancy in the activity peer group, two research questions were addressed. First, does the level of deviancy in the activity peer group predict youths' problem behaviours (antisocial behaviours and substance use) after controlling for family income, prior behaviours and the level of co-deviance with their friends in their usual friendship network? Second, is this association moderated by characteristics of the youths and activity contexts? Among these characteristics, we focused on participants' gender, activity type, degree of adult supervision, and age and gender composition of the activity peer group.

## **Method**

### **Participants**

Participants were part of an ongoing longitudinal research project that began when the youths were in Grade 6 (April 2001,  $N = 390$ ). They were drawn from eight elementary schools in four separate districts representing different socioeconomic backgrounds in a city of 350,000 residents in the province of Quebec, Canada. In Grade 6, in addition to their child participation in the study, parents were also invited to participate and complete a questionnaire. Even though all the parents ( $N = 390$ ) provided a written consent for their child participation, only 309 (79%) of them answered and returned the parent questionnaire. This study used data collected in Grades 8 and 9, since delinquency and substance use among youths are likely to emerge at about this age. Of the 390 youths in the study, 72% were still participating in Grade 8 ( $n = 282$ ), 75% were still participating in Grade 9 ( $n = 293$ ), and 68% participated in both waves of data collection ( $n = 266$ ). In Grade 9, 70% were involved in at least one organized activity and could thus provide valid data on the level of deviancy in the activity peer group which could be included in the analyses ( $n = 185$ , 60% girls, mean age in grade 8 = 14.34,  $SD = 0.40$ ). As for the families of the youths included in the analyses, 78% were intact, 69% had an income of over \$50,000 (CAN) before taxes, and 81% of mothers and 96% of fathers had at least a part-time job. The sample was



approximately 90% European Canadian, 3% Haitian Canadian, 3% Middle Eastern Canadian, 2% Asian Canadian, and 2% Latino Canadian. There were no differences between the analytic and excluded samples ( $n = 185$  vs.  $n = 81$ ) with respect to gender and socio-demographic information (family income, family structure, and mothers' and fathers' jobs).

### **Procedure**

For parents' report in Grade 6, the questionnaires were mailed home with a pre-paid self-addressed return envelope. For youths' report in Grades 8 and 9, activity participation data were collected through structured phone interviews, while data on deviancy in the activity peer group, antisocial behaviours, substance use, and friendship networks were collected using paper-and-pencil-questionnaires. To this end, a trained team of research assistants carried out data collection at the youths' schools. Participants were asked to leave their classrooms and complete the questionnaires in small groups. Data were collected in the spring of each year. Informed parental consent was provided each year for youths' participation. Ethical approval for this research was attained by the University's ethics review board.

### **Measures**

**Family income.** Family income before taxes was used as an indicator of the families' economic situation. Parents responded to a single item, "Which of the following categories best describes your total family income before taxes for the year 2000," ranging from 1 (*less than \$5,000*) to 13 (*\$60,000 or more*). The mean response was approximately \$55,000 CAN.

**Participation in the target activity (Grade 9).** The perceived level of deviancy in the activity peer group was measured for one target activity. Selection of the target activity was carried out in three steps. First, youths were asked to identify all the organized activities in which they were participating or had participated during the school year using a free recall procedure. Second, they answered a brief questionnaire on each activity. The items included the weekly

number of hours spent participating in the activity (from *less than one hour* to *more than 10 hours*), the number of peers in the activity, the degree of adult supervision, and the age and gender composition of the activity peer group (see *Moderators* below for more information on the variables of interest). Youths involved in more than one activity were also asked to indicate the order of preference of their activities. Third, for those involved in more than one activity (42%), a target activity was identified according to the following criteria: (a) the target activity was the activity in which the youths participated most intensively (i.e., the greatest number of hours per week), (b) the target activity was an activity involving other peers, and (c) if more than one activity met these two criteria, the youths' preferred activity was chosen. The most frequent target activities were dance (16%), ice hockey (10%), soccer (8%), scouts (6%), and badminton (5%).

**Deviancy in the activity peer group (Grade 9).** Youths received a questionnaire in which their target activity was identified. They were asked to think specifically about this activity in answering the questions. Four items assessed youths' perceptions of the level of deviancy in their activity peer group: "Many youths in the activity try to disobey the rules and misbehave," "Youths in the activity tend to misbehave more than participating seriously in the activity," "Among youths in the activity, some use alcohol or drugs," "Among youths in the activity, some smoke cigarettes." Items were rated on a 5-point Likert scale with response options ranging from 1 (*not at all true*) to 5 (*very true*). Mean scores for this scale were used in the analyses ( $\alpha = .69$  [95% CI = .61, .75]). This scale was normally distributed and the mean and standard deviation for this variable appear in Table 1.

**Antisocial behaviours (Grades 8 and 9).** Youths were asked to report on 16 items regarding engagement in a range of antisocial behaviours, rated on a 6-point Likert scale ranging

from 1 (*never*) to 6 (*more than 10 times*). These items were drawn from a modified version of a previously developed youth antisocial behaviour scale (Metzler, Biglan, Ary, & Li, 1998; seven items,  $\alpha = .82$ ). Examples of items included lying to parents, vandalizing public property, hitting someone, and stealing. We completed this scale with additional items on in-school antisocial behaviours, such as fighting at school, cheating on exams, and being expelled from class. The time frame for these items was *in the last month*. For Grades 8 and 9, more than 10 antisocial behaviour items were non-normally distributed. In order to reduce the non-normality of the items, the scores for each of the 16 items were put on a quasi-absolute scale with “0” corresponding to no problems, “1” corresponding to mild problems, “2” corresponding to moderate problems, and “3” corresponding to severe problems, based on relevant information about the prevalence of each behaviour in the sample. This procedure was partly based on Bergman, Magnusson, and El-Khoury (2003). Scores for each item were first converted to  $z$  scores. Then,  $z$  scores lower than 0 were attributed the value of “0”,  $z$  scores between 0 and 1 were attributed the value of “1”,  $z$  scores between 1 and 2.5 were attributed the value of “2”, and  $z$  scores higher than 2.5 were attributed the value of “3”. A mean score was computed for the items ( $\alpha = .78$  [95% CI = .73, .83]) for Grade 8;  $\alpha = .81$  [95% CI = .76, .84] for Grade 9). The new scale for Grade 8 was normally distributed, but this was not the case for Grade 9. Nevertheless, the non-transformed scores were used in the analyses<sup>1</sup>. Means and standard deviations for these variables appear in Table 1.

**Substance use (Grades 8 and 9).** Youths were asked about their alcohol, cigarette, marijuana, and hard drug use using four items, one for each substance. These items measured the number of (a) alcoholic beverages and (b) cigarettes the youths had consumed, and the number of times youths had used (c) marijuana and (d) hard drugs *in the last month*. Response options

varied across the four substances. For alcohol, responses were given on a 13-point scale ranging from “0 drinks” to “41 drinks or more.” For cigarettes, responses were given on a 24-point scale starting with number of cigarettes (range of “0 cigarettes” to “9 cigarettes”) and increasing to number of packs of cigarettes (range of “half a pack” to “31 packs or more”). For marijuana and hard drugs, responses were given on a 13-point scale ranging from “0 times” to “41 times or more.” All four substance use variables were non-normally distributed for Grade 8, whereas only marijuana and hard drug use were non-normally distributed for Grade 9. As for antisocial behaviours, above, the scores for these items were put on a quasi-absolute scale based on  $z$  scores, with “0” corresponding to no use, “1” corresponding to low use, “2” corresponding to medium use, and “3” corresponding to high use. A mean score was computed for the items ( $\alpha = .73$  [95% CI = .66, .79] for Grade 8;  $\alpha = .71$  [95% CI = .63, .77] for Grade 9). The new scales for both grades were normally distributed. Means and standard deviations for these variables appear in Table 1.

**Friendship network inventory (Grade 9).** Youths completed a friendship network inventory (up to ten friends). For each friend named, youths were asked to indicate how likely they were to misbehave with this friend on a 5-point scale ranging from 1 (*not at all*) to 5 (*very*). They were also asked to report whether or not each of their friends was participating in the target activity previously identified. Based on this information, the following variables were computed: (a) the proportion of participating friends among the overall friendship network; and (b) the overall level of co-deviance between youths and their friends. The item measuring the proportion of participating friends among the overall friendship network was created to investigate the extent to which youths reported that members of their activity peer group were also part of their friendship network, even though this variable was not considered in the subsequent analyses. On

average, 22% of the youths' friends participated with them in their target activity in Grade 9 (mean number = 1.92, range = 1 to 10). The overall level of co-deviance between the youths and their friends was normally distributed and the mean and standard deviation for this variable appear in Table 1.

**Moderators.** As for the participants' gender, there were 111 girls and 74 boys. For activity type, non-sports ( $n = 82$ ) and sports ( $n = 103$ ) were examined. Non-sports included performance arts and fine arts, youth clubs, and service and faith-based activities. Sports included both individual and team sports. For degree of adult supervision, the youths were asked whether the adult supervising the activity was *always present*, yes ( $n = 161$ ) or no ( $n = 22$ ). For age composition of the activity peer group, the youths were asked to report whether peers in their activity were, on average, (a) the same age as them, (b) younger, (c) older, (d) the same age as them and younger, (e) the same age as them and older, or (f) the same age as them and both younger and older. Based on this information, we created two categories: (a) no older peers (options a, b, and d;  $n = 78$ ) and (b) some older peers (options c, e, and f;  $n = 105$ ). Finally, for gender composition of the activity peer group, three categories were examined: mixed activities ( $n = 95$ ), girls-only activities ( $n = 53$ ), and boys-only activities ( $n = 35$ ). It should be noted that two youths did not provide information on the degree of adult supervision in the activity peer group, or the age and gender composition of their activity peer group.

### **Analytical Strategy**

First, to examine whether the level of deviancy in the activity peer group predicted increases in the youths' antisocial behaviours and substance use over time, multiple hierarchical regressions were conducted separately for antisocial behaviours and substance use. In these analyses, the criterion variable was either youths' antisocial behaviours or substance use in Grade 9; family income, youths' antisocial behaviours or substance use in Grade 8, and youths' level of

co-deviance with their friends in Grade 9 were included in the first step as controls; and level of deviancy in the activity peer group in Grade 9 was included in the second step as a predictor variable. Second, to examine the moderating effects of participants' gender, activity type, degree of supervision, and age and gender composition of the activity peer group, multiple hierarchical regressions were conducted separately for each moderator. In these analyses, the controls were entered in the first step (family income, prior behaviour, and level of co-deviance with friends), the main effects of the moderator and level of deviancy in the activity peer group (the latter centered to the mean) were entered in the second step, and the interaction between the moderator and level of deviancy in the activity peer group was entered in the third step (Baron & Kenny, 1986; Cohen & Cohen, 1983). It should be noted that the relevant assumptions of the multiple regression analysis were tested beforehand.

## **Results**

### **Descriptive Analyses**

Means, standard deviations, and correlations among the main study variables appear in Table 1. As shown in this table, youths' perceptions of deviancy in the activity peer group, their own levels of antisocial behaviours and substance use, and the level of co-deviance with their friends were all positively correlated, except for deviancy in the activity peer group and substance use in Grade 8 ( $p = .07$ ). Correlations between family income and other variables of interest did not reach statistical significance. Therefore, this variable was not considered in subsequent analyses. With respect to the characteristics of youths and activity contexts, a series of  $t$ -tests and one-way ANOVAs revealed no statistically significant differences in level of deviancy in the activity peer group with respect to participants' gender, activity type, degree of supervision in the activity, and age and gender composition of the activity peer group.

It should also be noted that low levels of problem behaviours were observed in this sample. For antisocial behaviours in Grade 9, 19% of the youths reported no problems (mean score = 0), 78% of the youths' responses fell between "no problems" and "mild problems" ( $0 < \text{mean score} \leq 1$ ), and 3% fell between "mild problems" and "moderate problems" ( $1 < \text{mean score} \leq 2$ ). For substance use, 52% of the youths reported no use (mean score = 0), 33% of responses fell between "no use" and "low use" ( $0 < \text{mean score} \leq 1$ ), 14% between "low use" and "medium use" ( $1 < \text{mean score} \leq 2$ ), and 1% between "medium use" and "high use" ( $2 < \text{mean score} \leq 3$ ).

### **Can the Level of Deviancy in the Activity Peer Group Predict Increases in Youths'**

#### **Antisocial Behaviours and Substance Use over Time?**

Our first objective was to investigate whether the level of deviancy in the activity peer group predicted increases in the youths' antisocial behaviours and substance use after controlling for their prior behaviours and the level of co-deviance with their friends. To this end, multiple regression analyses were conducted separately for antisocial behaviours and substance use. Results appear in Table 2. As suggested by these results, the level of deviancy in the activity peer group predicted increases both in youths' antisocial behaviours,  $\Delta R^2 = .02$ ,  $F(1, 181) = 5.21$ ,  $p < .05$ , and substance use,  $\Delta R^2 = .01$ ,  $F(1, 181) = 4.26$ ,  $p < .05$ , after controlling for covariates. In other words, the greater the extent to which youths reported deviancy in their organized activity peer group, the greater their problem behaviours were.

#### **Looking at Moderating Effects**

Our second objective was to look at possible moderators of the association between the level of deviancy in the activity peer group and problem behaviours. For antisocial behaviours, only age composition of the activity peer group moderated this association, after controlling for

prior behaviours and level of co-deviance with friends,  $\Delta R^2 = .02$ ,  $F(1, 177) = 6.51$ ,  $p < .05$ .

Results appear in Table 3. To further examine the statistically significant moderating effect, age composition of the activity peer group was reverse coded and the same regression was tested with this new variable. Using the coefficients of the two regressions (taken from Step 3, in which all variables were considered simultaneously), a separate equation was created for each of the two categories of the moderating variable (no older peers *vs.* older peers) in which the values for level of deviancy in the activity peer group were entered at the mean (0), at one standard deviation below the mean (-0.89) and at one standard deviation above the mean (0.89). Results revealed that the level of deviancy in the activity peer group predicted increases in antisocial behaviours only among youths in activities with no older peers compared to activities with some older peers ( $b = .12$ ,  $p < .01$  *vs.*  $b = .01$ , *ns*; see Figure 1).

For substance use, only activity type moderated the association between level of deviancy in the activity peer group and substance use, after controlling for prior substance use and level of co-deviance with friends,  $\Delta R^2 = .02$ ,  $F(1, 179) = 6.90$ ,  $p < .01$ . Results appear in Table 4. To further examine the statistically significant moderating effect, same steps as those described above were carried out (see Figure 2). As can be seen from this figure, level of deviancy in the activity peer group predicted increases in substance use only among youths in sports activities compared to non-sports activities ( $b = .16$ ,  $p < .01$  *vs.*  $b = -.02$ , *ns*).

### **Discussion**

In this study, we examined whether deviancy in activity peer groups contributes to participating youths' problem behaviours (antisocial behaviours and substance use). Results first revealed that the level of deviancy in the activity peer group predicted increases in youths' antisocial behaviours and substance use after controlling for their prior adjustment and the level



of co-deviance with friends in their usual friendship networks. Furthermore, the association between deviancy in the activity peer group and antisocial behaviours was moderated by the age composition of the activity peer group, whereas the association between deviancy in the activity peer group and substance use was moderated by activity type. This study adds to previous research by considering how deviancy *within* the activity peer group can make a unique contribution to youths' problem behaviours.

### **Deviancy in the Activity Peer Group and Youths' Problem Behaviours**

The first objective was to examine whether youths' reported level of deviancy in their activity peer group was related to problem behaviours after controlling for their prior behaviours and co-deviance with friends. As noted earlier, low levels of antisocial behaviours and substance use were observed in this sample. This was expected since youths who participate in organized activities usually show lower levels of antisocial behaviours and substance use than youths who do not (Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2007; Elder, Leaver-Dunn, Wang, Nagy, & Green, 2000). Nonetheless, we found that youths' perceptions of the level of deviancy in their activity peer group uniquely contributed to their problem behaviours after taking into account important covariates, such as the stability of problem behaviours over time. These results suggest that organized activities can become a peer context in which youths reinforce their deviant identity and behaviours by means, for instance, of deviancy training (Lansford, 2006; Rorie et al., 2011). However, a close look at the moderators revealed that this was not the case for all activity contexts.

### **Moderators of this Association**

With respect to moderators, statistically significant results revealed that age composition of the activity peer group moderated the association for antisocial behaviours and that activity type moderated the association for substance use. First, level of deviancy in the activity peer

group predicted increases in antisocial behaviours only in activities with no older peers. As antisocial behaviours usually increase during mid-adolescence (Farrington, 2009; Moffitt, 1993), we expected this association to be stronger in activities with older peers. However, we did not ask how much older than the target youth the peers in the activity were. For instance, some community-based activities are open to the general public, which means that adults can also participate (e.g., painting class). If so, then the negative influence we tried to capture with the notion of “older peers” might not be present in these activities. In addition, sports – at least team sports – are most likely to be practiced with same-age peers and sports have been associated with greater antisocial behaviours (Gardner et al., 2009). There might therefore be an interaction between activity type and age composition of the activity peer group that was not considered in the current study. In a *post hoc* analysis, we looked at the interaction between activity type and age composition of the activity peer group. Results revealed that the category “no older peers” was more likely to occur in sports activities, which could also explain this finding.

Second, the level of deviancy in the activity peer group predicted increases in substance use only among youths who participated in sports activities. This result is consistent with other studies showing a positive association between sports and higher levels of alcohol use (Crosnoe, 2002; Denault et al., 2009; Eccles & Barber, 1999). As explained earlier, a sports subculture likely to value academic success, but also alcohol use or “partying,” has been suggested to explain this association (Crosnoe, 2002; Eccles & Barber, 1999; Miller et al., 2003).

Overall, this study builds on prior research on peers in the context of organized activities by examining not only the usual friendship network but also deviancy *within* the activities. Peers constitute one of the main reasons why youths initially decide to engage in organized activities, but also why they stay in these activities (Fredricks et al., 2002; Fredricks, Hackett, & Bergman, 2010; Hirsh, 2005; Patrick et al., 1999). Consequently, the role of deviant peer group dynamics in

this specific context of development deserves more research attention. Future studies are also needed to replicate and better understand the potential moderators of the association between the level of deviancy in the activity peer group and youths' problem behaviours. However, it should be noted that deviancy in the activity peer group and interaction effects only accounted for a small portion of variance in both criterion variables. Thus, even in the presence of statistically significant findings, the effect sizes were small. This is not surprising since organized activities are only one of the multiple contexts in which youths evolve. Moreover, youths spend only a small portion of their time in such activities, compared to time spent at home, with friends or at school (Larson & Verma, 1999) and multiple risk factors are associated with the development of problem behaviours among youths (for a review, see Farrington, 2009). What our results suggest is that deviancy within youths' organized activities can also contribute to this constellation of risk factors. Yet, to really capture the salience of organized activities in future studies, this context should be examined together with other important contexts in youths' lives.

### **Study Limitations and Conclusion**

Among the study's limitations is the fact that predictors and criterion variables were self-reported and assessed by means of questionnaires, which are potential sources of common method biases (e.g., common rater effects – same respondent – and measurement context effects – same medium). Common method variance refers to “variance that is attributable to the measurement method rather than to the constructs the measures represent” (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003, p. 879). These biases can result in artifactual covariance between the variables of interest. To overcome these biases, alternative strategies could include asking the activity leader to report on the variables or relying on direct observation, at least for items concerning misbehaviour during the activity. In addition, peer group deviancy was assessed for a single activity per youth, selected among the youth's activities as being the optimal target

activity. Yet, some youths were involved in more than one activity and may have had different interpersonal experiences in other activity contexts. In addition, the measure of deviancy in the activity peer group included only four items with moderate scale score reliability. Two of the items were also double-barrelled. Thus, this construct need to be refined and examined in future studies to further document its psychometric quality. Moreover, the co-deviance with friends' measure refers to misbehaving together in general, as opposed to joint engagement in specific problem behaviours. To better assess this construct, the measure should be more consistent with the problem behaviours assessed in the activity peer group and self-reported by youths. Our question concerning the degree of supervision was also less than optimal. A more detailed scale measuring, for instance, the quality of supervision (e.g., intervening when conflicts or misbehaviour arise, ensuring a high level of structure in the activity), would have better captured this potential moderator. Finally, our friendship measure did not reveal whether the youths first met their participating friends in the context of the activity or whether they knew them before they began participating in the activity. This distinction would have provided more information about the formation of deviant peer affiliations *within* the activities.

In conclusion, an important strength of this study was the examination of the contribution of peer group deviancy in the context of organized activities to youths' own problem behaviours. We believe that adult leaders should be aware of the possibility of such an effect and take action so that activity participation remains a positive experience for every youth, especially in sports contexts. As Mahoney et al. (2009) underlined, "the challenge for high quality out-of-school activities is to foster the development of positive peer networks that support societal norms and expectations" (p. 260). This study was a first step in trying to understand how deviant peer group dynamics in organized activities may be related to youths' problem behaviours. In future research, organized activities should be further examined together with other important contexts

in youths' lives. In addition, we need to go beyond the associations between participation in organized activities and youth adjustment and explore mechanisms of such associations.

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## Footnote

<sup>1</sup> Regression analyses were also computed using the transformed scores (logarithm [ $\log_{10}$ ]) and the results were the same. More specifically, results from the first regression revealed that deviancy in the activity peer group predicted increases in antisocial behaviours after controlling for prior behaviour and co-deviance with friends,  $R^2 = .41$ ,  $\Delta R^2 = .02$ ,  $F(1, 181) = 7.07$ ,  $p < .01$ ;  $b = .02$ ,  $SE = .01$ ,  $\beta = .15$ ,  $p < .01$ . With respect to the moderators, results were not statistically significant for participants' gender, activity type, adult supervision, and gender composition of the activity peer group. However, results were statistically significant for age composition of the activity peer group,  $\Delta R^2 = .02$ ,  $F(1, 177) = 7.38$ ,  $p < .01$ , suggesting that level of deviancy in the activity peer group predicted increases in antisocial behaviours only among youths in activities with no older peers ( $b = .04$ ,  $p < .001$  vs.  $b = .00$ , *ns*).

Table 1

*Means, Standard Deviations, and Correlations between the Study Variables (N = 185)*

	1	2	3	4	5	6	7
1. Family income	-						
2. Level of deviancy in the peer group	.04	-					
3. Antisocial behaviours G8	-.07	.24**	-				
4. Antisocial behaviours G9	-.06	.29***	.61***	-			
5. Substance use G8	-.04	.13	.67***	.35***	-		
6. Substance use G9	-.06	.23**	.54***	.48***	.70***	-	
7. Co-deviance with friends	.05	.22**	.39***	.38***	.21**	.32***	-
Mean	11.09	2.11	0.35	0.30	0.36	0.40	2.08
Standard Deviation	2.82	0.89	0.36	0.35	0.57	0.59	1.04

\*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 2

*Regression Analyses Predicting Antisocial Behaviours and Substance Use from Level of Deviancy in the Activity Peer Group*

	b	SE	$\beta$	Part	$\Delta R^2$
Predicting G9 antisocial behaviours					
Step 1					
G8 youths' antisocial behaviours	.52***	.06	.54***	.50	
G9 co-deviance with friends	.06**	.02	.17**	.16	
					.39***
Step 2					
G8 youths' antisocial behaviours	.50***	.06	.51***	.47	
G9 co-deviance with friends	.05*	.02	.15*	.14	
G9 self-reported deviancy in the peer group	.05*	.02	.14*	.13	
					.02*
Predicting G9 substance use					
Step 1					
G8 youths' substance use	.70***	.06	.67***	.65	
G9 co-deviance with friends	.10**	.03	.18**	.18	
					.53***
Step 2					
G8 youths' substance use	.69***	.05	.66***	.64	
G9 co-deviance with friends	.09**	.03	.16**	.15	
G9 self-reported deviancy in the peer group	.07*	.03	.11*	.10	
					.01*

Note. Part = semipartial correlation coefficient. Antisocial behaviours – Step 1:  $F(2, 182) = 58.75, p < .001$ . Total  $R^2$  for the model = .41.

Substance use – Step 1:  $F(2, 182) = 100.65, p < .001$ . Total  $R^2$  for the model = .54.

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

Table 3

*Regression Analyses Testing the Moderating Effect of Age Composition of the Activity Peer**Group*

	b	SE	$\beta$	Part	$\Delta R^2$
Predicting G9 Antisocial behaviours					
Step 1					
G8 youths' antisocial behaviours	.52***	.06	.54***	.50	
G9 co-deviance with friends	.06**	.02	.17**	.16	
					.38***
Step 2					
G8 youths' antisocial behaviours	.51***	.06	.52***	.47	
G9 co-deviance with friends	.05*	.02	.15*	.13	
Main effect of level of deviancy in the activity peer group	.05*	.02	.14*	.13	
Main effect of age composition	-.03	.04	-.04	-.04	
					.01
Step 3					
G8 youths' antisocial behaviours	.52***	.06	.53***	.48	
G9 co-deviance with friends	.05*	.02	.14*	.13	
Main effect of level of deviancy in the activity peer group	.12**	.04	.31**	.20	
Main effect of age composition	-.03	.04	-.04	-.04	
G9 self-reported deviancy in the peer group X age composition	-.12*	.04	-.23*	-.15	
					.02*

Note. Part = semipartial correlation coefficient. Age composition of the activity peer group was coded 0 = no older peers and 1 = older peers. Step 1:  $F(2, 180) = 57.36, p < .001$ . Step 2:  $F(2, 178) = 2.81, p = .06$ . Total  $R^2$  for the model = .41.

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

Table 4

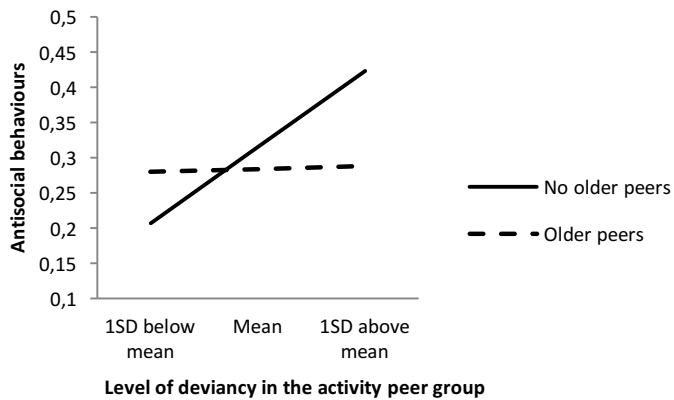
*Regression Analyses Testing the Moderating Effect of Activity Type*

	b	SE	$\beta$	Part	$\Delta R^2$
Predicting G9 Substance use					
Step 1					
G8 youths' substance use	.70***	.06	.67***	.65	
G9 co-deviance with friends	.10**	.03	.18**	.18	
					.52***
Step 2					
G8 youths' substance use	.69***	.06	.66***	.63	
G9 co-deviance with friends	.09**	.03	.16**	.15	
Main effect of level of deviancy in the activity peer group	.07*	.04	.11*	.11	
Main effect of activity type	.02	.06	.02	.02	
					.01
Step 3					
G8 youths' substance use	.69***	.05	.66***	.64	
G9 co-deviance with friends	.07*	.03	.13*	.12	
Main effect of level of deviancy in the activity peer group	-.02	.05	-.04	-.02	
Main effect of activity type	.02	.06	.02	.02	
G9 self-reported deviancy in the peer group X activity type	.18**	.07	.20**	.13	
					.02**

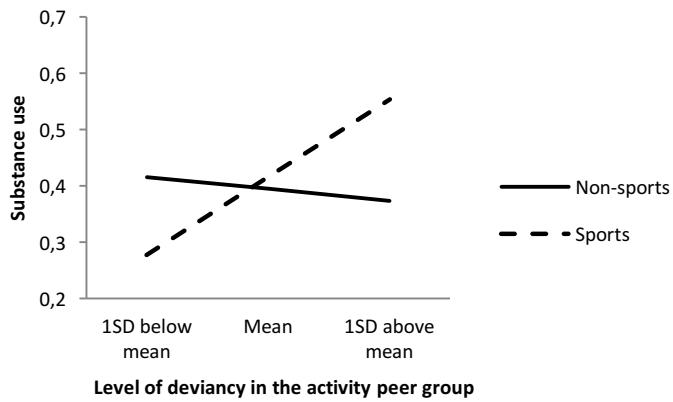
Note. Part = semipartial correlation coefficient. Activity type was coded 0 = non-sports and 1 = sports. Step 1:  $F(2, 182) = 100.65, p < .001$ . Step 2:  $F(2, 180) = 2.16, p = .12$ . Total  $R^2$  for the model = .55.

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





*Figure 1.* Moderating effect of age composition of the activity peer group on the association between level of deviancy in the activity peer group and youths' antisocial behaviours. To calculate the regression lines, covariates were also centered to the mean (the value of zero was entered in the equations).



*Figure 2.* Moderating effect of activity type on the association between level of deviancy in the activity peer group and youths' substance use. To calculate the regression lines, covariates were also centered to the mean (the value of zero was entered in the equations).