Out-of-School Time and Problem Behaviors during Adolescence

Kenneth T.H. Lee[1]
Ryan W. Lewis[1]
Sabrina Kataoka[1]
Deborah Lowe Vandell[1]
Katerina Schenke[2]

[1]University of California, Irvine
[2]University of California, Los Angeles
September 15, 2016

Author Note

Abstract

Although adolescents' lives include a rich array of afterschool experiences, including unsupervised time with peers, paid employment, and organized activities, research has primarily focused on these settings in isolation. Using a prospective longitudinal dataset, this study estimates associations between four different adolescent afterschool contexts on externalizing, internalizing, and risk-taking behaviors. We use individual fixed effects adjustments to control for time invariant observable and unobservable characteristics. Although multiple contexts were related to risk-taking and problem behaviors in the OLS models, only unsupervised time with peers was consistently related to risk taking and externalizing behaviors when adjusting for individual fixed effects. These results highlight the value of examining multiple OST contexts in relation to adolescents' behavior problems.

Adolescents' lives include a rich array of out-of-school time (OST) experiences, including hanging out with peers, working in part-time jobs, and participating in organized, extracurricular activities. However, research examining the effects of these settings has tended to focus on them in isolation (Haynie & Osgood, 2005; Staff, Mont'Alvao, & Mortimer, 2015; Vandell, Larson, Mahoney, & Watts, 2015). Because these settings have primarily been investigated separately, disentangling potentially confounded relations has not been possible. It unclear, for example, if protective effects of organized activities on problem behaviors are artifacts of less unsupervised time with peers. The purpose of the present study is to disentangle relations associated with adolescents' experiences in multiple contexts during high school in relation to changes in adolescent problem behaviors.

Unsupervised Time with Peers

Much empirical evidence has linked unsupervised time with peers to higher levels of problem behaviors. For example, Osgood and Anderson (2004) examined a sample of 4,358 eighth grade adolescents and found unsupervised socializing with peers was positively associated with behaviors such as skipping school and selling drugs. Other researchers found adolescent unsupervised time after school was linked to higher levels of tobacco, alcohol, and marijuana use, as well as a more depressed mood (Richardson, Radziszewska, Dent, & Flay, 1993).

However, because time with unsupervised peers and problem behavior was assessed concurrently, it is not possible to rule out selection effects. Perhaps, youth who engage in more risky behaviors choose to spend their time with peers in unsupervised settings and obtained associations may rather reflect adolescent predispositions and interests. Additionally, focusing solely on unsupervised time in isolation fails to account for other OST environments and it may

be possible that associations between unsupervised time with peers and adolescent problem behaviors may be the result of fewer organized activities and not unsupervised time, per se.

Paid Employment

Adolescent employment has also been linked to problem behaviors (Staff et al., 2015). Adolescents' own preferences and characteristics appear to influence participation in paid employment and to partially account for associations between paid employment and problem behaviors. Adolescents who worked more than 20 hours a week reported the highest level of problem behaviors, but adolescents who preferred to work but were not employed reported more problem behaviors than adolescents who were not employed and not interested in working, suggesting selection accounts for part of the relation between paid employment and behavior problems (Staff et al., 2015). Furthermore, studies regarding paid employment fail to account for other OST contexts that may contribute to problem behaviors.

Organized Activities

There is evidence indicating that participation in organized activities is protective for problem behaviors. In a meta-analysis, Durlak, Weissberg, and Pachan (2010) found participation in high quality OST programs was associated with reductions in problem behaviors. Other research showed increased school-based organized activity participation to be associated with experienced fewer problem behaviors, such as using drugs and becoming a teen parent (Denault & Poulin, 2009).

Other investigators have differentiated between specific types of organized activities such as sports, suggesting differential effects by activity. In particular, high school sports participation was found to be associated with relative increases in alcohol use (Lee & Vandell, 2015) as well

as higher grades (Lipscomb, 2007). The studies of organized activities have not taken into account paid employment or unsupervised time.

Theoretical Framework

Both opportunity and socialization processes are theorized to be developmental mechanisms linking participation in OST contexts to problem behaviors (Haynie & Osgood, 2005). Opportunity processes consider how situational factors can make a context more conducive to problem behaviors while socialization processes explain the acquisition and internalization of norms of youth social environments, resulting in future problem behaviors.

When considering opportunity processes, Osgood and colleagues (1996) proposed unstructured context with peers to be characterized by the confluence of three situational factors: a lack of adult supervision, a lack of structure, and the presence of peers, which create an opportunity for deviant behaviors. Socialization processes, on the other hand, are based on a social learning perspective (Akers, 1985) by which adolescents are exposed to more delinquent peers and conform to the norms of the social context. Adolescent unstructured socializing with peers is posited to increase association with delinquent youth, influencing attitudes of delinquency, whereas organized contexts are posited to protect against exposure to delinquent youth and acquiring attitudes of delinquency.

Haynie and Osgood (2005) found evidence for both opportunity and socialization processes—more time spent participating in unstructured socializing with friends, *whether conventional or deviant*, predicted greater delinquency (opportunity process), and having more delinquent friends, also predicted greater delinquency (socialization process). Given the theorized mechanisms of opportunity and socialization, structured and supervised contexts, such as sports participation, are expected to protect against problem behaviors as the presence of

adults provides social control and oversight to limit exposure to opportunities for delinquency (Osgood et al., 2005). Paid employment is typically structured but may expose youth to older teenagers and young adults who engage in adult behaviors and adult situations that are considered risky for adolescents (Bozick, 2006).

The Current Study

The current study examines relations between amount of time in four different OST contexts (unsupervised time with peers, paid employment, sports, and "other" organized activities) and risk-taking, externalizing, and internalizing behaviors. We use two measurement time points (age 15 and end-of-high-school) and both OLS and individual fixed effects (FE) analyses. In the OLS analyses, we examine concurrent relations between participation in OST contexts and problem behaviors while in the individual FE analyses, we relate *changes* in amount of time in each of the four OST contexts between age 15 and end of high school to *changes* in problem behaviors during this period. Because FE analyses compare an individual with his or herself at a different point in time, we are able to use the adolescent as his or her own control for time-invariant characteristics such as gender and other unobserable time-invariant self-selection factors (Lipscomb, 2007). Drawing on prior research and theory, we hypothesize that increases in unsupervised time with peers and paid employment will be linked to higher levels of risk-taking and externalizing behaviors, whereas organized activities are expected to serve a protective function. Because prior research has limited examinations on relations between OST contexts and internalizing problems, examining these relations is exploratory.

<div align="center">

Methods

</div>

Participants

Participants were part of the NICHD Study of Early Child Care and Youth Development, a longitudinal study conducted at ten research sites across the United States. At age 15 (A15) and

the end of high school (EOHS), study participants completed surveys about their OST experiences, risk-taking, externalizing, and internalizing behaviors. Mothers reported participants' demographic and family characteristics. This paper examines 747 adolescents for whom there were data on OST activities, individual characteristics, and risk-taking behaviors, and 732 adolescents for whom there are data on OST activities, individual characteristics, and externalizing/internalizing behaviors. The analyses use two observations per adolescent to take advantage of individual FE adjustments.

Measures

Primary Independent Variables.

Unsupervised time with peers. Adolescents reported how many weekdays and how many weekend hours they typically spent at least 30 minutes in the afternoon or evening after school with other kids (not including brothers or sisters) and without an adult. The scores for weekdays ranged from zero to five weekdays, and the scores for weekend hours ranged from zero to eight weekend hours. A measure of weekly unsupervised time with peers was constructed by standardizing the sum of the standardized value of weekdays and of weekend hours. Weekdays and weekend hours were combined to obtain a measure of unsupervised time with peers throughout the week. Higher values indicate more unsupervised time with peers.

Paid employment. Adolescents reported the number of hours per week typically worked in a categorical variable (more than 20 hours, 16-20 hours, 11-15 hours, 6-10 hours, 1-5 hours) at a paying job during the school year, which was converted to a continuous scale using the midpoint of each categorical variable. If participants indicated they participated in more than 20 hours, participants were assigned a value of 21 hours per week. If participants indicated that they did not work, work hours per week was coded as zero hours.

Sports. Adolescents reported the number of days during a typical week (ranging from less than one day a week to seven days a week) they participated in organized sports, including team sports, training activities, and instructional lessons. If adolescents did not participate in an organized sport, sports participation was coded as zero days.

Other organized activities. Adolescents reported the number of days of participation in that activity during a typical week (ranging from less than one day a week to seven days) in organized activities such as arts activities, non-academic clubs, and volunteer or community service work. The sum of participation in these activities was taken. If adolescents did not participate in any of these activities, "other" organized activities was coded as zero days.

Adolescent problem behaviors. Frequency of engaging in *risky behaviors* was reported using a measure developed by Halpern-Felsher, Cornell, Kropp, and Tschann (2005). Fifty-three items are coded as 1 if the student ever committed that behavior and 0 otherwise, and then all items are summed ($\alpha = .89$ at A15 and $\alpha = .88$ in EOHS). Sample items include: "skipping school", "selling illegal drugs", and "oral sex." Higher scores indicate a greater affinity to partake in risky behaviors.

Adolescents self-reported *externalizing behaviors* (30 items; $\alpha = .86$ at A15 and EOHS) and *internalizing behaviors* (32 items; $\alpha = .89$ at A15 and $\alpha = .91$ in EOHS) using the Youth Self-Report (Achenbach & Rescorla, 2001). Each item was on a 3-point scale (0 = *not true*, 1 = *somewhat or sometimes true,* 2 = *very true or often true*) to describe the adolescent currently or within the last six months. Sample items of externalizing behaviors include "fighting" and "hangs around other children who get into trouble." Sample items of internalizing behaviors include "would rather be alone," and "fearful." T-scores on a range of 50 to 100 were then calculated for each scale.

Covariates. Measures of family and adolescent characteristics were collected and used as covariates. Mothers reported the child's *gende*r, *race* (white, black, Hispanic, other), *maternal age*, and *maternal education* during a hospital visit shortly after the study child's birth. Adolescent self-reports of their impulsivity at A15 and EOHS was also included as a time-varying measure of an adolescent's personality.

Analysis Strategy

To examine associations of the different OST contexts and problem behaviors, a series of multivariate OLS regressions was conducted using robust standard errors controlling for the aforementioned covariates in each model. As there are two observations for each adolescent, the OLS model uses two cross-sections at A15 and EOHS (1494 observations from 747 adolescents) to estimate the relationship between OST participation and problem behaviors. Standard errors were clustered at the individual level. OLS regressions using individual fixed effects adjustments were also conducted where each observation is compared against another observation of the same individual at a different time using robust standard errors clustered at the individual level. Time invariant covariates were omitted in the individual FE regressions.

Out of the 1494 observations, 88% of these observations reported no missing data on all predictors and covariates. To account for missing values, observations with missing dependent variables were used to impute missing data on the predictor variables and dropped before the analysis following the "multiple impute and delete" approach using 50 imputations (Von Hippel, 2007). Predictive mean matching was used to impute continuous variables, logistic regressions were used to impute dummy variables, and multinomial logistic regressions were used to impute categorical variables.

<div align="center">

Results

</div>

Table 2 presents the correlations among all predictor and outcome variables in the model. Among various significant relations, only few correlations were consistent in both A15 and EOHS, risk-taking was positively related to unsupervised time (r = .34-.35), paid employment (r = .08-.15). Externalizing behaviors was positively related to unsupervised time (r = .18-.23) while internalizing behaviors was negatively related to sports (r = -.13-.15).

OST as a Predictor of Problem Behaviors

Table 3 presents OLS and individual FE model results relating OST contexts to risk-taking, externalizing, and internalizing behaviors. In the OLS models, more unsupervised time with peers is positively associated with risk-taking (β = .25), externalizing behaviors (β = .11) and negatively associated internalizing behaviors (β = -.06). Paid employment is associated with risk-taking (β = .07) and sports is associated with both externalizing (β = -.06) and internalizing (β = -.14) behaviors.

In the individual FE models, only unsupervised time with peers is significantly related to any of the outcomes. Increases in unsupervised time with peers predicted increases in risk-taking (β = .25) and externalizing behaviors (β = .10).

Robustness Checks

A potential concern to the general conclusion is the potential interaction between the OST contexts. We ran interactions between unsupervised time with peers and each of the other OST contexts. Although there are some significant interactions with the risk-taking outcome in the OLS models, the individual FE models lack any significant relations and the combinations of these OST contexts were not predictive of problem behaviors (Appendix Table 1).

Another potential concern is how paid employment is typically measured in the extant literature—intensive paid employment is likely to have adverse effects. To account for

potentially non-linear relations between paid employment and our outcomes, we ran models using a dummy variable identifying adolescents with 20 or more hours of paid employment per week instead of our continuous specification. The individual FE models show no differences between the two specifications (Appendix Table 2).

Discussion

This examination found significant relations between OST contexts and adolescents' problem behaviors using both OLS regressions and individual fixed effects adjustments. Because a rich array of contexts was included in the same analytic model, we could begin to disentangle effects of each of these common OST contexts and youth problem behaviors. Our most robust finding, obtained in both the OLS and individual FE analyses, was that unsupervised time with peers predicted higher levels of risk-taking and externalizing at the end of high school. These findings are consistent with the prior literature that unsupervised time with peers presents a context in which adolescents are exposed to both opportunity and socialization processes that make them more susceptible to problem behaviors (Haynie & Osgood, 2005; Osgood et al., 2005). Furthermore, individual fixed effects account for potential selection effects and provide conservative estimates of these relationships as individuals serve as their own control.

Additional relations between OST contexts and problem behaviors were found in the OLS models. Our finding relating paid employment is risk-taking is consistent with other research suggesting that paid employment is associated with increased risky behaviors during high school (Staff et al., 2015). Systematically examining the processes linking paid employment to adolescent risk taking is needed, especially given the prevalence of adolescent employment.

The current study also investigated organized activities as a potentially protective context. In this regard, more time in sports activities predicted less externalizing and internalizing

behavior. Unsupervised time with peers also was related to *less* internalizing behavior, suggesting that, while problematic for risk-taking and externalizing, may also be protective.

One limitation of the current study is its correlational design. Future experimental work might test causal links using interventions designed to reduce adolescent unsupervised time with peers, such as increasing the length of the school day. Reducing the amount of unsupervised time may be an effective strategy to reduce problem behaviors. Another limitation is the lack of detailed information of what occurs on a daily basis in each of these contexts. More information regarding developmental processes within these OST contexts could provide some insight about the mediating pathways between these contexts and problem behaviors. Future research should look towards qualitative approaches toward understanding these mediating pathways. Lastly, although our data is regionally diverse across 10 research sites in the United States, it is not nationally representative. Replicating these results with a nationally representative sample is recommended to better assess generalizability and allow for additional analyses that the data used in this study is underpowered to do.

References

Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA School-Age Forms & Profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families.

Akers, R. L. (1985). *Deviant Behavior: A Social Learning Approach*. Wadsworth.

Bozick, R. (2006). Precocious behaviors in early adolescence: Employment and the transition to first sexual intercourse. *The Journal of Early Adolescence*, *26*(1), 60-86. doi: 10.1177/0272431605282654

Denault, A. S., & Poulin, F. (2009). Intensity and breadth of participation in organized activities during the adolescent years: Multiple associations with youth outcomes. *Journal of Youth and Adolescence*, *38*(9), 1199-1213. doi: 10.1007/s10964-009-9437-5

Durlak, J.A., Weissberg, R.P., & Pachan, M. (2010). A meta-analysis of after-school programs that seek to promote personal and social skills in children and adolescents. *American Journal of Community Psychology*, *45*(3-4), 294-309. doi: 10.1007/s10464-010-9300-6

Halpern-Felsher, B. L., Cornell, J., Kropp, R. Y., & Tschann, J. (2005). Oral versus vaginal sex among adolescents: Perceptions, attitudes and behavior. *Pediatrics, 115,* 845-851.

Haynie, D. L., & Osgood, D. W. (2005). Reconsidering peers and delinquency: How do peers matter? *Social Forces, 84*, 1109-1130.

Lee, K.T.H., & Vandell, D. L. (2015). Out-of-school time and adolescent substance use. *Journal of Adolescent Health*, *57*(5), 523-529. doi: 10.1016/j.jadohealth.2015.07.003

Lipscomb, S. (2007). Secondary school extracurricular involvement and academic achievement: a fixed effects approach. *Economics of Education Review*, *26*, 463-472.

Osgood, D. W., & Anderson, A. L. (2004). Unstructured socializing and rates of delinquency. *Criminology*, *42*(3), 519-550. doi: 10.1111/j.1745-9125.2004.tb00528.x

Osgood, D. W., Anderson, A. L., & Shaffer, J. N. (2005). Unstructured leisure in the after-school hours. *Organized Activities as Contexts of Development: Extracurricular Activities, After-school and Community Programs*, 45-64.

Osgood, D. W., Wilson, J. K., O'Malley, P. M, Bachman, J. G., & Johnston, L. D. (1996). Routine activities and individual deviant behavior. *American Sociological Review, 61*, 635-55.

Richardson, J. L., Radziszewska, B., Dent, C. W., & Flay, B. R. (1993). Relationship between after-school care of adolescents and substance use, risk taking, depressed mood, and academic achievement. *Pediatrics*, *92*(1), 32-38.

Staff, J., Mont'Alvao, A., & Mortimer, J. T. (2015). Children at Work. In R. M. Lerner (Ed.), *Handbook of Child Psychology and Developmental Science* (Vol. 4. Ecological settings and processes). New York: John Wiley & Sons, Inc.

Vandell, D. L., Larson, R. W., Mahoney, J. L. and Watts, T. W. (2015). Children's organized activities. *Handbook of Child Psychology and Developmental Science*. 4:8:1–40. doi: 10.1002/9781118963418.childpsy408

Von Hippel, P. T. (2007). Regression with missing Ys: An improved strategy for analyzing multiply imputed data. *Sociological Methodology, 37*(1), 83-117. doi:10.1111/j.1467-9531.2007.00180.x

Table 1: Summary Statistics (N=747)

	Full Sample[+]		Age 15		End of High School	
	Mean or %	Std. Dev.	Mean or %	Std. Dev.	Mean or %	Std. Dev.
Predictor Variables						
Out-of-School Context Participation						
Unsupervised Weekdays with Peers (days/week)	2.45	1.91	1.92	1.87	2.98	1.80
Unsupervised Weekend Hours with Peers (hrs/week)	4.29	2.86	3.36	2.75	5.24	2.65
Paid Employment (hrs/week)	4.61	6.95	1.81	3.90	7.27	8.07
Sports Activities (days/week)	3.08	2.59	3.67	2.41	2.47	2.62
Other Organized Activities (days/week)	2.74	2.98	3.10	3.08	2.38	2.84
Outcome Variables						
Risk-Taking	6.59	5.80	5.56	5.00	7.63	6.36
Externalizing Behaviors	49.80	10.02	48.97	9.80	50.65	10.17
Internalizing Behaviors	47.80	10.80	47.27	10.11	48.34	11.44
Covariates						
Female	51.27%		51.27%		51.27%	
Race/Ethnicity						
White	80.86%		80.86%		80.86%	
Black	8.43%		8.43%		8.43%	
Hispanic	5.62%		5.62%		5.62%	
Asian/Other	5.09%		5.09%		5.09%	
Maternal Age at Birth	29.24	5.34	29.24	5.34	29.24	5.34
Maternal Education at Birth	14.69	2.42	14.69	2.42	14.69	2.42
Impulsivity	2.38	.87	2.46	.90	2.30	.83
Cohort Dummy	50.00%					
Observations	1494		747		747	

[+]Combines both Age 15 and End of High School sample

Table 2: Correlations between Outcome and Main Predictor Variables (N=1494)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Age 15													
Outcome Variables													
(1) Risk-Taking	1.00												
(2) Externalizing	.58***	1.00											
(3) Internalizing	.26***	.52***	1.00										
Predictor Variables													
(4) Unsupervised Time with Peers	.34***	.18***	.01	1.00									
(5) Paid Employment	.08*	.06	.03	.03	1.00								
(6) Sports	.03	-.05	-.15***	.13***	.05	1.00							
(7) Other Organized Activities	-.08*	-.03	.00	-.01	.10**	-.01	1.00						
End of High School													
Outcome Variables													
(8) Risk-Taking	.58***	.41***	.15***	.23***	.11**	.05	-.13***	1.00					
(9) Externalizing	.45***	.57***	.31***	.08*	.06+	-.01	-.04	.64***	1.00				
(10) Internalizing	.14***	.30***	.53***	-.09*	.03	-.13***	.01	.23***	.55***	1.00			
Predictor Variables													
(11) Unsupervised Time with Peers	.26***	.15***	-.00	.30***	.12**	.09*	-.03	.35***	.23***	-.08*	1.00		
(12) Paid Employment	.12**	.13***	.04	.06	.14***	-.03	-.03	.15***	.11**	-.01	.20***	1.00	
(13) Sports	-.06+	-.08*	-.13***	-.04	-.00	.46***	-.09*	-.03	-.05	-.13***	.04	-.15***	1.00
(14) Other Organized Activities	-.12***	-.05	.01	-.09*	.03	-.02	.37***	-.13***	-.08*	.01	-.01	-.07+	.00

Note. $^{+}p < 0.10$, $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Table 3: Associations between Problem Behaviors and OST Context Participation (n=1,479)

	Risk-Taking		Externalizing		Internalizing	
	OLS	Individual FE	OLS	Individual FE	OLS	Individual FE
Predictor Variables (Standardized)						
Unsupervised Time with Peers	.25***	.12***	.11***	.10***	-.06*	-.00
	(.02)	(.03)	(.02)	(.03)	(.03)	(.03)
Paid Employment	.07*	.02	.04	-.02	-.02	-.04
	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)
Sports	-.02	-.02	-.06*	-.02	-.14***	-.01
	(.02)	(.04)	(.02)	(.03)	(.03)	(.03)
Other Organized Activities	-.04	.02	-.01	-.02	.03	.00
	(.03)	(.03)	(.02)	(.03)	(.03)	(.03)
Covariates						
Female	-.32***		.02		.02	
	(.05)		(.05)		(.06)	
Race/Ethnicity						
Black	.20+		.03		-.11	
	(.11)		(.11)		(.11)	
Hispanic	.03		.07		.11	
	(.14)		(.12)		(.14)	
Asian/Other	.15		.08		.06	
	(.16)		(.12)		(.14)	
Maternal Age at Birth	-.00		.01		-.01	
	(.01)		(.01)		(.01)	
Maternal Education at Birth	-.04***		-.01		.02	
	(.01)		(.01)		(.01)	
Impulsivity	.38***	.18***	.54***	.32***	.26***	.19***
	(.03)	(.04)	(.03)	(.03)	(.03)	(.04)
Cohort Dummy	.36***	.37***	.21***	.23***	.10*	.16***
	(.04)	(.04)	(.04)	(.04)	(.05)	(.05)
Constant	.68***	-.19***	-.21	-.11***	-.26	-.08***
	(.19)	(.02)	(.21)	(.02)	(.26)	(.02)

Note. Standard errors in parentheses
+ *p* < .10, * *p* < .05, ** *p* < .01, *** *p* < .001

Appendix Table 1: Associations between Problem Behaviors and OST Context Participation (n=1,479)

	Risk-Taking		Externalizing		Internalizing	
	OLS	Individual FE	OLS	Individual FE	OLS	Individual FE
Predictor Variables (Standardized)						
Unsupervised Time with Peers	.25***	.13***	-.11**	-.10**	-.06*	-.00
	(.03)	(.03)	(.02)	(.03)	(.03)	(.03)
Paid Employment	.06*	.02	.04	-.01	-.02	-.04
	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)
Sports	-.02	-.02	-.06*	-.02	-.14***	-.01
	(.02)	(.03)	(.02)	(.03)	(.03)	(.03)
Other Organized Activities	-.04	.02	-.01	-.02	.03	-.00
	(.03)	(.03)	(.02)	(.03)	(.03)	(.03)
Interactions						
Paid Employment **X** Unsupervised Time with Peers	.00	.02	-.01	-.04	.01	-.02
	(.03)	(.03)	(.03)	(.02)	(.03)	(.03)
Sports **X** Unsupervised Time with Peers	-.05*	-.01	-.03	-.00	.00	-.00
	(.02)	(.03)	(.02)	(.03)	(.03)	(.03)
Other Organized Activities **X** Unsupervised Time with Peers	-.07**	-.02	-.02	.02	.02	.04
	(.02)	(.02)	(.02)	(.02)	(.02)	(.03)
Controls Included?	Yes	Yes	Yes	Yes	Yes	Yes
Constant	.67***	-.19***	-.21	-.11***	-.26	-.08**
	(.20)	(.02)	(.21)	(.02)	(.26)	(.02)

Note. Standard errors in parentheses

Controls include: female, race/ethnicity (black, Hispanic, Asian/other), maternal age at birth, maternal education at birth, impulsivity, cohort dummy

[+] $p < .10$, [*] $p < .05$, [**] $p < .01$, [***] $p < .001$

Appendix Table 2: Associations between Problem Behaviors and OST Context Participation (n=1,479)

	Risk-Taking		Externalizing		Internalizing	
	OLS	Individual FE	OLS	Individual FE	OLS	Individual FE
Predictor Variables (Standardized)						
Unsupervised Time with Peers	.25***	.12***	.11***	.10***	-.07*	-.00
	(.02)	(.03)	(.02)	(.03)	(.03)	(.03)
20+ Hours of Paid Employment Per	.39**	.21	.13	-.14	-.03	-.12
Week	(.13)	(.13)	(.10)	(.10)	(.11)	(.11)
Sports	-.02	-.01	-.06*	-.02	-.14***	-.02
	(.02)	(.04)	(.02)	(.03)	(.03)	(.04)
Other Organized Activities	-.04	.02	-.01	-.02	.03	-.00
	(.03)	(.03)	(.02)	(.03)	(.03)	(.03)
Controls Included?	Yes	Yes	Yes	Yes	Yes	Yes
Constant	.62**	-.20***	-.23	-.10***	-.26	-.06**
	(.19)	(.02)	(.21)	(.02)	(.26)	(.02)

Note. Standard errors in parentheses

Controls include: female, race/ethnicity (black, Hispanic, Asian/other), maternal age at birth, maternal education at birth, impulsivity, cohort dummy

+ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$