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Does Spending Time in Public Settings Contribute to the Adolescent Risk of Violent Victimization?

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Abstract

Objectives Using data from a nationally representative survey of adolescents in Finland this research examined the influence of spending time in public settings on the risk of physical assault and robbery victimization.

Methods Binary and multinomial regression models were estimated to disaggregate associations between hours spent in public settings and characteristics of the victimization incident. The amount of causality/spuriousness in the association was examined using a method of situational decomposition.

Results Our findings indicate that: (1) an active night life (any time after 6 pm) has a strong effect on victimization for boys, whereas much of the association between night life and victimization is spurious for girls; (2) after-school activity is not a risk factor; (3) adolescents who frequent public places at night increase their risk of victimization by people they know as well as strangers; and (4) much of the risk of night time activity in public settings is alcohol-related.

Conclusions Our research suggests that a good deal of the risk associated with spending time in public settings is a function of the victim's own risky behavior rather than inadvertent physical contact with motivated offenders in the absence of capable guardians. In addition, this lifestyle is significantly more victimogenic for males.

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Introduction

According to the routine activity perspective, victimization risk depends on *what* ordinary people do and *when* they do it (Felson and Boba 2010). One of the most common claims in the literature is that those who frequent public settings at night increase their likelihood of criminal victimization (e.g., Hindelang et al. 1978; Miethe et al. 1987). Night time activity is assumed to increase the probability that potential victims will come into contact with motivated offenders in the absence of capable guardians, thereby increasing their exposure to situations conducive to violent encounters. These assertions are supported by empirical studies showing that people who frequently go out at night are more likely to be victims of violence than those who spend their evenings at home (Felson 1997; Gottfredson 1984; Hough and Mayhew 1983; Jensen and Brownfield 1986; Kennedy and Forde 1990; Lasley 1989; Lauritsen et al. 1992; Miethe et al. 1987; Sampson and Lauritsen 1990; Schreck and Fisher 2004; Wilcox-Rountree et al. 1994).

In the current study, we examine the relationship between going out and assault and robbery victimization among Finnish adolescents. We examine whether the relationship reflects causal influence or whether it is due to selection. Our method emphasizes the location in which an incident occurs (Lynch 1987). We also examine whether the association depends on *who* is involved, *what* they are doing at the time, and *when* the activity occurs. For example, the risks associated with spending time away from home may be due to exposure to strangers, adolescent's own risky behavior when they are out, or the time of day or night they are away. In addition, these associations may vary by gender. Some of these issues have been examined before but here we provide evidence using a relatively new method to address the selection issue. It will turn out that the method we use has crucial implications.

The Selection Issue

Addressing selection bias is critical in efforts to unravel the nature of the relationship between lifestyle patterns and victimization. It is reasonable to assume a great deal of spuriousness in this relationship given that people who lead a “party” life-style are likely to be very different from “homebodies” (DeLisi 2003; Felson 1997; Ravert 2009). For example, thrill-seekers, risk-takers, and those with low self-control may be more likely to go out at night and frequent places with low guardianship (Evans et al. 1997; Wilcox et al. 2009). They may also be more likely to engage in drinking and provocative behavior that puts them at increased risk of victimization (Jensen and Brownfield 1986; Sparks 1982). Consistent with these assumptions, low self-control and impulsivity have been found to be associated with higher rates of victimization (Schreck and Fisher 2004; Taylor et al. 2007).

Isolating the causal effect of opportunity variables is difficult with non-experimental data. One way of addressing the problem is to use a within-subject design and longitudinal data. This would allow one to control for stable individual differences and to handle relatively contemporaneous effects. On the other hand, the method does not control for time-varying unobserved factors that affect both routine activities and victimization. We are not aware of any studies that have used a within-subject design to examine the relationship between activity patterns and victimization. Osgood et al. (1996), however, used

the method to show that *offenders* committed more crime during periods in which they had an active night life. In addition, Cross et al. (2009) found that unsupervised socializing after school was associated with delinquency at the same time period, controlling for prior levels of delinquency.

Felson (1997) addressed the causality issue by examining the likelihood of witnessing violence as well as personal victimization. The study found that men with an active night life were more likely to witness violence, commit violent offenses, and experience victimization. The effects on witnessing violence for men suggested that night life affected their opportunity for victimization, as did the finding that night life was only associated with committing violence against people outside the family. Going out does not increase opportunities for family violence, so if one observes a positive relationship between night life and family violence, it is probably due to selection.

Gender Differences

The effects of going out may vary by gender. Some research suggests that an active night life is a less important risk factor for women than for men. For example, a study based on the National Crime Survey found that a more active night life was more strongly correlated with men's victimization than women's victimization (Miethe et al. 1987). Analyses of data from the British Crime Survey also suggested that night life was more strongly related to men's risk of victimization than women's (Gottfredson 1984). Women were only significantly at risk if they went out at least two nights a weekend, whereas men were at risk whether they went out on weekends or not. Finally, Felson's (1997) study found that an active night life was associated with men's but not women's risk of victimization, offending, and witnessing violence.

We can imagine at least three reasons an active night life might not be as risky for females as for males. First, when females go out at night, they may more likely to travel in groups and avoid dangerous locations. This may reflect their greater fear of crime or their greater risk aversion compared to males (e.g., Byrnes et al. 1999). For adolescents, their avoidance of risky situations may reflect parental influence, as parents tend to be more protective of girls than boys (Rai et al. 2003). Second, an extensive literature based on both experimental and correlational data suggests that violence against females is viewed much more negatively than violence against males (e.g., Felson and Feld 2009; see Felson 2002 for a review). Potential offenders are likely to leave them alone in public settings. Third, since males have higher rates of aggression (e.g., Bettencourt and Miller 1996) they may be more likely to provoke others to assault them. Thus, Kennedy and Forde (1996) found that men are more likely than women to respond aggressively to verbal provocations or conflicts that occur in public settings; their aggressive response may increase their odds of suffering a violent attack. Finally, victimization risks should be high among members of high-offending demographic groups since they are exposed to offenders more frequently (Hindelang et al. 1978). Since social life is to some extent sex-segregated, boys have more exposure to other boys which may increase their rates of victimization when they go out (Jensen and Brownfield 1986).

Timing of Activities

The highest risk of victimization outside the home is usually associated with night time activities. The tendency for adolescents to go out after dark with friends for dates, parties, and other social activities increases dramatically from age 11 until age 18 (Warr 1993).

This change in night time activity may result in increasing risks of victimization as adolescents get older. The literature is vague, however, about the time of night in which going out increases exposure to victimization risk. It may be that *late-night* activity poses the greatest risk of victimization for adolescents. “Midnight basketball” leagues were an attempt to occupy minority youth in structured conventional activities during this time of day (Hartmann and Depro 2006). We are not aware of any research that has examined whether late night activities are more risky than going out earlier in the evening. Determining the time-frame of victimization risk is important since it is helps one to assess when crime prevention is likely to be most effective. This information addresses, for example, the utility of curfews for teenagers (see, e.g., McDowall et al. 2000). Obviously, curfews are likely to be ineffective to the extent that youth offend and are victimized before the curfew period. Snyder and Sickmund (2006) found that violent crimes against juvenile victims were more likely to occur in the early evening hours than after 9 pm. The patterns also have implications for understanding increases in delinquency rates in the latter part of the twentieth century when late night activity away from parents dramatically increased (Felson and Gottfredson 1984).

After-school hours may be another period of risk for adolescents. Guardianship may be particularly low when “latchkey children” are alone before parents come home from work. Since the 1960s, the proportion of youth at home between 3 and 6 pm has increased dramatically in the United States (Felson and Gottfredson 1984) and this may have led to an increase in victimization rates. These social changes are not limited to the United States but characterize most developed Western countries, including Finland. In fact, female labor force participation is higher in Finland than in the United States (Messner and Savolainen 2001; Kruttschnitt and Savolainen 2009). In 2002, 85 % of Finnish mothers with school-age children were employed compared to 69 % in the United States (The Clearinghouse on International Developments in Child, Youth, and Family Policies at Columbia University 2011).

Flannery et al. (1999) found that youth spending unsupervised time with peers after school were more likely to engage in risky activities (see also, Cross et al. 2009, cited above). Soulé et al. (2008) found that youth are more at risk for violent victimization after school (3–6 pm) than in the evening and late night. Although overall victimization risk was higher during school hours than after school, serious victimizations were more likely to occur after school. Finally, using official crime statistics, Snyder and Sickmund (2006) found that violent crimes involving juvenile victims peaked between 3 and 4 pm on school days. It may be that the emphasis on restricting night life activities for youth is misplaced and that the period after school is more important for victimization. Such a pattern would point to the importance of after-school programs (e.g., Gottfredson et al. 2004).

The Role of Alcohol

The consequences of going out for victimization risk are also likely to depend on *what* activities adolescents are engaged in when they go out. The routine activity perspective emphasizes the conventional activities of potential victims that put them at risk. Victimization is likely to occur when everyday activities *happen to bring* individuals into contact with motivated offenders in the absence of capable guardians. One might say that victims were “minding their own business.” A variation on this perspective assigns a more active role to victims. Youth who consume large amounts of alcohol, use illicit drugs, or engage in other types of offenses, place themselves at risk (Esbensen and Huizinga 1991; Fagan et al. 1987; Lauritsen and Laub 2007; Wittebrood and Nieuwbeerta 1999; Felson and

Burchfield 2004; Ellonen and Aaltonen 2012). It is not so much that going out per se increases victimization, but what youth do when they are out that affects their vulnerability. As Jensen and Brownfield (1986: 93) put it: “it is the criminogenic potential of certain routines which accounts for their victimogenic potential.”

Drinking in particular can place adolescents at risk of victimization. Drinking may increase vulnerability either because those who are inebriated are less effective in defending themselves and/or because they go to risky places (Sparks 1982). In addition, if people drink heavily when they go out, they may engage in offensive or provocative behaviors that elicit violent responses from others. The people they antagonize are not necessarily crime-prone beforehand, but they may become motivated offenders as a result of the provocation.

We are aware of two studies that have examined the role of drinking in the association between routine activities and victimization. First, Gottfredson (1984) found that the relationship between going out and violent victimization for adults remained strong despite controls for the respondent’s drinking. Second, Sampson and Lauritsen (1990) found that respondents on the British Crime Survey were more likely to be victims of violence if they reported frequent consumption of alcohol. This relationship was observed with controls for their tendency to go out at night.

Current study

In our first set of analyses we attempt to identify the time periods of greatest risk for boys and girls. We examine whether assault and robbery victimizations are associated with going out in the day time, the early evening, or later at night. Once we establish the time period of risk we use it in our remaining analyses.

In our second set of analyses we examine the selection issue. We use what we call “situational decomposition” (SD), a method in which we estimate the causal effect of going out on victimization by isolating the spurious portion of the total association. This method is based on a comparison between two equations: an equation estimating the effect of going out on victimization in any location (“the total association”) and an equation estimating the effect of going out on victimization occurring in some *other* setting than a public place (“the spurious association”). We contend that the relationship between spending time in public settings and victimization in *non-public* settings must be spurious since time spent in one type of location cannot affect risk in a different type of location (see Lynch 1987, Lynch 1991). We interpret the “causal effect” as the difference between the total effect and the spurious component.

This SD method has been used in prior research on the relationship between alcohol consumption and violence (Felson and Burchfield 2004; Felson et al. 2008a, b; Felson et al. 2011; Ellonen and Aaltonen 2012). For example, Felson et al. (2011) found that the relationship between frequency of drinking and engaging in sober violence was just as large as the relationship between frequency of drinking and engaging in violence (sober or drunk) for adolescents in Mediterranean countries. This finding suggests that the association between alcohol use and violence in these countries is almost entirely spurious. In the Nordic and Eastern European countries, on the other hand, the relationship between frequency and sober violence (the “spurious component”) was much lower than the relationship between frequency and violence generally, suggesting a strong causal relationship.

We use the SD method of isolating spuriousness when we examine gender effects. The discussion above and most of the empirical literature suggests that the effect of time in

public settings on victimization should be stronger for boys than girls. We suggested that boys are more likely to frequent dangerous locations, more likely to be provocative, and more likely to be exposed to other boys. On the other hand, girls are more likely to travel in groups or are otherwise more likely to be protected.

We also examine the relationship between offenders and victims, i.e., whether *strangers* pose a special threat to adolescents when they go out at night. Lifestyles/routine activities theory implies that late night activities contribute to the risk of victimization because they increase exposure to predatory strangers in unguarded settings (Hindelang et al. 1978). Conventional wisdom also suggests that parents worry about their kids being out at night because of their fear of violence by strangers. Yet, it is conceivable that participation in night time activities also increases the adolescents' vulnerability to aggression by their peers. Adolescents may be bullied by acquaintances, or their conflicts with friends may be more likely to escalate into violence due to limited availability of adult supervision (see Felson and Boba 2010). In support, Lauritsen (2003) found that adolescents who spent more time at home were less likely to be victimized by people they knew as well as by strangers.

Examining the association between time in public settings and victimization by *family members* provides an additional opportunity to examine the selection issue: If going out predicts victimization by family members equally well as victimization by people outside the family it suggests that the relationship is spurious. If the effect of going out is due to exposure to risky settings, it should not be related to family victimizations (see Finkelhor and Asdigian 1996).

Finally, we examine the extent to which the risks associated with time spent in public settings are associated with drinking alcohol. The analyses address the issue of whether it is conventional or high-risk behavior that leads to victimization. We examine the effects of going out on victimization when the victim is drinking, when the offender is drinking, and when both or neither are drinking. If we find that these activity patterns have effects only when victims are drinking, it will suggest that spending time in public settings is a risk factor because it is associated with the victim's own risky behavior. If we observe effects when the victim is sober it suggests that going out increases risk of victimization even when victims are not engaged in risky activities. Spending time in public settings may increase exposure to intoxicated individuals or alcohol may play no role in these incidents.

In essence, these situational analyses test whether drinking behavior *mediates* the victimogenic effects of spending time in public settings. They focus on whether the offender and victim were drinking during the incident. To complement this approach, we performed a more traditional mediation analysis where we examine whether controlling for the frequency of the respondent's drinking reduces the total association between victimization and time in public settings. We could not examine offender's drinking as a mediator using this method since it is a situational variable.

Data and Methods

We use data from a national survey of Finnish adolescents representing two grade levels: sixth grade (ages 12–13) and ninth grade (ages 15–16). The stratified sampling design was developed by Statistics Finland using three stratification criteria: region, type of municipality (rural, etc.), and school size. This procedure generated a target sample of 680 schools, 984 homerooms, and 20,334 students. Eighty seven percent of the schools agreed to participate. The response rate at the individual-level is more difficult to estimate because

some schools who initially agreed to cooperate did not provide an opportunity for their students to participate in the survey. Including these students in the denominator yields response rates of 88 % in the 6th grade and 64 % in the 9th grade (Ellonen et al. 2008). These are underestimates since the denominators are inflated.

Students accessed the survey on a website using class room computers during a designated class period (roughly 1 h). As is typical for web-based surveys, questions were displayed on the screen one at a time. Only those who made it to the final screen and pressed the 'done' button were included in the sample. A total of 13,515 students completed the survey across the two grade levels. The final sample size was 13,459 after the removal of 56 cases judged to be invalid. Out of these, 57 % were in the 6th grade and 43 % in the 9th grade at the time of the survey.

Time in Public Settings

Respondents were asked: "How often do you spend your leisure time in public settings, such as on the street, square, park, café, around a train station, or some equivalent public space?" Note that the Finnish verb (*oleskella*) translated as 'spending time' implies prolonged time use of idle or unfocused nature. For example, "spending time in the garden" as opposed to "gardening" (Hurme et al. 1987). Thus, such discrete activities as going shopping for a pair of shoes or waiting for a train would not be included whereas "hanging out" in a shopping mall or a train station would.

This question is available specific to four time periods: (1) before 6 pm; (2) between 6 and 8 pm; (3) between 10 pm and midnight, and (4) after midnight. For each time period the respondents could answer: "never; no more than once per week; a few days a week; and every day, including the weekends." Using this information, we created four time-specific variables indicating unstructured socializing in public settings: "Afternoon" (after school to 6 pm), "early evening" (6–8 pm), "late evening" (after 10 pm, including past midnight), and "night life" (summary score of all times after 6 pm).

Because of a coding error, data on going out from 8 to 10 pm was only available for those who participated in the Swedish-language version of the survey (less than 10 % of the sample). We report some supplementary analyses performed on this subsample to determine how this period related to the others.

Victimization Measures

Respondents were asked about incidents of victimization that had taken place within the last 12 months. *Assault* victimization is based on the question: "Has anyone hit, punched, or physically attacked you?" *Robbery* victimization is based on a question in which respondents were asked if somebody had "stolen something from you using violence."

Those who reported incidents were asked where the most recent one had taken place. Victimization were coded as having occurred in a *public setting* if the incident took place in "a public building, such as a shopping mall or a mass transit station, street or a park, inside a bus, tram, or metro, or a mass event, such as concert or a sporting event." Victimizations in *other settings* refer to incidents that took place at school (including on the way to/from school) or in a domestic setting (at home or someone else's house). Our place-specific victimization measure features three outcome categories: victimization in public settings, victimization in other settings, and no victimization (the reference category).

Note that this residual class includes victimizations that took place in school, i.e., in a setting that can be described as "public." We exclude school victimizations from the

public setting category because our routine activity measure asks about leisure time and unstructured activities in public settings. If our measure is correlated with school victimizations, the relationship must be spurious.

Those who reported an incident of victimization were also asked whether they were “under the influence of alcohol or other intoxicants” and whether the offender was under the influence (during the most recent incident). Respondents could answer “no,” “a little,” “drunk,” or “can’t say.” We ignored the distinction between drinking “a little” and being “drunk.” We used these responses to create a variable with the following categories: victimized when both parties were sober; victimized when both parties were drinking; victimized when victim was drinking but not the offender; victimized when the offender was drinking but not the victim, and not victimized (the reference group).

Finally, the relationship between the victim and offender was coded into the following categories: family member; boy-/girlfriend; acquaintance; stranger; other known. The ‘family member’ category includes siblings and parents, including step relations. These persons usually live in the same home. More distant relatives, typically living outside the home (e.g., cousins and uncles), are coded in the ‘other known’ category.

Other Covariates

One advantage with the SD method—the method we use to examine causality—is that it makes it unnecessary to include control variables. Selection is addressed by decomposing the total effect into its causal and spurious components. We do, however, control for the influence of age, family socio-economic status (SES), ethnicity (Finnish vs. Swedish), and frequency of alcohol consumption in some of our other analyses. SES is based on the respondents’ comparative assessment of the family economic situation: 1 = very good, 2 = pretty good, 3 = somewhat difficult, 4 = very difficult. Those respondents who reported that they did not know their parent’s economic situation (6 %) were assigned the median value for the item (1.79). Our results were similar when we omitted these respondents (analyses not presented).

Ethnic background was coded as Swedish or Finnish. Swedish-speaking Finns are the largest ethnic minority in Finland. Compared to their Finnish-speaking compatriots, they tend to be of higher socioeconomic status, engage in less delinquency, and they often attend different schools (Obstbaum 2006). Some of the surveys were administered in Swedish to accommodate them.¹ Finally, the self-reported measure of *drinking* indicates average frequency of alcohol consumption in the past 12 months. The response categories are: 0 = none, 1 = less than 5 times, 2 = 5–10 times, 3 = about once per month, 4 = 2–3 times per month, 5 = about once per week, 6 = 2–4 times per week, and 7 = nearly every day.

Results

Descriptive Statistics

Table 1 presents gender-specific descriptive statistics related to the measures of assault and robbery victimization. The first row of statistics indicates that boys are more likely to be

¹ Equations were estimated using listwise deletion for missing data. The sample size, therefore, varied somewhat for different equations. Fewer than 3 % of the cases were lost as a result of missing data in any equation.

Table 1 Descriptive statistics related to violent victimization (%)

Measure of victimization	Boys (n = 6,690)		Girls (n = 6,725)	
	Assault	Robbery	Assault	Robbery
Victimized (anywhere)	35.9	5.1	23.0	2.6
Victimized in public setting	10.7	2.4	5.2	1.1
Victim-offender relationship				
Family member	5.0	0.6	12.2	0.7
Boy/girlfriend	0.3	0.1	0.9	0.1
Friend or acquaintance	23.1	2.0	7.0	0.7
Stranger	4.8	1.6	1.7	0.7
Other known	2.2	0.9	1.1	0.5
Intoxication during incident				
No alcohol	32.0	3.9	19.2	2.0
Victim only	0.3	0.1	0.1	0.1
Offender only	1.8	0.6	2.3	0.3
Both	2.0	0.4	1.8	0.2

victimized than girls. The rate of assault victimization is 36 % for males and 23 % among females. The prevalence of robberies is significantly smaller but the relative size of the gender difference is even more pronounced (5.1 vs. 2.6 %). The statistics presented in the next row indicate that, with one exception, incidents taking place in public settings comprise a minority of the violent victimization experiences in this sample. Notably, half of robberies against boys take place in public settings, compared to less than one third of assaults. Boys are most likely to be assaulted by known peers (i.e., friends or acquaintances, 23.1 %), while a family member is the most prevalent assailant against girls (12.2 %). Robberies are more evenly distributed across several victim-offender categories. Most of these incidents did not involve alcohol consumption by either the offender or the victim. It was particularly rare to encounter situations where the victim was drinking but the offender was not.

Univariate statistics related to the predictor variables are described in Table 2. Note that the statistics pertaining to time-use in public settings are presented in their original units. For example, the values of “late night” vary from 2 to 8 because it is a summary score of two time-specific items (‘10 pm–12’ am and ‘after 12 am’) each of which ranges from 1 to 4. The measure of “night life” is associated with the highest mean value (5.02) because it is a summary score of *three* items (all times after 6 pm). To facilitate comparison across measures, the regression models were estimated using standardized (*z*-scores) versions of these predictors.²

² Unlike the case with OLS regression, the logistic regression model does not permit the standardization of *Y* due to the non-linear measurement of the dependent variable (i.e., 0/1). As such, the estimates are considered “partially standardized” because they reflect only standardized versions of the predictors (Menard 2003). This procedure does not yield beta coefficients entirely comparable to those produced in OLS, though partially standardized variables allow us to gauge the relative importance of the predictors in terms of their relationship to the logit. The coefficients obtained for the independent variables can be interpreted as the change in the logit associated with a one standard deviation change in the independent variable.

Table 2 Descriptive statistics of the predictor variables

Time in public settings	Boys			Girls		
	Mean	Range	SD	Mean	Range	SD
Afternoon (before 6 pm)	2.41	1–4	1.08	2.52	1–4	1.09
Early evening (6–8 pm)	2.14	1–4	.97	2.16	1–4	.94
Late night (after 10 pm)	2.95	2–8	1.52	2.8	2–8	1.51
Night life (after 6 pm)	5.02	3–12	2.16	5.01	3–12	2.11
Drinking frequency	1.78	1–7	1.29	1.79	1–7	1.32
Control variables						
Age	13.47	11–17	1.53	13.39	11–17	1.53
SES	1.80	1–4	.64	1.75	1–4	.61
Mother tongue (1 = Finnish, 2 = Swedish)	1.07	1–2	.25	1.07	1–2	.26

The mean age of the sample is 13.43 with most respondents either age 12 (49 %) or 15 (37 %). The mean SES score indicates that most respondents consider their family economic situation to be “pretty good.” Males and females report consuming alcohol at nearly the same rate, about 5–10 times per year. Finally, 7 % of the respondents belong to the Swedish-speaking minority which corresponds to their prevalence in the Finnish population.

Times Out and Victimization

In Table 3, we present the effects of going out at different times on assault and robbery victimization for boys and girls. The first set of models in Panel A (the male sample) is focused on assault. The first equation (Model 1) features two predictors both of which indicate the frequency of time spent in public settings. The first predictor, “afternoon,” is limited to the period between after-school and 6 pm. “Night life” captures the same behavior occurring any time *after* 6 pm, including past midnight. The findings from this model show that, controlling for night life, spending time in public setting in the afternoon is not a significant predictor of the risk of assault victimization ($b = .051$). By contrast, participation in these activities after 6 pm (night life) is associated with a substantial increase in the risk of assault ($b = .264$). Having established that afternoon does not matter for the risk of assault, the next equation (Model 2) examines the night life effect more closely. Findings from this model suggest that the increased risk is not limited to late night activities. It appears that spending time in public settings between 6 and 8 pm is just as risky as times after 10 pm.

Additional results reported in Table 3 show that this pattern prevails across each measure of violence and among both boys and girls. We do observe some differences in the strength of coefficients depending on the crime and gender, but these differences are not statistically significant. These results suggest that going out any time after 6 pm increases the risk of assault and robbery and for both boys and girls.³

In analyses not presented we experimented with comparisons of different time periods. We compared going out after midnight to going out before midnight. For those students

³ If we compared more than two time periods at a time, we would give advantage to the time period least correlated with the other two.

Table 3 Effects of victimization on spending time in public settings at different times

	Assault		Robbery	
	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR
(A) Boys				
<i>Model 1</i>				
Afternoon	.051 (.032)	1.05	.099 (.068)	1.10
Night (after 6 pm)	.264* (.036)	1.30	.370* (.071)	1.44
Constant	.640*		.081	
<i>Model 2</i>				
Early evening	.201* (.032)	1.22	.201* (.067)	1.22
Late night	.125* (.041)	1.11	.281* (.080)	1.32
Constant	.483*		.121*	
(B) Girls				
<i>Model 1</i>				
Afternoon	-.002 (.034)	.99	-.062 (.088)	.93
Night (after 6 pm)	.391* (.039)	1.47	.549** (.092)	1.73
Constant	-1.605*		-.387*	
<i>Model 2</i>				
Early evening	.196* (.035)	1.21	.176* (.091)	1.19
Late night	.254* (.046)	1.28	.437* (.102)	1.54
Constant	-1.66*		-.245*	

* $p < .05$

Estimates are derived from logistic regression models. Standard errors are listed below the coefficients in parentheses. OR refers to odds ratio

who used the Swedish-language version of the survey, we were able to compare going at from 8 to 10 pm to the other periods. We could not find any evidence that the risk of victimization was greater at one night time period than another. In our remaining analyses, therefore, we use a frequency measure based on going out to a public setting any time after 6 pm (night life).

Causal Effects

In Tables 4 and 5 we examine the issue of selection by comparing spurious effects with total effects using the SD method. We define the total effect as the effect of night life on victimization in any location. Since the outcome is dichotomous we use binomial logistic regression in models of the total effect. To isolate the spurious component we estimate multinomial logistic regression equations featuring three outcome categories: victimization in public settings, victimization in other settings, and no victimization (the reference category). The effect of night life on victimization in other settings represents the spurious component. We interpret the *difference* between the total effect and the spurious component as the causal effect. The last column in Tables 4 and 5 provides a quantitative expression of the size of the spurious association relative to the total association. Finally, we do not attempt to interpret the coefficient for the effect of night life on victimization in public settings: Obviously, someone who frequents public settings at night is more likely to

Table 4 The effect of night life on assault victimization by gender

	Binomial model	Multinomial model		Amount of spuriousness in total association (%)
	Victimization anywhere	Victimization in public setting	Victimization in other setting	
(A) Boys				
<i>b</i>	.165*	.402*	.049	29.7
SE	(.026)	(.037)	(.030)	
OR	1.17	1.49	1.05	
(B) Girls				
<i>b</i>	.327*	.458*	.287*	87.8
SE	(.028)	(.049)	(.031)	
OR	1.38	1.58	1.33	

* $p < .05$

Binary logistic regression models of total victimization and multinomial logistic regression victimization models of public and other victimization

Effects on “victimization anywhere” (total association) are based on logistic regression models with a binary dependent variable. Public setting and other setting victimization estimates are based on a three-category multinomial model. For each question the reference category is “no victimization.” OR refers to odds ratio

be victimized in public settings; they are more likely to have experiences in public settings generally, not just those that involve victimization. Homebodies, on the other hand, have few opportunities to be victimized in public settings at night. The built-in relationship makes this coefficient difficult to interpret.

Table 4 presents findings for models with assault as the dependent variable. For boys, we find little or no evidence of spuriousness. The coefficient for the effect of night time activity on victimization at home or school is close to zero and statistically non-significant. The size of the coefficient representing the spurious association ($b = .049$) is 29.7 % as large as the total effect ($b = .165$) which implies that 70 % of the observed association is “causal.” Since the spurious association is not statistically significant, one might argue that none of the total association is spurious. This pattern supports the argument that the total relationship between night time activity and assault victimization reflects a causal effect among boys. For girls, on the other hand, we see evidence that much of the relationship is spurious. The association between night time activity and assault victimization at home or school is substantial and statistically significant ($b = .287$), and the relative size of the spurious portion of the night life effect is about 88 % as strong as the total relationship.

The results for robbery victimization (see Table 5) reveal a similar pattern. The coefficient representing the spurious association is small and statistically not significant among males ($b = .061$) but strong among females ($b = .244$). In the female sample, 70 % of the total association between night time activities and robbery victimization is spurious.

Note that, for both assault and robbery, *the total relationship* between night life and victimization is stronger for girls than boys. If we had focused solely on this relationship—and not applied our method—we would have reached the opposite conclusions about gender differences.

Table 5 The effects of night life on robbery victimization by gender

	Binomial model	Multinomial model		Amount of spuriousness in total association (%)
	Victimization anywhere	Victimization in public setting	Victimization in other setting	
(A) Boys				
<i>b</i>	.227*	.387*	.061	26.9
SE	(.052)	(.069)	(.077)	
OR	1.25	1.47	1.06	
(B) Girls				
<i>b</i>	.348*	.480*	.244*	69.9
SE	(.066)	(.096)	(.090)	
OR	1.41	1.61	1.27	

* $p < .05$

Binary logistic regression models of total victimization and multinomial logistic regression models of public and other victimizations

Effects on “victimization anywhere” (total association) are based on logistic regression models with a binary dependent variable. Public setting and other setting victimization estimates are based on a three-category multinomial model. For each question the reference category is “no victimization.” OR refers to odds ratio

The Role of Alcohol and Strangers

In Table 6 we present effects on victimization taking into account whether offenders and victims were drinking. As indicated earlier, we created a variable based on whether the respondent, the offender, or both were drinking during the incident. The reference group was “not victimized.” Note that as some of the cell sizes get small we should expect some random variation in the size of coefficients. In addition, our estimates for girls are likely to be inflated given our previous analyses showing that substantial portion of the effects for girls is spurious. The estimates for boys should be fairly accurate given the evidence that only a trivial portion of the night life-victimization relationship is spurious for boys.⁴

According to these results an active night life predicts victimization even when no one is drinking. The associations are stronger, however, when alcohol is involved in the incident. The night life coefficients are particularly strong when the victim is drinking or both the victim and offender are drinking. These effects are similar for boys and girls and for assault and robbery.

The control variables in Table 6 exhibit some significant associations. The results suggest that as adolescents get older they are more likely to be assaulted in incidents involving alcohol and slightly less likely to be victims of robbery. Adolescents with lower SES tend to be more likely to be victimized. Finally, girls with a Swedish background are less likely to be victimized. We were not able to generate reasonable estimates of some of the effects of ethnic background on victimization for boys because of small cell sizes. However, they are consistently negative, suggesting boys with Swedish background also

⁴ The large standard error associated with Swedish ethnicity in the robbery equation among boys is due to the small number of Swedish victims who were drinking. We re-estimated the equation using a dependent variable that combined “victim intoxicated” and “both intoxicated” into a single category. This alteration produced a reasonable standard error but did not affect the pattern of results reported in Table 6.

Table 6 Effects of night life on victimization by drinking during the incident

	Assault				Robbery			
	No alcohol	Victim drinking	Offender intoxicated	Both Intoxicated	No alcohol	Victim drinking	Offender intoxicated	Both Intoxicated
(A) Boys								
Night life	.221*	1.17*	.570*	.812*	.281*	1.07*	.546*	1.32*
	(.032)	(.227)	(.096)	(.089)	(.062)	(.420)	(.258)	(.186)
Age	-.108*	.177*	.418*	.754	-.155*	-.248	-.062	.083
	(.019)	(.197)	(.081)	(.104)	(.040)	(.347)	(.115)	(.158)
SES	.374*	.323	.271*	.445*	.475*	-.727	.546*	-.195
	(.047)	(.397)	(.160)	(.147)	(.092)	(.911)	(.258)	(.346)
Swedish	-1.01*	-18.17	-2.43	-2.18*	.682*	-17.94	-1.46	-17.72
	(.142)	(.000)	(.737)	(.535)	(.285)	(483.22)	(1.01)	(.000)
Constant	1.23*	9.21*	-7.52*	-13.198	-.962	14.78	-3.75*	10.84*
(B) Girls								
Night life	.311*	.834*	.468*	.973*	.438*	1.22*	.774*	.911*
	(.039)	(.344)	(.091)	(.101)	(.082)	(.387)	(.240)	(.255)
Age	-.053	.341	.386*	.626*	-.158*	-.619	-.219	.026
	(.023)	(.273)	(.066)	(.100)	(.053)	(.356)	(.167)	(.088)
SES	.552*	.744	.527*	.546*	.420*	-.130	.728*	1.11*
	(.050)	(.469)	(.124)	(.141)	(.109)	(.690)	(.326)	(.334)
Swedish	-.653*	-.942	-1.41*	1.72*	-.534	-19.48	-1.76	-1.59
	(.153)	(1.22)	(.455)	(.433)	(.314)	(.000)	(1.16)	(1.13)
Constant	-.990*	-11.83	-8.47*	-12.38*	-1.62	20.52*	-2.79*	-7.47*

* $p < .05$

Estimates from multinomial logistic regression models; “no victimization” is the reference category. Standard errors are in parentheses listed below the coefficients

have lower victimization rates. Supplementary analysis showed that the other results are not affected when we leave the ethnicity measure out of the equation.

In Table 7 we examine whether frequency of respondent’s drinking mediates the effects of night life on victimization. This analysis proceeds in two steps. We first estimate binomial logistic regression equations featuring frequency of night life as the predictor of total victimization risk, controlling for age, SES, and mother tongue (Model 1). We then compare this equation to an equation that includes drinking frequency as an additional predictor (Model 2). The amount of reduction in the size of the night life effect suggests the extent to which frequency of drinking mediates the effect of night life on victimization.

The results show that for both assault and robbery, and for both boys and girls, the introduction of drinking reduces the night life coefficients. From 32 to 55 % of the “night life effects” disappear when frequency of respondent’s drinking is introduced. The results suggest that a substantial amount of these effects is mediated by drinking frequency.

In Table 8 we examine the victim’s relationship to the offender. The dependent variable we created was based on the victim’s relationship to the offender. The reference group was “not victimized.” The results from multinomial logistic regression models show that night life does not predict a boy’s risk of family violence, while it does predict a girl’s risk.

Table 7 Effects of nightlife on victimization by gender controlling for drinking frequency

	Assault		Robbery	
	Model 1	Model 2	Model 1	Model 2
(A) Boys				
Night life	.293* (.031)	.198* (.033)	.415* (.063)	.215* (.068)
Age	-.055 (.019)	-.125* (.021)	-.197* (.042)	-.348* (.048)
Swedish	-1.177* (.139)	-1.020* (.139)	-1.357* (.341)	-.944* (.335)
Freq. alcohol use	-	.286* (.032)	-	.489* (.059)
Constant	.767*	1.56*	.179*	1.74
(B) Girls				
Night life	.391* (.036)	.215* (.039)	.527* (.087)	.240* (.093)
Age	.018 (.021)	-.104* (.025)	-.242* (.057)	-.464 (.068)
Swedish	-.882* (.446)	-.534 (.145)	-.959* (.357)	-.307 (.341)
Freq. alcohol use	-	.417* (.035)	-	.617* (.077)
Constant	-1.58*	-2.65*	-4.97*	1.89

* $p < .05$

Estimates derived from a logistic regression model. Standard errors are placed in parentheses below the coefficients

These observations are consistent with the earlier evidence suggesting that the relationship between night life and victimization is strongly causal for boys while the relationship is mostly spurious for girls. Findings from Table 8 also show that the risks associated with an active night life are not limited to victimization by strangers. Rather, those who frequently go out are also more likely to be victimized by intimate partners and other people they know. These results are generally consistent for robbery and assault and for both boys and girls. However, the coefficients may be inflated for girls as the spurious portion has not been removed.

Discussion

According to the routine activity approach, an active night life plays an important role in creating opportunities for crime. Our research tackles the difficult but critical issue of whether night life has a causal effect on victimization. It also attempts to assess the nature of the activities and participants that contribute to victimization risk. We find evidence suggesting that boys who go out at night substantially increase their chances of getting assaulted and robbed. They increase their risk of attack by people they know as well as by strangers. In light of our research, opportunity theories may have placed too much

emphasis on the effects of night time activity on exposure to strangers (e.g., Hindelang et al. 1978).

Gender Differences

Girls who go out at night have higher risks of victimization as well, but the effects are much weaker. The SD method suggested that most of the relationship between night life and victimization is spurious for girls. Frequency of night life in public settings is almost as strongly related to victimization in other (non-public) settings as it is related to victimization generally. The fact that, among girls, night life is related to victimization by family members also supports the idea that some of the relationship is spurious.

The finding that an active night life is not as much of a risk factor for girls as for boys is consistent with research on adults cited earlier (Felson 1997; Gottfredson 1984; Miethe et al. 1987). It is also consistent with evidence that the relationship between drinking and victimization is spurious for girls (Ellonen and Aaltonen 2012). However, it is clear that the causal effect of an active night life depends on the social context. Clearly, going out at night is more dangerous in some neighborhoods than others. For example, the effect on victimization is likely to be stronger for girls (and boys) in areas with high rates of violent crime. Thus, ethnographic research suggests that spending time in public spaces increases the risk of victimization among girls in inner city neighborhoods (Miller 2008; Cobbina et al. 2008).

Scholars do not find many gender differences in the variables that affect *offending* (e.g., Moffitt et al. 2001). Our results suggest that future research might be more successful in finding gender differences in the causes of *victimization* (Lauritsen and Carbone-Lopez 2011). In particular, future research should examine why an active night life is not as much a risk factor for victimization for females. We suggested that, compared to males, females are more likely to avoid risky situations, less likely to provoke others, and less likely to interact with males who tend to be more violent. We also pointed to the literature showing that violence against females is evaluated more negatively than violence against males.

Time of Day

We were also able to provide evidence regarding the time period when adolescents go out that puts them at greatest risk. The idea that latchkey children have higher rates of victimization was not supported: We found no evidence that spending afternoons in public settings is a risk factor. These results are not consistent with studies performed in the United States that were discussed earlier. However, those studies link the timing of activities to the timing of victimization incidents whereas we did not have access to time-specific measures of victimization. In particular, we did not have a measure of victimization during afternoon hours on weekdays; these are the occasions when parents are more likely to be working.

We also did not find support for the idea that risk of victimization was particularly high when adolescents were out very late at night. Rather we found that going out at *any* time after 6 pm increased the likelihood of victimization. The pattern is likely to limit the impact of curfews since curfews typically restrict adolescents from late night activity (e.g., after 10 pm).

Table 8 Effects of night life on victimization by relationship to the offender

	Family	Boy/girlfriend	Acquaintance	Stranger	Other known
<i>Assault</i>					
Boys					
Night life	.077 (.071)	.791* (.223)	.279* (.036)	.520* (.062)	.300* (.096)
Age	-.157* (.042)	.061 (.170)	-.037 (.022)	.101* (.043)	-.114 (.061)
SES	.637* (.097)	.634 (.366)	.334* (.052)	.319* (.100)	.397* (.145)
Swedish	-.326 (.280)	-18.17 (.100)	-1.28* (.172)	-1.68* (.338)	-.526 (.386)
Constant	-1.27	10.68*	.237	-2.83*	-2.00*
Girls					
Night life	.281* (.047)	.711* (.138)	.450* (.057)	.668* (.101)	.356* (.131)
Age	.005* (.028)	.279* (.101)	-.014* (.035)	.362* (.076)	-.045 (.048)
SES	.650* (.060)	.459* (.194)	.449* (.076)	.145 (.147)	.662* (.177)
Swedish	-.957* (.205)	-.875 (.510)	-.981* (.237)	-1.33* (.441)	.293 (.422)
Constant	-2.01*	-8.49*	-2.02*	-7.82*	-5.23*
<i>Robbery</i>					
Boys					
Night life	.337 (.197)	-.041 (.512)	.324* (.099)	.576* (.102)	.440* (.151)
Age	-.383* (.136)	-.102 (.287)	-.203* (.066)	-.136 (.073)	-.342* (.106)
SES	.833* (.268)	.582 (.640)	.479* (.147)	.279 (.166)	.509* (.224)
Swedish	-1.30 (1.10)	-15.98 (.000)	-.678 (.444)	-1.84* (.629)	-1.33 (.799)
Constant	-.365	9.39*	-1.32	-.942	.299
Girls					
Night life	.489* (.180)	.272 (.334)	.533* (.159)	.502* (.164)	.686* (.196)
Age	-.338* (.121)	.265 (.234)	-.237* (.105)	-.162 (.108)	-.427* (.142)
SES	.592* (.232)	-.056 (.518)	.440* (.213)	.752* (.213)	.537* (.267)
Swedish	-1.33 (.844)	1.44 (.941)	-.899 (.642)	-.653 (.639)	-2.24* (1.12)
Constant	-.368	-11.89	-1.66	-3.62*	1.51

* $p < .05$

Estimates from multinomial logistic regression models; "no victimization" is the reference category. Standard errors are in parentheses listed below the coefficients

Alcohol

Our results suggested that alcohol plays an important role in adolescents' risk of victimization when they go out at night.⁵ Our individual analyses showed that the relationship between night life and victimization was considerably reduced when the frequency of the respondent's drinking was controlled. Further, our situational analysis showed that an active night life increases the likelihood that adolescents will be victimized in situations in which they were drinking. Note that we are less certain about the role of alcohol in explaining the effects of night life for girls, given the evidence that most of the latter relationship is spurious.

We cannot ascertain why alcohol is increasing the adolescent risk of victimization. It may be that drinkers provoke others or their intoxication makes them vulnerable to attack—or both. Exposure to offenders who were drinking is also a risk factor, although not as important as the respondents' drinking. The strong role of alcohol may explain why afterschool activities do not increase risk: adolescents are less likely to drink in the afternoon than in the evening.

The results pertaining to the role of alcohol address the issue of whether delinquent or conventional activities increase the risk of victimization. The strength of the alcohol effects point to the importance of delinquent behavior as a risk factor (Sampson and Lauritsen 1990). On the other hand, the evidence also supports the idea that conventional night-time activity increases victimization risk (see Lauritsen et al. 1992). Any activity that brings adolescents into contact with motivated offenders in the absence of capable guardians increases the risk of victimization.

The Situational Decomposition Method

The method we employ is useful for examining whether situational variables have causal effects when one does not have access to experimental data. Of course, any conclusions about causality must remain tentative in correlational research. We are encouraged, however, by the fact that Felson (1997) found similar evidence of causality using a different method and a different data set.

A positive feature of the SD method is that it does not require longitudinal data or knowledge of the proper time lag. Lagged regressions may not work very well in examining the effects of routine activities since the effects are relatively simultaneous. Another advantage with the SD method is that it does not require researchers to control for all the variables that are related to both independent and dependent variables, and one does not have to worry about time-varying factors that could account for results in within-person models. On the other hand, it does require information on joint occurrence which is not available in most data sets.

Generalizability

It is not clear to what extent our results generalize to the United States and other countries. Finnish adolescents spend much more time with their friends than American adolescents (Flammer et al. 1999), but this pattern would not necessarily affect the relationship

⁵ Causal influence should not be confused with blameworthiness. People sometimes engage in behaviors (e.g., adolescent drinking) that increase their risk of victimization (Felson 1991). Whether those behaviors are reckless or morally questionable is outside the scope of empirical research.

between going out and victimization. More relevant would be whether Finnish adolescents engage in *different activities* than adolescents in other countries when they go out and whether their activities are more or less likely to be supervised by adults. In terms of activities, the rate of drinking among Finnish adolescents is higher than the rate among American adolescents and higher than the average rate reported for other European countries (Hibell et al. 2004). In addition, Finnish youth are more likely to become intoxicated in unsupervised settings than youth in southern Europe, and such activities are more likely to lead to violence (Felson et al. 2011).

Finnish youth are more likely to live in what Felson and Boba (2010) have described as a *convergent city* while Americans are more likely to live in a *divergent metropolis*. As a result, Finnish (and other European) adolescents are more likely to walk and take public transportation independently of adult guardians. On the other hand, teens in the United States have better access to cars (or peers with cars) at younger ages—a variable that has been shown to increase exposure to situations conducive to delinquent behavior (Anderson and Hughes 2009). Also, conventional adult pedestrians which play a more prominent role in convergent cities may provide increased levels of informal guardianship for Finnish adolescents spending time in public settings.

In sum, our research supports the idea that an active night life increases the risk of victimization for boys, and to a lesser extent, girls. Adolescents appear to be at greater risk when they are engaged in conventional activities in public settings, but they are at substantially greater risk if they or their peers are drinking alcohol when they are out. The special emphasis in the literature on exposure to strangers, and late night and late afternoon activities is, apparently, misplaced. Adolescents are at greater risk of victimization when they are out and about at any time during the evening hours.

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