CRIMINOLOGY

WHY IS INVOLVEMENT IN UNSTRUCTURED SOCIALIZING RELATED TO ADOLESCENT DELINQUENCY?*

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The relationship between unstructured socializing (peer-oriented activity without supervision) and adolescent delinquency is widely established and recognized, but less is known about why this relationship exists. The present study integrates the unstructured socializing perspective with insights from social learning theory and other theoretical perspectives on peer influence and empirically investigates four possible explanatory processes. The study applies time diary data to operationalize accurately the concept of unstructured socializing and survey data to capture mediating variables and self-reported delinquency (a general frequency measure of various offenses, as well as specified measures for violence, theft, and vandalism). Data were collected longitudinally with two waves of surveys and space–time budget interviews among 610 adolescents (11 to 20 years of age). A multilevel-path model was estimated to analyze within-individual changes over time. The findings indicate that three of the four proposed explanatory processes contribute to the explanation of the relationship between unstructured socializing and delinquency.

Research on lifestyles, leisure, and routine activity patterns repeatedly has shown that adolescents' involvement in certain activities leads to higher risks of involvement in delinquency (Anderson, 2013; Felson and Boba, 2010; Wikström et al., 2012). Not many studies, however, have investigated the underlying processes in this relationship. The present study aims to compare potential explanatory processes empirically by focusing on one

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particular leisure pattern that has often been associated with adolescent delinquency: involvement in unstructured socializing.

The term *unstructured socializing* was coined by Osgood et al. (1996). They proposed that activities with three key features are particularly associated with higher levels of deviancy: a lack of structure, in the presence of peers, and in the absence of authority figures. Unstructured socializing describes a situation characterized by these three conditions. Osgood et al. (1996) found, with fixed-effects panel models over five waves of data, that the routine activities they classified as unstructured socializing (riding around in a car for fun, getting together with friends informally, going to parties, and spending evenings out for fun and recreation) were each positively related to within-individual changes in at least three out of five types of deviant behavior (criminal behavior, heavy alcohol use, marijuana use, other drugs use, and dangerous driving). Later empirical studies, cross-sectional as well as longitudinal, confirmed the findings of Osgood et al. (1996) that individuals who spend more time in unstructured socializing have higher delinquency rates (Bernburg and Thorlindsson, 2001; Haynie and Osgood, 2005; Maimon and Browning, 2010).

The establishment of a robust relationship between involvement in unstructured socializing and delinquency calls for theoretical and empirical elaboration of the underlying processes for this relationship. Why do adolescents who spend a lot of their time in unstructured socializing have an increased risk of becoming involved in delinquency? A few scholars have investigated processes that might be at play (Agnew and Petersen, 1989; Bernburg and Thorlindsson, 2001; Boman, 2013; Hawdon, 1996; Hughes and Short, 2014; Wong, 2005), but we are unaware of studies in which the relative contribution of different processes has been empirically investigated.

The present study distinguishes and empirically investigates four possible processes to explain the relationship between involvement in unstructured socializing and delinquency: exposure to opportunities for delinquency, exposure to group pressure, increased tolerance for delinquency, and exposure to delinquent peers. The study thereby integrates the unstructured socializing perspective with insights from social learning theory and other perspectives on peer influence. The study further examines sequential paths that specify chains of the proposed processes. Data were collected among 610 adolescents (11 to 20 years of age) in The Hague, the third largest city in the Netherlands, by using a space–time budget interview and a questionnaire. The space–time budget interview was developed to map the hourly activities and whereabouts of adolescents (Wikström and Butterworth, 2006; Wikström et al., 2012). The method enabled us to get a detailed account of the people present (peers and authority figures) during specific activities, thus, providing an accurate operationalization of unstructured socializing. The questionnaire obtained information about self-reported delinquency, perceived temptations and provocations, perceived peer pressure, moral attitudes, and delinquency of peers. The research question we address is as follows: *Which processes contribute to explaining the relationship between involvement in unstructured socializing and adolescent delinquency?*

A particular problem in answering this question is the possibility of selection effects. If adolescents with a propensity to offend prefer unstructured socializing over other activities in the first place, we cannot distinguish self-selection into unstructured socializing from the influence of unstructured socializing on delinquency. To account for this possibility, we conducted multilevel-path models that not only address differences *between*

individuals but also *within*-individual changes over time, which control for stable individual characteristics. The latter analysis provides a more stringent test.

EXPLANATORY PROCESSES

The concept of unstructured socializing has its roots in lifestyle theory (Hindelang, Gottfredson, and Garofalo, 1978) and routine activity theory (Cohen and Felson, 1979), which were developed to explain patterns in victimization and aggregate crime rates. Osgood et al. (1996) applied concepts from these theories to an individual-level model of offending. According to Osgood et al. (1996), the presence of peers stimulates deviance because peers make deviancy *rewarding* by forming an approving audience and because peers make deviancy *easier* by serving as resources (for example, by offering practical assistance as "look-outs"). The absence of authority figures stimulates deviance because it implies a lack of social control. Unstructured activities are more conducive to deviance than structured activities because unstructured activities are not likely "to place … individuals in roles that make them responsible for social control" and because unstructured activities offer more opportunities for deviance since less time is spent in "designated ways" (Osgood et al., 1996: 640–1).

The original formulation of the unstructured socializing–deviance relationship by Osgood et al. (1996) implicitly suggests two explanatory processes. First, Osgood et al. (1996) noted that unstructured activities, more than structured activities, leave time for involvement in deviant behavior and that the absence of authority figures reduces the risk of getting caught. We interpret both consequences of unstructured socializing as *opportunity* processes. Second, Osgood et al. (1996) signaled that the presence of peers makes deviancy rewarding in terms of status and reputation, thereby offering situational inducements. We interpret this as reinforcement or *group pressure*. Apart from these two main processes that were implicitly assumed by Osgood et al. (1996), other explanatory processes are also possible. From the literature, we derive two other processes that may explain the association between exposure to unstructured socializing and adolescent delinquency: increased tolerance toward delinquency and exposure to delinquent peers. All four processes will be addressed and elaborated on theoretically in the remainder of this section.

EXPOSURE TO OPPORTUNITIES FOR DELINQUENCY

As mentioned, the first process to explain the unstructured socializing–delinquency relationship is that involvement in unstructured socializing exposes adolescents to opportunities for delinquency. Several empirical studies have associated opportunities with delinquency; overviews were given by Miethe and Meier (1994), Pratt and Cullen (2005), and Spano and Freilich (2009). Osgood et al. (1996) argued, based on routine activity theory (Cohen and Felson, 1979; Felson and Boba, 2010) and the conception of subterranean values (Matza and Sykes, 1961), that most adolescents are open to the idea of deviance and are thereby *motivated offenders*. In a situation of unstructured socializing, there are no adults present to supervise their behavior, so there are no *capable authority figures*.[1]

1. We follow the terminology of Osgood et al. (1996) by referring to authority figures. They distantiate from the distinction among handlers, guardians, and place managers (Felson, 1995) by

Moreover, the unstructured nature of the activity enables involvement in delinquency (Osgood et al., 1996). In line with this reasoning, Wikström (2004) and Wikström and Sampson (2003: 125, 133–4) posited that a lifestyle in which youths spend a significant amount of time "informally socializing outside the home" and "unsupervised by adults" is particularly prone to temptations ("perceived options to realize particular desires in an unlawful way") and provocations ("perceived attacks on the person's property, security or respect that generates anger or similar emotional states that may promote unlawful aggressive responses"). Both temptations and provocations imply more opportunities for crime.

Involvement in unstructured socializing has often been used as a proxy for the extent to which individuals encounter opportunities for delinquency or deviancy (Anderson and Hughes, 2009; Hay and Forrest, 2008; Osgood and Anderson, 2004), but we did not find any empirical studies that explicitly investigated the relationship between unstructured socializing and opportunities for delinquency.

EXPOSURE TO GROUP PRESSURE

The second process to explain the unstructured socializing–delinquency relationship is that involvement in unstructured socializing exposes adolescents to group pressure, such as delinquent reinforcement and peer influence toward group conformity. Osgood et al. (1996) theorized that present peers form an appreciative audience for deviance and referred to the situational inducements perspective of Briar and Piliavin (1965). Briar and Piliavin (1965: 36) considered delinquent acts to be "short term situationally induced" by desires of (male) adolescents to, for example, "portray courage in the presence of, or be loyal to peers … or simply to 'get kicks'." With the exception of the last, these are social rewards provided by peers that may motivate an adolescent to engage in delinquent behavior.

The findings of experimental research by Dishion and colleagues (Dishion, Andrews, and Crosby, 1995; Dishion et al., 1996) are in line with these processes. They found that the conversation topics of dyads of 13- to 14-year-old boys were affected by their responses to each other; laughter in response to rule-breaking topics was likely to evoke more rule-breaking talk in delinquent dyads, whereas rule-breaking talk was largely ignored in nondelinquent dyads. Although the immediate consequences of rule-breaking reinforcement were restricted to *talk* in this experimental setting, laughter and other responses of peers may very well promote *behavior* in real life. The findings of these studies indeed indicated that "deviancy training" (rule-breaking topic followed by laugh) in these preexisting friendship dyads was related to delinquent behavior (Dishion et al., 1996; Dishion et al., 1997), although these relations were longitudinally determined and not situational.

Peer influence toward group conformity, or (perceived) pressure to behave in accordance with the rest of the group, may lead to delinquency even if the majority of a group of adolescents does not have delinquent intentions. Warr (1996) found that most group offenses were instigated by one peer. He argued that fear of ridicule and

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generalizing these concepts to the concept of an authority figure. An authority figure is "someone whose role in a situation carries a responsibility for attempting to exert social control in response to deviance" (Osgood et al., 1996: 640).

loyalty act as "magnifying mechanisms [that] transform the behavior of one (or a few) into the behavior of many" (Warr, 2002: 55). Similarly, psychologists have argued that individuals comply with behavior they do not necessarily approve of because of their need to be liked and of their tendency to avoid rejection (Kiesler and Kiesler, 1969). Overviews of empirical studies on peer influence and conformity have been given by Brechwald and Prinstein (2011), Brown et al. (2008), and Hartup (2005). Brown, Clasen, and Eicher (1986) found that "conformity dispositions" explained 10 percent of the variance in self-reported misconduct and 14 percent of the variance in antisocial behavior. Meldrum, Miller, and Flexon (2013) also reported positive relationships between susceptibility to peer influence and delinquency (controlled for prior delinquency) when they used solely neutral, not antisocial, behavior items to operationalize susceptibility to peer influence.

Exposure to peer group pressure may not only affect behavior in the short term (the immediate situation), but it may also have long-term effects on individuals' moral value systems. The differential reinforcement element of the social learning theory (Akers, 1998, 2001; Burgess and Akers, 1966) refers to an instrumental learning process where "voluntary actions of the individual" are conditioned through actual and anticipated rewards and punishments (Akers, 2001: 193). Responses from peers are considered to be social rewards that are, over repeated occasions, able to impel the adoption of delinquency favoring attitudes. The influence of peer reinforcement on behavior can, therefore, extend beyond the immediate situation. Overviews on social learning theory have supported the differential reinforcement–deviance relationship (Akers, 1998; Pratt et al., 2010). Also, the studies of Brezina and Piquero (2003) and Rebellon (2006) established that actual or anticipated social reinforcers precede substance use and delinquency in time.

In situations of unstructured socializing, adolescents may experience a positive balance of influences toward delinquency: Parents or other authority figures who are likely to reinforce conventional behavior are absent, whereas rewards for delinquency are possible because of potential supportive responses to delinquent behavior from peers. Exposure to group pressure in situations of unstructured socializing may have both short-term and long-term influences on delinquent behavior. Short-term influence occurs when the peer group acts as an appreciative audience and thereby motivates the adolescent to conduct delinquency or if pressure to conform promotes the participation in delinquent group activities. Long-term influence occurs when reinforcement changes the individuals' perception of what behavior is acceptable and socially rewarding.

Empirical support for the association between unstructured socializing and susceptibility to group pressure can be found in the study of Flannery, Williams, and Vazsonyi (1999). Their findings indicated that adolescents who spent their after-school time with friends where adults were not present reported greater susceptibility to peer pressure on antisocial behavior compared with adolescents who spent most of their after-school time at home in the presence of a parent or other adult. Steinberg (1986) reported similar results. Brown, Clasen, and Eicher (1986) reported an association between peer involvement (how often respondents, for example, had gone to a party, a movie, or a concert with friends) and "conformity dispositions," supporting the relationship between unstructured socializing and peer influence toward group conformity, as well as the relationship between unstructured socializing and delinquent reinforcement.

INCREASED TOLERANCE FOR DELINQUENCY

A third process to explain the unstructured socializing–delinquency relationship is that involvement in unstructured socializing increases adolescents' tolerance for delinquency. This process differs from the process "exposure to group pressure" because it assumes private acceptance (also known as internalization) of attitudes acquired from peers, whereas the previous process principally concerns public compliance only, when individuals change their behaviors to go along with the group (Kiesler and Kiesler, 1969). The relationship between attitudes and delinquency is found in numerous studies. Meta-analyses reported that, overall, delinquent adolescents score lower on disapproval of deviance than nondelinquent adolescents (Nelson, Smith, and Dodd, 1990; Stams et al., 2006).

Warr (2002) argued that a group of adolescents may function as a moral universe that dictates norms that can be incongruous with conventional norms. A group of adolescents forms its own "ethical reality." During adolescence, young people come to realize that behavioral codes differ between social groups, and they come to "appreciate the relativity of standards of conduct." Moral rules are no longer fixed, which may be interpreted as a "license to engage in any conduct." A group of adolescents is, therefore, able to create a moral code that overrules that of the conventional society, "granting legitimacy to otherwise illegitimate conduct" (Warr, 2002: 65–7).

Involvement in unstructured socializing may increase the likelihood that adolescents develop their own moral code that differs from the conventional moral code. Increased tolerance for delinquent behavior is the outcome of a social learning process, which is dependent on the balance of influences toward delinquency: "A person becomes delinquent because of an excess of definitions favorable to violation of law over definitions unfavorable to violation of law" (Sutherland, 1947: 6–8). This "balance of influences" leans toward delinquency in settings of unstructured socializing because people who are likely to reinforce the conventional moral code are absent (the authority figures) and people who are likely to reward a deviant moral code are present (the peers). Indirect evidence for the relationship between unstructured socializing and tolerance toward delinquency is given by the study of Wikström et al. (2010). They found a positive association between time spent awake unsupervised with peers and crime propensity—a composite score of morality (measured as disapproval of deviance) and self-control. Similar findings were presented in the studies of Pauwels and Svensson (2009) and of Svensson and Pauwels (2010).

EXPOSURE TO DELINQUENT PEERS

A fourth process to explain the unstructured socializing–delinquency relationship is that involvement in unstructured socializing exposes adolescents to delinquent peers. An overwhelming body of empirical literature has indicated a positive relationship exists between peer delinquency and delinquent behavior. Often cited works in this regard include the studies of Elliott, Huizinga, and Ageton (1985); Haynie (2001); Reed and Rose (1998); and Warr (2002).

Felson (2003) argued that certain settings, offender convergence settings, increase the chance to meet delinquent others to find potential co-offenders. These settings are similar to situations of unstructured socializing. Offender convergence settings include "1) likely co-offenders, 2) without outside interference, 3) with substantial time available to

socialize, size each other up, get drunk, or whatever else leads them down the road of criminal cooperation" (Felson, 2003: 157). In a setting of unstructured socializing, no authority figures are present, which limits the chance of outside interference. The condition that "substantial time [should be] available to socialize" is closely in line with the description of an unstructured activity. This implies that a situation of unstructured socializing is a situation in which adolescents are likely to meet delinquent peers and potential co-offenders.

More generally, unstructured socializing, compared with other leisure activities, may be more likely to expose adolescents to peers with delinquent intentions. Previous studies have suggested that involvement in *structured activities,* such as team sports, performing arts, or academic clubs, stimulates association with *conventional* youth (Eccles et al., 2003; Mahoney and Stattin, 2000). Likewise, one might expect that involvement in *unstructured socializing* stimulates association with *delinquent* youth, which may contribute to future involvement in delinquency. Several studies have provided empirical support for this association. Studies that have reported positive correlations between unstructured socializing and deviant peers are, for example, the studies of Haynie and Osgood (2005), Stoolmiller (1994), and Svensson and Oberwittler (2010). Dishion, Andrews, and Crosby (1995) asked friendship dyads of boys (13–14 years of age) where they had met and reported a positive association between antisocial behavior of the dyad and "met in neighborhood or in an unsupervised community setting" and a negative association between antisocial behavior of the dyad and "met in school or some other organized activity." Moreover, the findings of Boman (2013) and Wong (2005) indicated that the unstructured socializing–delinquency relationship was mediated by delinquent peers.

SEQUENTIAL PATHS

The discussed processes may succeed each other in time and thereby form an explanatory "chain," in which one process may connect involvement in unstructured socializing to adolescent delinquency through multiple pathways. Four potential sequential paths, or chains of processes, are incorporated into our theoretical model.

First, following social learning theory, we expect that (delinquent) associations affect adolescents' (delinquent) attitudes, which in turn will affect their delinquent behavior (Akers, 2001; Akers et al., 1979). Earlier empirical investigations did not provide strong evidence for this sequential path. Megens and Weerman (2012) found that respondents' attitudes mediated the peer attitudes–respondents' delinquency relationship but not the peer behavior–respondents' delinquency relationship. Similarly, Reed and Rose (1998) found that delinquent associations affected delinquent attitudes but that this did not subsequently affect delinquent behavior. Reed and Rountree (1997) found mediation based on cross-sectional analyses but not in analyses on lagged effects. Nevertheless, as the relationship has not been studied in relation to unstructured socializing, we will incorporate it into our theoretical model.

The second sequential path is also derived from social learning theory. One statement of social learning theory, as formulated by Burgess and Akers (1966: 146), indicates that "criminal behavior is a function of norms which are discriminative for criminal behavior, the learning of which takes place when such behavior is more highly reinforced than noncriminal behavior." By extrapolating for the relationship between unstructured socializing and delinquency, this statement implies a sequential path where involvement

in unstructured socializing exposes adolescents to delinquent reinforcement, which affects their tolerance for delinquency and ultimately affects their involvement in delinquency.

The third sequential path is based on the situational inducement perspective of Briar and Piliavin (1965). Based on this perspective, Reed and Rose (1998: 245) argued that adolescents with delinquent friends are more likely to become involved with delinquent behavior "because they are more likely to find themselves in social situations that contain pressures to commit crime even in the absence of delinquent attitudes." They referred to this process as "situational group pressure." This process assumes a causal order in which delinquent behavior is directly affected by delinquent friends through group pressure without an intervening influence on attitudes. This sequential path was investigated for substance use by Reed and Rountree (1997), but they did not find evidence for it when using a longitudinal model. Trucco, Colder, and Wieczorek (2011), on the other hand, found an indirect effect between peer delinquency and initiation of alcohol use through perceived peer approval for alcohol use (and perceived peer approval can be interpreted as perceived group pressure). These sequential processes are hypothesized to add to the explanation for the unstructured socializing–delinquency relationship.

Fourth, and finally, we hypothesize that exposure to delinquent peers will expose adolescents to provocations and temptations (thus, opportunities) for delinquent behavior. As far as we know, no study or theory has yet explored this possibility. However, we might expect that delinquent peers point out certain possibilities for delinquent behavior, instigate crimes, draw each other into intergroup conflicts, or function in other ways as sources of temptation and provocation. We, therefore, incorporate a sequential path in which involvement in unstructured socializing exposes adolescents to delinquent peers, which in turn exposes them to temptations and provocations to engage in delinquency, in turn affecting their delinquent behavior.

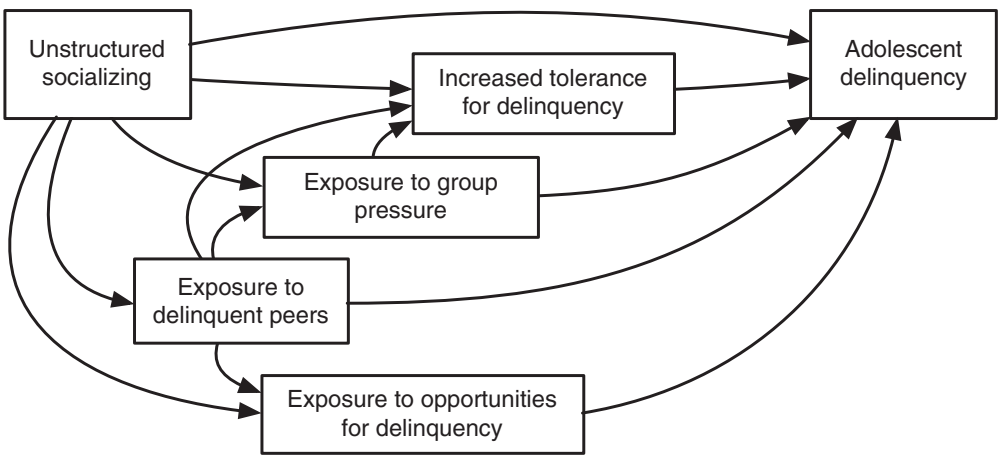
The first and second proposed sequential paths refer to long-term effects of unstructured socializing on delinquency that persist beyond the immediate situation by affecting adolescents' moral value systems. The third and fourth proposed sequential paths refer to short-term effects of unstructured socializing on delinquency that operate within a situation.

In summary, we hypothesize that there is a positive relationship between involvement in unstructured socializing and adolescent delinquency (hypothesis 1), which is explained with adolescents' increased exposure to opportunities for delinquency (hypothesis 2), with adolescents' increased exposure to group pressure (hypothesis 3), with adolescents' increased tolerance for delinquency (hypothesis 4), and with adolescents' increased exposure to delinquent peers (hypothesis 5). Additionally, we hypothesize that involvement in unstructured socializing exposes adolescents to delinquent peers, which in turn increases their tolerance toward delinquency, thus, affecting their involvement in delinquency (hypothesis 6); that involvement in unstructured socializing exposes adolescents to group pressure, which in turn increases their tolerance for delinquency, thus, affecting their involvement in delinquency (hypothesis 7); that involvement in unstructured socializing exposes adolescents to delinquent peers, which in turn exposes them to group pressure, thus, affecting their involvement in delinquency (hypothesis 8); and that involvement in unstructured socializing exposes adolescents to delinquent peers, which in turn exposes them to opportunities for delinquency, thus, affecting their involvement in delinquency (hypothesis 9). Table 1 lists all hypotheses, and figure 1 depicts the theoretical model.

Table 1. Hypotheses

Main relationship	1	Involvement in unstructured socializing is positively related to adolescent delinquency.
Explanatory processes	2	Exposure to opportunities for delinquency partially mediates the relationship between unstructured socializing and delinquency.
	3	Exposure to group pressure partially mediates the relationship between unstructured socializing and delinquency.
	4	Increasing tolerance for delinquency partially mediates the relationship between unstructured socializing and delinquency.
	5	Exposure to delinquent peers partially mediates the relationship between unstructured socializing and delinquency.
Sequence of processes	6	Exposure to delinquent peers and subsequent increased tolerance for delinquency partially mediate the relationship between unstructured socializing and delinquency.
	7	Exposure to group pressure and subsequent increased tolerance for delinquency partially mediate the relationship between unstructured socializing and delinquency.
	8	Exposure to delinquent peers and subsequent exposure to group pressure partially mediate the relationship between unstructured socializing and delinquency.
	9	Exposure to delinquent peers and subsequent exposure to opportunities for delinquency partially mediate the relationship between unstructured socializing and delinquency.

Figure 1. Theoretical Model: Explanatory Processes for the Relationship Between Unstructured Socializing and Adolescent Delinquency



PRESENT STUDY

A few studies investigated mediation of the unstructured socializing–delinquency relationship by variables representing the proposed processes (Agnew and Petersen, 1989; Bernburg and Thorlindsson, 2001; Boman, 2013; Hawdon, 1996; Hughes and Short, 2014; Wong, 2005). The present study improves on these studies in several aspects.

First, the present study goes beyond these previous studies by investigating the relative contributions of the different proposed processes. In previous studies, the distinction

between the processes has often not been clear, mostly because several variables were added to the model simultaneously or because variables represented more than one of the proposed processes. Agnew and Petersen (1989), for example, simultaneously added several control variables to a model predicting delinquency with leisure variables (e.g., time spent in social activities and hanging out). These control variables included deviant beliefs and deviant friends, so it is not possible to distinguish between the indirect effects of these mediators based on their study. Also, their study did not enable distinguishing between mediator effects and spurious effects of confounding variables (influencing both leisure and delinquency). Hawdon (1996) operated similarly by simultaneously adding peer substance use and religiosity to a model that predicted marijuana use with routine activity patterns. Bernburg and Thorlindsson (2001) simultaneously added the variables "deviant peers" and "definitions favorable to offending" to models predicting property offending and violent behavior with unstructured peer interaction. Moreover, their variable "deviant peers" was a combined index for delinquent behavior among friends and friends' perceived attitudes toward delinquent behavior, so in fact, this one variable reflected three of the processes proposed in the present study (i.e., exposure to delinquent peers, exposure to group pressure, and increased tolerance for delinquency). Hughes and Short (2014) studied the mediating role of "signifying" in the relationship between routine activities (e.g., hanging in the streets, attending house or quarter parties, and riding around in cars) and fighting. The term "signifying" referred to social (provocative) interactions aimed at gaining status and respecting or disrespecting others. We may classify "signifying" as a reinforcement process, but it also has similarities to provocation, which represents exposure to opportunities in the present study.

A second contribution of the present study beyond previous work is that the present study expands the set of explanatory processes. First, it explicitly distinguishes two additional processes that have not been empirically studied in the unstructured socializing–delinquency relationship (group pressure and opportunity), and second, it considers potential sequential effects that may be relevant in explaining the relationship between unstructured socializing and delinquency. Previous studies concerned only one or two of the proposed processes, which were most often delinquent peers or delinquent attitudes. Boman (2013) and Hawdon (1996) considered the mediating effects of friends' deviance and peer substance use, respectively. Agnew and Petersen (1989), Wong (2005), and Bernburg and Thorlindsson (2001) considered the effects of beliefs and deviant friends. The signifying concept in Hughes and Short (2014) and the deviant peers measure from Bernburg and Thorlindsson (2001) also have similarities to group pressure, but they were not explicitly studied as such. We do not know of studies that have explicitly investigated whether opportunity mediates the unstructured socializing–delinquency relationship, nor of studies that studied the sequential effects of the proposed processes in explaining the unstructured socializing–delinquency relationship.

Our research also improves *methodologically* on previous research by using longitudinal data, whereas most previous studies relied on cross-sectional data (Agnew and Petersen, 1989; Bernburg and Thorlindsson, 2001; Hawdon, 1996; Hughes and Short, 2014; Wong, 2005). The study of Boman (2013) is an exception. Cross-sectional data do not enable within-individual analyses, and therefore, the studies were unable to control for possible selection effects of adolescents with delinquent tendencies choosing unstructured leisure patterns. The present study estimates multilevel-path models that enable examination of differences between individuals, as well as within-individual changes over time.

A second methodological improvement is that we use a more sophisticated measure of unstructured socializing based on time diary data. None of the previous studies on this topic applied time diary methods to operationalize unstructured socializing (for a literature review that explicitly addresses previous operationalizations of unstructured socializing, see Hoeben, 2016). Most studies on the unstructured socializing–delinquency relationship investigated the association between several activities and deviancy (e.g., Osgood et al., 1996). Other studies used standardized questions asking, for example, "how often, in an average week, do you spend hanging around with friends in absence of adults?" (e.g., Bernburg and Thorlindsson, 2001; Osgood and Anderson, 2004). However, studies on time use methods found that individuals underreport leisure activities when they are questioned about these activities over longer periods of time (Niemi, 1993; Robinson and Godbey, 1999). Recall problems, subjective interpretations of activities, and difficulties with estimating episode lengths across the day may result in distorted accounts of individuals' general activity patterns (Juster, Ono, and Stafford, 2003; Robinson, 1999). Therefore, time diary data may provide a better operationalization of activity patterns.

Finally, the present study tests whether its findings are consistent across different types of delinquency: general delinquency, violence, theft, and vandalism. There are indications that involvement in unstructured socializing is not associated with all kinds of delinquency. Müller, Eisner, and Ribeaud (2013) found, for example, that involvement in unstructured socializing longitudinally predicted shoplifting and vandalism but not assault (see also Miller, 2013). Other studies found that involvement in unstructured socializing was related to all studied types of delinquency, such as property delinquency, substance use (alcohol and marijuana), and violence (Anderson and Hughes, 2009).

DATA AND METHODS

DATA

Data were used from the Study of Peers, Activities and Neighborhoods (SPAN), which was conducted by the Netherlands Institute for the Study of Crime and Law Enforcement (NSCR). For the data collection, 40 secondary schools were approached in the city of The Hague and its suburbs (the Netherlands). Ten schools agreed to participate, and all of their first graders (similar to the seventh grade in the United States; students were approximately 12 to 13 years old) and fourth graders (similar to the tenth grade in the United States; students were approximately 15 to 16 years old) were asked to join the study. The main reason for nonparticipation of schools was that they participated in other research projects and were hesitant to disturb the lessons any further (Bernasco et al., 2013: 905). Of the 942 students invited to participate in the study, 843 adolescents 11 to 17 years of age participated fully in the study in 2008–2009. These 843 respondents were approached to join the study a second time in 2010–2011 (2 years later), and 615 of them agreed to do that. The response rate for the second wave in proportion to the first wave was, therefore, 73 percent. The main reason for attrition was a lack of time or willingness to participate. Dropouts were generally older than participants and were more often involved in unstructured socializing and theft. They were slightly more tolerant of substance use and offending than the participants and reported more delinquency of their friends and less parental monitoring. Dropouts and participants did not differ significantly

in self-reported violence, vandalism, or general delinquency (results of Mann–Whitney tests; see also Hoeben and Weerman, 2014).

Analyses were conducted with data from respondents who participated fully in both waves. Deletion of respondents with missing information for ethnicity and unstructured socializing resulted in a sample size of 610. The sample consisted of 52.6 percent boys and 47.4 percent girls; 56.7 percent belonged to the youngest age cohort (the initial first graders), and 43.3 percent belonged to the oldest age cohort (the initial fourth graders). Respondents were 11 to 20 years of age; the mean age was 14.4 in the first and 16.5 in the second wave. Both waves covered several months; the time lag between the waves fell between 1.6 and 2.6 years for almost all respondents (99.4 percent). Most respondents had highly urbanized backgrounds: At the time of the first interview, 93.6 percent lived in "very strongly urban" neighborhoods (≥2,500 addresses per squared kilometer) or "strongly urban" neighborhoods (1,500 to 2,500 addresses per squared kilometer), following the classification of Statistics Netherlands. Most of the sample was from native Dutch descent, but a relatively large portion of the sample had an ethnic minority background (44.6 percent). Also, a relatively large portion of the respondents followed lower forms of secondary education. For more information on the SPAN sample and data collection, see Weerman et al. (2015).

MEASUREMENT

The present study used a questionnaire and a *space–time budget interview*. Both instruments were similar to the ones used in the Peterborough Adolescent and Young Adult Development Study of Wikström et al. (2012), except that the instruments were translated into Dutch and that the SPAN instruments incorporated some additional measures, for example, on peer and parental influence. The questionnaire was used to construct scales for self-reported delinquency, variables that represent the proposed explanatory processes, and the control variables parental monitoring and self-control. Other demographic information (for example, on ethnic background, age, and gender) was noted in a separate document prior to the interview. Research assistants supervised four respondents simultaneously while they completed the questionnaire. This intensive procedure resulted in very low rates of item nonresponse (with a maximum of 2 percent).

During the *space–time budget interview*, which was used to create a measure for involvement in unstructured socializing, respondents were asked about their hourly activities and whereabouts in 4 days preceding the interview, including Friday, Saturday, and the 2 most recent weekdays. For every hour, the respondents were asked about the nature of their main activity, the geographical location, and the functional location (e.g., home, school, or street) of this activity, as well as about who the respondent was with, specified as "family," "peers," and "other people." The space–time budget interviews were individual, face-to-face interviews with each respondent (for a further discussion of the method, see Wikström, Treiber, and Hardie [2012] or Hoeben et al. [2014]). Nontypical days (when a respondent was ill that day or had a day off from school) were excluded from the analyses because the present study assumed that the activities during the space–time budget interviews represented respondents' normal routines. Individual sum scores were corrected for the exclusion of the nontypical days.

The validity of the space–time budget data has been explored in previous studies by comparing information obtained from the interviews with information obtained with the

questionnaires. Bernasco et al. (2013) reported correlations of .64 and .73 for alcohol measures and correlations of .57 and .63 for cannabis use measures for the two SPAN waves of data collection, respectively. Hoeben and Weerman (2014) reported correlations of .44 and .43 for "time spent with peers on the streets and in parks" and correlations of .38 and .44 for "time spent with peers at youth centers and societies" for the two SPAN waves of data collection, respectively. Although the validity of the space–time budget method needs further attention, we believe that the correspondence between the questionnaire and space–time budget measures is sufficient, especially when considering that the space–time budget interview recorded only 4 days and used different units than the questionnaire.

Measures

Self-reported measures of four types of delinquency were included in the analyses: violence, theft, vandalism, and a general measure that incorporated a variety of offenses. Respondents were asked how often they were involved in several types of delinquency in the preceding school year: never (value 0), once (value 1), twice (value 2), three to five times (value 3), six to ten times (value 4), or more than ten times (value 5). The final measures were constructed by summing the items while retaining the values of the original categories. The *violence* construct incorporated three items on whether the respondent had threatened someone or kicked or hit someone on the street, as well as whether he or she injured someone by kicking or hitting. *Theft* was measured with seven items asking whether the respondent had broken into a house to steal something, broken into a car to steal something, broken in elsewhere to steal something, had stolen from someone covertly, had stolen something worth more than five euro (US$6.85) from a shop, had stolen a bicycle, or had stolen a moped or scooter. The *vandalism* construct incorporated two items on whether respondents had defaced walls, doors, or other objects with paint, pen, or spray paint and on whether they had destroyed or damaged objects such as bicycles, bus stops, street lights, or something else. The *general delinquency* measure was an index of the respondents' delinquency across 20 types of delinquency, among which the items from the separate measures (violence, theft, and vandalism) and eight additional items on whether respondents had stolen items worth less than five euro (US$6.85) from a shop, set fire to something, bought stolen goods, robbed someone, sold soft drugs, sold hard drugs, carried a weapon, and used a weapon. All four delinquency variables were treated as count variables with negative binomial distributions. The results from principal components and reliability analyses on the delinquency measures can be found in section S1 in the online supporting information.[2] Descriptive statistics on all variables are given here in table 2. The intraclass correlations (ICCs) presented in table 2 are calculated as suggested by Hilbe (2011: 492) and by Hosmer and Lemeshow (2000: 320). The ICCs express the percentage of the total variance that is at the individual level. For example, the ICC of general delinquency expresses that approximately 37 percent of the variance in delinquency is explained by differences between adolescents. The other 63 percent is explained by differences over time.

2. Additional supporting information can be found in the listing for this article in the Wiley Online Library at http://onlinelibrary.wiley.com/doi/10.1111/crim.2016.54.issue-2/issuetoc.

Table 2. Descriptive Statistics ($N = 610$)

	Mean		SD		Min		Max		Cronbach's alpha		
Variables	**T1**	**T2**	**T1**	**T2**	**T1**	**T2**	**T1**	**T2**	**T1**	**T2**	**ICC**
Delinquency (general)	5.923	4.707	9.416	7.672	.00	.00	100.00	57.00	.880	.839	.368
Violence	1.633	1.207	2.925	2.477	.00	.00	15.00	15.00	.790	.794	.436
Theft	.640	.664	2.388	2.059	.00	.00	35.00	16.00	.873	.683	.241
Vandalism	1.494	1.177	2.160	1.987	.00	.00	10.00	10.00	.595	.585	.308
Unstructured socializing	2.031	3.277	3.939	4.376	.00	.00	36.00	28.00	—	—	.306
Perceived temptation	8.360	8.258	3.115	3.111	4.00	4.00	20.00	20.00	.623	.631	.418
Perceived provocation	9.348	8.613	3.039	2.803	5.00	5.00	20.00	20.00	.789	.787	.390
Delinquent reinforcement	11.492	11.716	3.356	3.334	4.00	4.00	20.00	20.00	.672	.716	.485
Group conformity	5.576	5.503	2.014	1.982	3.00	3.00	14.00	14.00	.590	.694	.389
Rule-breaking tolerance	17.534	18.287	4.555	4.111	7.00	7.00	28.00	27.00	.848	.827	.534
Substance use tolerance	6.251	7.700	3.017	2.976	3.00	3.00	12.00	12.00	.865	.836	.510
Offending tolerance	7.307	7.352	2.659	2.537	5.00	5.00	20.00	20.00	.816	.802	.371
Delinquent peers	8.820	9.085	3.331	2.932	6.00	6.00	23.00	24.00	.818	.722	.398
Parental monitoring	17.178	16.194	4.094	4.693	5.00	5.00	25.00	30.00	.759	.817	.389
Self-control	29.630	30.151	6.265	5.885	10.00	13.00	45.00	48.00	.744	.720	.558
Age	14.402	16.523	1.626	1.660	11.33	13.75	17.92	20.25	—	—	—

ABBREVIATIONS: SD = standard deviation; ICC = intraclass correlation; T1 = first wave data collection; T2 = second wave data collection; Min = minimum; Max = maximum.

The unstructured socializing concept encompasses three elements: the presence of peers, the absence of authority figures, and a lack of structure. As such, the measure for *involvement in unstructured socializing* expressed the total number of hours (for all 4 days covered by the space–time budget interviews) the respondent spent in unsupervised, unstructured peer-oriented activity: It incorporated only those hours in which the respondent was involved in an unstructured activity, in which one or more peers were present, and in which no adult family members or other significant adults were present. Included as unstructured activities were "hanging around," "walking or biking around without a goal," "going to a party," "going out," "combination of socializing," "socializing," "talking," "going to a birthday party," and "socializing and having a drink."

Each explanatory process was represented by one or more variables. The scales measuring these variables were constructed based on theoretical considerations, principal component analyses (eigenvalues greater than one criterion, direct oblimin rotation), and reliability analyses. The results of the principal components and reliability analyses are available in the online supporting information (section S2). In the following paragraph, we will briefly describe the variables that represented the explanatory processes. More information on the items and the answer categories of these variables is provided at the end of this article in appendix A.

Process one, exposure to opportunities for delinquency, was represented by two variables: perceived temptation and perceived provocation. *Perceived temptation* included four questions about the last time a respondent felt tempted to commit four types of delinquent acts. A higher score indicated a more recent temptation. This construct originated from the PADS+ study (Wikström et al., 2010; Wikström et al., 2012). *Perceived provocation*, a construct that consisted of five items, measured how often adolescents believed they were provoked (e.g., to start an argument or fight). This construct was developed for SPAN. Process two, exposure to group pressure, was represented by delinquent reinforcement and peer influence toward group conformity. *Delinquent reinforcement* was an index of four items about perceived peer reinforcement to become involved in delinquent behavior. *Peer influence toward group conformity* incorporated three items on the extent to which respondents perceived peer pressure to engage in unwanted behavior. The variables representing delinquent reinforcement and peer influence toward group conformity originated from the NSCR School Project (Megens and Weerman, 2012; Weerman and Hoeve, 2012) and were originally inspired by measures from the National Youth Survey (Elliott, Huizinga, and Ageton, 1985). Process three, increased tolerance for delinquency, was represented by three variables: *tolerance for rule breaking* (seven items), *tolerance for substance use* (three items), and *tolerance for offending* (five items). These constructs included items that asked respondents "how bad do you think it is when someone your age" is involved in certain acts. The constructs originated from the PADS+ study (Wikström et al., 2010; Wikström et al., 2012) and were modified versions of the constructs used in the Pittsburgh Youth Study (Loeber et al., 1998) and the National Youth Survey (Elliott, Huizinga, and Ageton, 1985). The variable that represented process four, *exposure to delinquent peers,* included six items asking respondents about their friends' involvement in six different types of delinquent behavior.

Parental monitoring, self-control, and age were included as time-varying control variables. For the between-individual analyses, we also included controls for gender and ethnicity. *Parental monitoring* was derived from the parental control measure of Kerr and Stattin (2003). The five items included "I can just go out at night (after 7 pm), without

having to tell my parents" and "If I go out, my parents expect me to tell where I go, with whom and what I'm going to do." Answer categories were "YES!"; "yes"; "yes or no"; "no"; "NO!"; and "Not applicable, I do not live with my parents any more" (the last was coded as missing). The construct for *self-control* was based on the measure from the PADS+ study (Wikström et al., 2010; Wikström et al., 2012), which was an adaptation of the measure developed by Grasmick et al. (1993). The ten items included "I often do things without thinking of the consequences" and "I always say what I think." Answer categories were "YES!"; "yes"; "yes or no"; "no"; and "NO!" *Age* was given in years, *gender* was a dichotomous variable (1 is girl), and *ethnicity* was a dichotomous variable that expressed whether the respondent was from native Dutch descent (0) or from an ethnic minority (1). We followed the definition of Statistics Netherlands, stating that a person is from native Dutch descent if both of his or her parents were born in the Netherlands.

ANALYTICAL STRATEGY

To investigate whether the variables representing the four proposed processes mediate the relationship between unstructured socializing and delinquency, we estimated 1) the direct relationship between involvement in unstructured socializing and delinquency, 2) the direct relationships between involvement in unstructured socializing and the variables that represent the proposed processes, 3) the direct relationships between the variables that represent the proposed processes and delinquency, and finally, 4) the indirect effect of unstructured socializing on delinquency *through* the mediating variables.

For these different types of relationships, we examined between-individual effects as well as within-individual changes over time. The latter offer a more stringent test because within-individual effects are unaffected by individual characteristics that are stable across the waves of data collection. The method thereby deals partly with the possible presence of confounding selection effects. Selection exists if, for example, prior involvement in delinquency is a predictor of involvement in unstructured socializing.

The direct and indirect relationships and the between-individual and within-individual effects were estimated simultaneously in multilevel-path models with Mplus (version 7.2), following suggestions by Preacher, Zyphur, and Zhang (2010). Indirect effects were estimated by multiplying the coefficients of each path in the mediational chain: To estimate the indirect effect of unstructured socializing on delinquency through one mediator, we multiplied the coefficients of two paths; for two-mediator chains, we multiplied three paths. The standard errors of the indirect effects were calculated in Mplus with the multivariate delta method (Bollen, 1987). Muthén and Asparouhov (2015) argued that this approach is only valid for the underlying latent continuous dependent variable and not for the observed count dependent variable. Although we are also interested in the underlying latent variable, to meet their concerns, we reran the separate indirect effects to obtain counterfactually defined indirect effects (this method is discussed in Muthén [2011] and Muthén and Asparouhov [2015]) and reported these alongside the indirect effects that were obtained with the multiplication method. Independent variables were person-mean centered prior to analysis, and person-mean variables were added to the models alongside the deviation from the person-mean variables, as suggested by Allison (2009). Because we regarded the dependent variable (adolescent delinquency) as negatively

binomially distributed, the models were estimated with robust maximum likelihood estimation (MLR estimator) to correct the standard errors and confidence intervals (Yuan and Bentler, 1998). The models were also estimated while treating general delinquency, violence, theft, and vandalism as normally distributed variables, but the count models had a better fit. Statistical significance was assessed using a p value of .10 as we formulated directional hypotheses (a two-tailed p value of .10 is equivalent to a one-tailed p value of .05). We dealt with missing values prior to model estimation by applying multiple imputation using the expectation maximization method.

The zero-order covariance and correlation matrices are available in the online supporting information in section S3. None of the bivariate correlations at the between-individual level was higher than .589, and none of the bivariate correlations at the within-individual level was higher than .530 (not taking into account the correlations between general delinquency and violence, theft, and vandalism). The average variance inflation factor (VIF) was 1.75 at the between-individual level; the highest VIF for the variables at the between-individual level was 2.65. The average VIF was 1.34 at the within-individual level; the highest VIF was 1.82. Based on these findings, we did not expect multicollinearity to bias the models, and therefore, we interpreted the variables representing the proposed processes as separate sources of influence on delinquency.

FINDINGS

The first columns in table 3 present the within-individual results of a multilevel-path model where delinquency is regressed on unstructured socializing (model 1). These results concern the general delinquency measure only. The results for violence, theft, and vandalism can be found in the online supporting information (S5–S7, respectively) and will be discussed briefly at the end of the Findings section. Since delinquency was analyzed as negatively binomially distributed, all paths to delinquency were interpreted as loglinear. The other paths are linear. Loglinear paths express the change in log count of delinquency with every one-unit increase of the independent variable and are best interpreted with incidence rate ratios (IRRs): $e^{\wedge}$coefficient. The IRRs express the percentage increase in delinquency with every one-unit increase of the independent variable.

The coefficient of unstructured socializing at the within-individual level ($B = .022$, $p < .05$, IRR $= 1.022$) indicates a positive relationship between unstructured socializing and delinquency that exists irrespective of all measured and unmeasured time-stable individual characteristics, as well as of included time-varying controls for parental monitoring, self-control, and age. The coefficients indicate that an increase of about *1 hour* of involvement in unstructured socializing over the four space–time budget days between the two waves of data collection (approximately 2 years) was associated with an increase of approximately 2.2 percent in the delinquency variable *for the same adolescent*. These results are in line with hypothesis 1, which states that involvement in unstructured socializing is positively related to delinquency.

The results at the between-individual level, which are displayed in table S4.1 in the online supporting information, confirm the existence of this relationship when examining differences between adolescents. The findings indicate that the delinquency level was approximately 7.4 percent higher for person A, who on average spent 1 more hour in unstructured socializing than person B ($B = .071$, $p < .01$, IRR $= 1.074$). Although the findings at the between-individual level are interesting to give a more complete picture

Table 3. General Delinquency Regressed on Unstructured Socializing, Mediators, and Control Variables, Direct Effects at Within-Individual Level ($N = 610$)

	Model 1			Model 2			Model 3		
Paths, Variances, and Model Fit Statistics	***B***	**(SE)**	***β***	***B***	**(SE)**	***β***	***B***	**(SE)**	***β***
Direct Effects									
Unstructured socializing > delinquency[a]	.022*	(.009)	.097	.005	(.006)	.021	.005	(.006)	.021
Unstructured socializing > perceived temptation				.036*	(.016)	.096	.015	(.014)	.039
Unstructured socializing > perceived provocation				.005	(.013)	.015	–.002	(.013)	–.006
Unstructured socializing > delinquent reinforcement				.038**	(.012)	.098	.021†	(.012)	.055
Unstructured socializing > group conformity				–.007	(.009)	–.028	–.009	(.008)	–.036
Unstructured socializing > rule-breaking tolerance				.031†	(.017)	.066	.008	(.014)	.017
Unstructured socializing > substance use tolerance				.043**	(.012)	.124	.022*	(.011)	.065
Unstructured socializing > offending tolerance				.039**	(.012)	.118	.020*	(.010)	.060
Unstructured socializing > delinquent peers				.056**	(.016)	.143	.056**	(.016)	.143
Perceived temptation > delinquency[a]				.096**	(.019)	.162	.097**	(.019)	.162
Perceived provocation > delinquency[a]				.004	(.019)	.008	.004	(.019)	.008
Delinquent reinforcement > delinquency[a]				.034†	(.020)	.059	.034†	(.020)	.058
Group conformity > delinquency[a]				–.005	(.023)	–.006	–.005	(.023)	–.006
Rule-breaking tolerance > delinquency[a]				.024	(.016)	.051	.024	(.016)	.051
Substance use tolerance > delinquency[a]				.049*	(.021)	.075	.049*	(.021)	.075
Offending tolerance > delinquency[a]				.044*	(.022)	.065	.044*	(.022)	.065
Delinquent peers > delinquency[a]				.039*	(.019)	.067	.039*	(.019)	.067
Delinquent reinforcement > rule-breaking tolerance							.254**	(.060)	.205
Delinquent reinforcement > substance use tolerance							.125**	(.036)	.139
Delinquent reinforcement > offending tolerance							.151**	(.039)	.175
Group conformity > rule-breaking tolerance							.188*	(.086)	.099
Group conformity > substance use tolerance							–.008	(.055)	–.006
Group conformity > offending tolerance							.101†	(.058)	.076
Delinquent peers > perceived temptation							.391**	(.047)	.401
Delinquent peers > perceived provocation							.139**	(.047)	.147
Delinquent peers > delinquent reinforcement							.297**	(.040)	.302
Delinquent peers > group conformity							.040	(.032)	.062
Delinquent peers > rule-breaking tolerance							.272**	(.048)	.223
Delinquent peers > substance use tolerance							.280**	(.038)	.316
Delinquent peers > offending tolerance							.257**	(.040)	.303

(*Continued*)

Table 3. Continued

Paths, Variances, and Model Fit Statistics	Model 1			Model 2			Model 3		
	B	(SE)	*β*	*B*	(SE)	*β*	*B*	(SE)	*β*
Parental monitoring > delinquency[a]	–.047**	(.013)	–.116	–.032*	(.013)	–.077	–.032*	(.013)	–.077
Self-control > delinquency[a]	–.074**	(.011)	–.213	–.022*	(.011)	–.062	–.022*	(.011)	–.062
Age > delinquency[a]	–.114**	(.029)	–.122	–.163**	(.031)	–.175	–.163**	(.031)	–.175
Intercept delinquency	5.984**	(.533)	1.027	.256**	(.643)	.975	.168	(.645)	
Residual Variances									
Delinquency	.532**	(.090)	.538	.257**	(.054)	.259	.258**	(.054)	.267
Perceived temptation				2.793**	(.231)	.991	2.349**	(.177)	.833
Perceived provocation				2.648**	(.220)	1.000	2.591**	(.220)	.979
Delinquent reinforcement				2.853**	(.187)	.990	2.596**	(.172)	.901
Group conformity				1.218**	(.092)	.999	1.214**	(.091)	.995
Rule-breaking tolerance				4.394**	(.316)	.996	3.790**	(.272)	.859
Substance use tolerance				2.293**	(.155)	.985	1.960**	(.130)	.842
Offending tolerance				2.093**	(.221)	.986	1.742**	(.176)	.821
Delinquent peers				2.907**	(.239)	.980	2.907**	(.239)	.980
Dispersion Delinquency	.683**	(.082)	.679	.448**	(.062)	.446	.448**	(.061)	.442
Values of Fit Statistics									
LL		–2944.56			–34230.65			–33337.39	
BIC (sample size adjusted)		5940.210			68771.790			67087.450	

NOTES: Values of fit statistics are applicable for both within-individual and between-individual estimates: These effects are estimated simultaneously in the same model. Between-individual estimates are presented in table S4.1 in the online supporting information.
Standardized estimates are obtained by standardizing independent variables prior to model estimation.
ABBREVIATIONS: BIC = Bayesian information criterion; LL = log likelihood; SE = standard error.
[a]Coefficients of the direct paths to delinquency report changes in the log count rate.
$^{\dagger}p < .10$; $^{*}p < .05$; $^{**}p < .01$ (two-tailed).

of the relationship,[3] we decided to focus on the within-individual results as they offer a more stringent test by partly dealing with potential confounding selection effects. In the remainder of this section, we will only discuss the within-individual results. The between-individual results can be found in the online supporting information.

PROPOSED EXPLANATORY PROCESSES

After confirming that the unstructured socializing–delinquency relationship exists in our data, we turn to our analysis of mediation. The variables representing the four explanatory processes were added to model 2 (tables 3 and 4). The results from model 2 in table 3 indicate that the magnitude of the association between unstructured socializing and delinquency decreased by 77 percent and that the association was no longer significant after the mediators were added to the model ($B = .005$, $p > .10$, IRR = 1.005). The decrease of the direct effect between unstructured socializing and delinquency suggests that the proposed processes indeed offer an explanation for the relationship. To study these mediation effects further, we focused on 1) the direct relationships between unstructured socializing and the variables representing the proposed processes, 2) the direct relationships between these variables and delinquency, and 3) the indirect effects of unstructured socializing on delinquency through the variables representing the proposed explanatory processes. The results are discussed for each process, following hypotheses 2 to 5.

The first proposed explanatory process for the relationship between unstructured socializing and adolescent delinquency is exposure to opportunities (perceived temptations and provocations) for delinquency (hypothesis 2). The results from model 2 in table 3 show that involvement in unstructured socializing is positively related to perceived temptation ($\beta = .096$, $p < .05$) and that perceived temptation is positively related to delinquency ($B = .096$, $p < .01$, IRR = 1.101). The results also support a positive indirect effect (table 4: $\beta = .016$, $p < .05$), which is confirmed with the method from Muthén and Asparouhov (2015; table 4: $B = .031$, $p < .05$). The second variable that represents the process exposure to opportunities, perceived provocation, does not seem to be relevant in explaining the unstructured socializing–delinquency relationship. We did not find direct or indirect effects between this variable, involvement in unstructured socializing, and delinquency. Thus, the results are partly in line with hypothesis 2: We found support for an indirect effect through perceived temptation but not through perceived provocation.

The second proposed explanatory process is exposure to group pressure (hypothesis 3). This explanatory process was investigated with two variables: delinquent reinforcement and peer influence toward group conformity. Results from model 2 in table 3 indicate that delinquent reinforcement is positively related to involvement in unstructured socializing ($\beta = .098$, $p < .01$) and to involvement in delinquency ($B = .034$, $p < .10$, IRR = 1.035). Despite the two positive direct paths, we did not find consistent support for an indirect

3. Within-individual results solely concern changing scores of variables over time. These results do not take into account how frequently individuals were initially involved in unstructured socializing or delinquency, and they do not give information about differences between subjects. In particular, within-individual analyses cannot determine whether individuals who are frequently involved in unstructured socializing score higher on delinquency than other individuals, whereas between-individual analyses can.

Table 4. General Delinquency Regressed on Unstructured Socializing, Mediators, and Control Variables, Indirect Effects at Within-Individual Level ($N = 610$)

	Model 2			Model 3			PNIE[b]	
Paths	***B***	**(SE)**	***β***	***B***	**(SE)**	***β***	***B***	**(SE)**
Indirect Effects[a]								
Perceived temptation	.004*	(.002)	.016	.001	(.001)	.006	.031*	(.013)
Perceived provocation	.000	(.000)	.000	.000	(.000)	.000	.001	(.003)
Delinquent reinforcement	.001	(.001)	.006	.001	(.001)	.003	.026**	(.010)
Delinquent reinforcement > rule-breaking tolerance				.000	(.000)	.001	—	—
Delinquent reinforcement > substance use tolerance				.000	(.000)	.001	—	—
Delinquent reinforcement > offending tolerance				.000	(.000)	.001	—	—
Group conformity	.000	(.000)	.000	.000	(.000)	.000	–.003	(.003)
Group conformity > rule-breaking tolerance				.000	(.000)	.000	—	—
Group conformity > substance use tolerance				.000	(.000)	.000	—	—
Group conformity > offending tolerance				.000	(.000)	.000	—	—
Rule-breaking tolerance	.001	(.001)	.003	.000	(.000)	.001	.017†	(.009)
Substance use tolerance	.002*	(.001)	.009	.001	(.001)	.005	.022*	(.009)
Offending tolerance	.002†	(.001)	.008	.001	(.001)	.004	.031**	(.011)
Delinquent peers	.002†	(.001)	.010	.002†	(.001)	.010	.037**	(.012)
Delinquent peers > perceived temptation				.002**	(.001)	.009	—	—
Delinquent peers > perceived provocation				.000	(.000)	.000	—	—
Delinquent peers > delinquent reinforcement				.001	(.000)	.003	—	—
Delinquent peers > group conformity				.000	(.000)	.000	—	—
Delinquent peers > rule-breaking tolerance				.000	(.000)	.002	—	—
Delinquent peers > substance use tolerance				.001†	(.000)	.003	—	—
Delinquent peers > offending tolerance				.001†	(.000)	.003	—	—

NOTES: Between-individual estimates are presented in table S4.1 in the online supporting information. Standardized estimates are obtained by standardizing independent variables prior to model estimation.

ABBREVIATIONS: PNIE = pure natural indirect effect; SE = standard error.

[a]Indirect effects express the effect of unstructured socializing on delinquency through specified variables.

[b]Calculated as suggested by Muthén (2011) and by Muthén and Asparouhov (2015).

†$p < .10$; *$p < .05$; **$p < .01$ (two-tailed).

effect through delinquent reinforcement (table 4). We found an indirect effect when calculating with the method by Muthén and Asparouhov (2015; $B = .026$, $p < .01$) but not when calculating with the multivariate delta method ($\beta = .006$, $p > .10$). The results do not suggest that peer influence toward group conformity is relevant in explaining the relationship between unstructured socializing and delinquency: It does not seem to be related to unstructured socializing or delinquency in any model, and there is no support for an indirect effect. Thus, the results do not offer support for hypothesis 3.

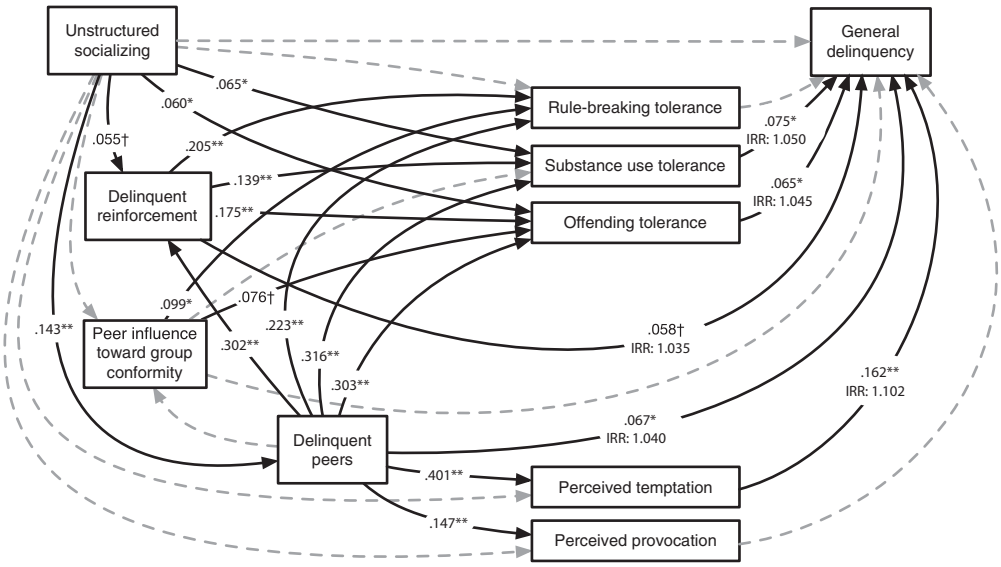
The third proposed explanatory process is increased tolerance for delinquency (hypothesis 4), which was investigated with three measures: tolerance for rule breaking, tolerance for substance use, and tolerance for offending. The results from model 2 in table 3 suggest that involvement in unstructured socializing is, as expected, positively related to rule-breaking tolerance ($\beta = .066$, $p < .10$), substance use tolerance ($\beta = .124$, $p < .01$), and offending tolerance ($\beta = .118$, $p < .01$). Two of the three tolerance measures are also significantly positively related to general delinquency: substance use tolerance ($B = .049$, $p < .05$, IRR = 1.050) and offending tolerance ($B = .044$, $p < .05$, IRR = 1.045). Indirect effects, as reported in table 4, were found for substance use tolerance ($\beta = .009$, $p < .05$) and offending tolerance ($\beta = .008$, $p < .10$); both indirect effects were confirmed with the multivariate delta method, as well as with the method by Muthén and Asparouhov (2015). For rule-breaking tolerance, we found an indirect effect when calculating with the method by Muthén and Asparouhov (2015; $B = .017$, $p < .10$) but not when calculating with the multivariate delta method ($\beta = .003$, $p > .10$). The results offer partial support for hypothesis 4: We found that the unstructured socializing–delinquency relationship is mediated by tolerance for offending and substance use but not by tolerance for rule breaking.

The fourth proposed explanatory process is exposure to delinquent peers (hypothesis 5). As expected, we found a positive direct effect between involvement in unstructured socializing and exposure to delinquent peers (model 2, table 3: $\beta = .143$, $p < .01$) and a positive direct effect between delinquent peers and delinquency (model 2, table 3: $B = .039$, $p < .05$, IRR = 1.040). Also, we found a positive indirect effect of unstructured socializing on delinquency through delinquent peers (model 2, table 4: $\beta = .010$, $p < .10$), which was confirmed when calculated with the method suggested by Muthén and Asparouhov (2015; $B = .037$, $p < .01$). These results are in line with hypothesis 5 on the indirect effect through delinquent peers.

PROPOSED SEQUENTIAL PATHS

To test hypotheses 6 to 9, the proposed sequential paths were added to model 3 in tables 3 and 4. The results of this model are visualized in figure 2. The first proposed sequential path within the unstructured socializing–delinquency relationship runs through exposure to delinquent peers, which in turn affects adolescents' tolerance for delinquency, thus, affecting their involvement in delinquency (hypothesis 6). Results from model 3 in table 3 indicate that direct relationships are present between delinquent peers and the tolerance measures (rule-breaking tolerance: $\beta = .223$, $p < .01$; substance use tolerance: $\beta = .316$, $p < .01$; offending tolerance: $\beta = .303$, $p < .01$). We found evidence for a sequential path that runs through exposure to delinquent peers, which in turn affects tolerance for substance use, thus, affecting involvement in delinquency (sequential effect reported in table 4: $\beta = .003$, $p < .10$). We also found evidence for a sequential path that runs through exposure to delinquent peers, which in turn affects tolerance for offending, thus, affecting involvement in delinquency (sequential effect reported in table 4: $\beta = .003$, $p < .10$).

Figure 2. Standardized Robust Maximum Likelihood Estimates at Within-Individual Level for General Delinquency, Model 3



NOTES. Significant paths are displayed as solid lines, and nonsignificant paths are displayed as dashed lines. $^{\dagger}p < .10$; $^{*}p < .05$; $^{**}p < .01$ (two-tailed). Control variables are excluded for clarity reasons. For a full presentation of the results, see tables 3 and 4.

We did not find evidence for a sequential path through tolerance for rule breaking. The indirect effects through substance use tolerance and offending tolerance (as reported in model 2 in table 4) decreased to insignificance after the sequential paths were added in model 3, which suggests that the explanatory effect of the tolerance measures in the unstructured socializing–delinquent relationship runs fully through exposure to delinquent peers. The results offer partial support for hypothesis 6: We found that involvement in unstructured socializing exposes adolescents to delinquent peers, which in turn affects their tolerance for substance use and offending, thus, affecting their involvement in delinquency. We did not find a sequential path through rule-breaking tolerance.

The second proposed sequential path (hypothesis 7) runs through exposure to group pressure (delinquent reinforcement and peer influence toward group conformity), which in turn affects adolescents' tolerance for delinquency, thus, affecting their involvement in delinquency. The results in model 3 in table 3 show that there are direct paths between delinquent reinforcement and the tolerance measures (rule-breaking tolerance: $\beta = .205$, $p < .01$; substance use tolerance: $\beta = .139$, $p < .01$; offending tolerance: $\beta = .175$, $p < .01$). However, the results do not support the proposed sequential path (table 4). Neither did we find support for a sequential path that runs through peer influence toward group conformity and, subsequently, through the tolerance measures. Thus, the results offer no support for hypothesis 7.

The third proposed sequential path (hypothesis 8) runs through exposure to delinquent peers, which in turn affects adolescents' exposure to group pressure (delinquent reinforcement and peer influence toward group conformity), thus, affecting their

involvement in delinquency. The findings of model 3 in table 3 indicate that there is a direct path between delinquent peers and delinquent reinforcement ($\beta = .302$, $p < .01$). However, the results, as reported in table 4, do not support the proposed sequential path. We did not find evidence for a direct relationship between delinquent peers and peer influence toward group conformity nor for the proposed sequential path through delinquent peers, which in turn affects peer influence toward group conformity. Thus, the results offer no support for hypothesis 8.

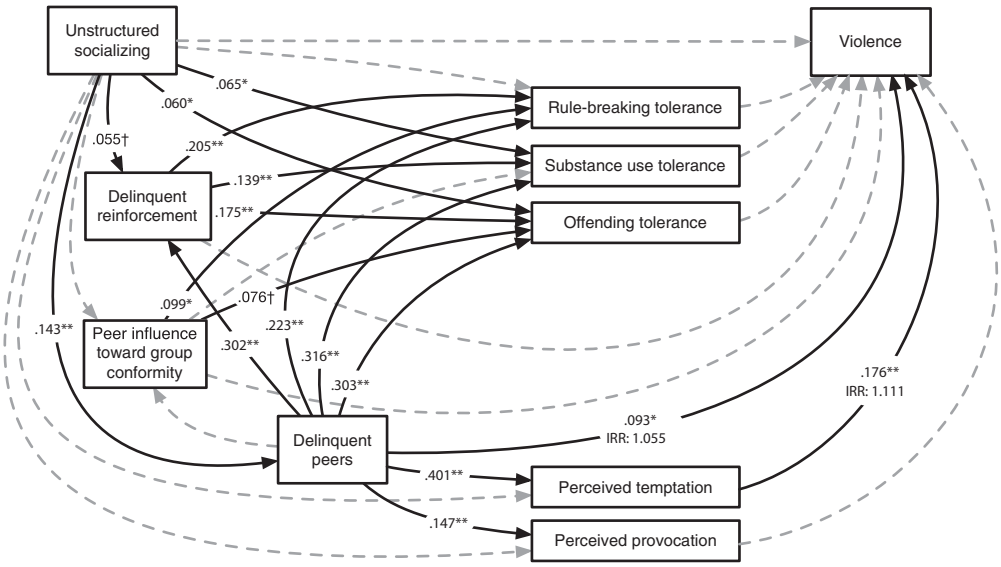
The fourth proposed sequential path (hypothesis 9) runs through exposure to delinquent peers, which in turn affects adolescents' exposure to opportunities (temptations and provocations) for delinquency, thus, affecting their involvement in delinquency. Results from model 3 in table 3 indicate that direct relationships are present between delinquent peers and perceived temptation ($\beta = .401$, $p < .01$), as well as between delinquent peers and perceived provocation ($\beta = .147$, $p < .01$). We found evidence for a sequential path through exposure to delinquent peers, which in turn affects adolescents' perceived temptation (sequential effect reported in table 4: $\beta = .009$, $p < .01$) but not for a sequential effect through perceived provocation. The indirect effect through perceived temptation found in model 2 in table 4 decreased to insignificance after the sequential path through delinquent peers was added in model 3. This finding suggests that the explanatory effect of perceived temptation (opportunity) runs fully through exposure to delinquent peers. The results offer partial support for hypothesis 9: We found a sequential path that runs via exposure to delinquent peers through perceived temptation to delinquent behavior, but we did not find a sequential path through perceived provocation.

VIOLENCE, THEFT, AND VANDALISM

To investigate whether the unstructured socializing–delinquency relationship depends on the type of delinquency and to examine whether different explanatory processes may be at play for different types of delinquency, all models were repeated with violence, theft, and vandalism as dependent variables. The results from these analyses are briefly described in this section and are more elaborately presented in figures 3, 4, and 5, as well as in the online supporting information (sections S5–S7). The results indicate that involvement in unstructured socializing is directly related to theft and vandalism but not to violence ($B = .011$, $p > .10$, IRR = 1.011). An increase of 1 hour in involvement in unstructured socializing is related to an increase of approximately 6.3 percent in theft ($B = .061$, $p < .01$, IRR = 1.063) and of approximately 3.1 percent in vandalism ($B = .031$, $p < .01$, IRR = 1.031). The magnitude of all three relationships (among unstructured socializing and violence, theft, and vandalism) decreases after adding the variables that represent the proposed processes to the model, thus, indicating the presence of mediation. We will now briefly discuss the findings per type of delinquency.

Although there is no evidence for a direct effect of involvement in unstructured socializing on violence, there are important indirect effects. The findings for violence, as depicted in figure 3, indicate that the unstructured socializing–violence relationship is explained by exposure to delinquent peers (indirect effect: $\beta = .013$, $p < .10$), which is in line with hypothesis 5. We also found support for a sequential path. In line with hypothesis 9, we found that involvement in unstructured socializing exposes adolescents to delinquent peers, which in turn affects their perceived temptations, thus, affecting their involvement in violent behavior (sequential effect: $\beta = .010$, $p < .01$). The differences between the

Figure 3. Standardized Robust Maximum Likelihood Estimates at Within-Individual Level for Violence, Model 3



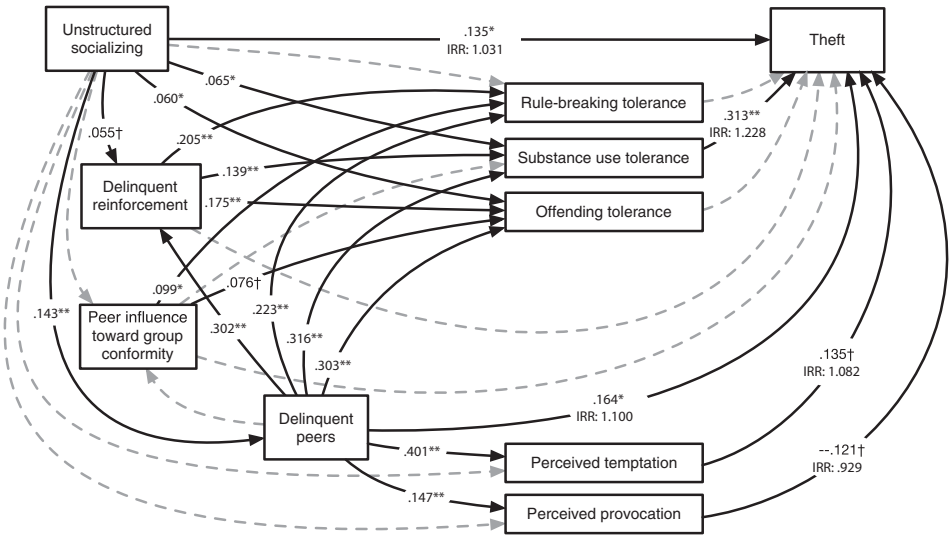
NOTES. Significant paths are displayed as solid lines, and nonsignificant paths are displayed as dashed lines. $^{\dagger}p < .10$; $^{*}p < .05$; $^{**}p < .01$ (two-tailed). Control variables are excluded for clarity reasons. For a full presentation of the results, see table S5.1 in the online supporting information.

model for violence (figure 3) and the model for general delinquency (figure 2) are that there are no paths from delinquent reinforcement, substance use tolerance, and offending tolerance to violence, whereas they are present in the model for general delinquency, and that the paths from perceived temptations ($B = .105, p < .01$, IRR = 1.111) and delinquent peers ($B = .054$, $p < .05$, IRR = 1.055) to violence seem to be somewhat stronger than to general delinquency (respectively, $B = .097$, $p < .01$, IRR = 1.102 and $B = .039$, $p < .05$, IRR = 1.040).

The findings for theft (figure 4) indicate that the relationship between unstructured socializing and theft remains significantly different from zero after including all mediating variables ($B = .031, p < .05$, IRR = 1.031), which suggests that there may be other relevant factors for this relationship outside of the proposed framework. The relationship between involvement in unstructured socializing and theft is explained with an increased tolerance toward substance use (indirect effect: $\beta = .020, p < .10$) and exposure to delinquent peers (indirect effect: $\beta = .023, p < .10$), which is in line with hypotheses 4 and 5. Apart from the independent indirect effects through these mediators, we also found a sequential path through delinquent peers and subsequent tolerance for substance use (sequential effect: $\beta = .014, p < .05$), which is in line with hypothesis 6. Other noteworthy findings for theft (figure 4) are an unexpected negative direct effect between perceived provocation and theft ($B = –.074, p < .10$, IRR = .929) and the particularly strong path between substance use tolerance and theft ($B = .205, p < .01$, IRR = 1.228).

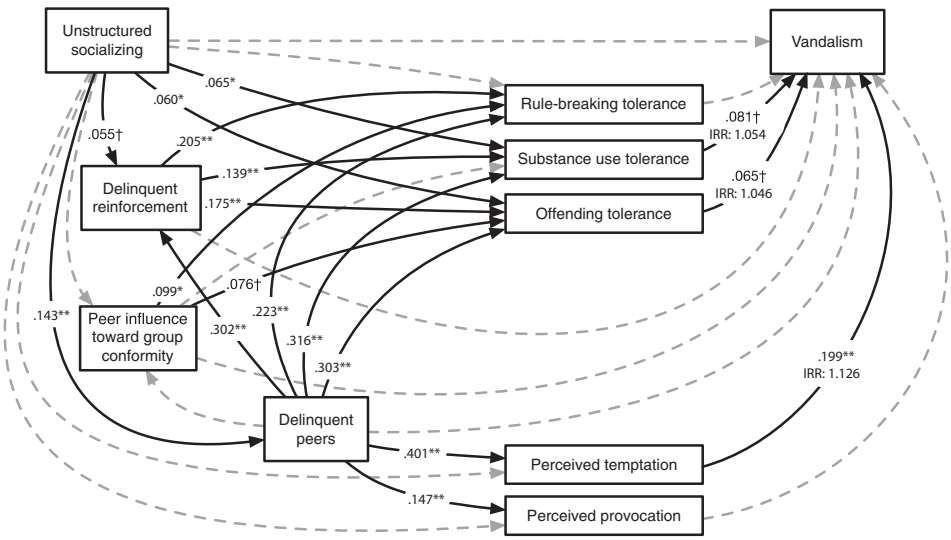
The relationship between involvement in unstructured socializing and vandalism (figure 5) is explained with the sequential path through exposure to delinquent peers,

Figure 4. Standardized Robust Maximum Likelihood Estimates at Within-Individual Level for Theft, Model 3



NOTES. Significant paths are displayed as solid lines, and nonsignificant paths are displayed as dashed lines. †p < .10; *$p < .05$; **$p < .01$ (two-tailed). Control variables are excluded for clarity reasons. For a full presentation of the results, see table S6.1 in the online supporting information.

Figure 5. Standardized Robust Maximum Likelihood Estimates at Within-Individual Level for Vandalism, Model 3



NOTES. Significant paths are displayed as solid lines, and nonsignificant paths are displayed as dashed lines. †$p < .10$; *$p < .05$; **$p < .01$ (two-tailed). Control variables are excluded for clarity reasons. For a full presentation of the results, see table S7.1 in the online supporting information.

which in turn affects adolescents' perceived temptations (sequential effect: $\beta = .011$, $p < .01$), as formulated in hypothesis 9. An important difference between this model (presented in figure 5) and the models for the other types of delinquency (presented in figures 2, 3, and 4) is that exposure to delinquent peers does not seem to have an independent indirect effect in the relationship between unstructured socializing and vandalism: It contributes solely to an explanation for the relationship in a sequential path through perceived temptation.

In summary, we found that the explanatory processes for the unstructured socializing–delinquency relationship differed across the investigated types of delinquency (violence, theft, and vandalism). That being said, some processes were relevant for most relationships. Exposure to opportunities (to temptations rather than to provocations; hypothesis 2), tolerance for delinquency (particularly for substance use; hypothesis 4), and exposure to delinquent peers (hypothesis 5) seemed relevant in most relationships, regardless of the type of delinquency. After allowing for sequential paths, we found that the relationships with violence and vandalism were explained by a sequential path through exposure to delinquent peers and subsequent perceived temptations for delinquency (hypothesis 9). The relationship between unstructured socializing and theft was explained with a sequential path through exposure to delinquent peers, which in turn affected adolescents' tolerance for substance use (hypothesis 6). None of the models offered support for hypothesis 3 (on the indirect effect of group pressure), hypothesis 7 (on the sequential effect through group pressure and subsequent tolerance for delinquency), or hypothesis 8 (on the sequential effect through exposure to delinquent peers and subsequent exposure to group pressure).

CONCLUSION AND DISCUSSION

Routine activity patterns and lifestyles, in particular unstructured socializing, have been associated with individual delinquency in many studies. The empirical support for the association between unstructured socializing and delinquency is convincing (Osgood and Anderson, 2004; Svensson and Oberwittler, 2010; Vazsonyi et al., 2002), but until now, no study has elaborated on this important relationship by empirically investigating the relative contribution of different explanatory processes. The purpose of this study was to investigate four potential explanatory processes: exposure to opportunities for delinquency, exposure to group pressure, increased tolerance for delinquency, and exposure to delinquent peers.

Our findings suggest that involvement in unstructured socializing is related to delinquency for at least three reasons: 1) Adolescents are exposed to delinquent peers in situations of unstructured socializing, 2) exposure to delinquent peers affects the extent to which adolescents perceive temptations (opportunities) to engage in delinquency, and 3) exposure to delinquent peers affects adolescents' tolerance for substance use. Some of these indirect effects are more substantial than others, and the effects differ somewhat across the three investigated types of delinquency. We found that, net of controls, unstructured socializing was related to theft and vandalism but not to violence. The relationships with vandalism and violence are best explained by exposure to delinquent peers, which in turn affects adolescents' perceived temptations. The relationship with theft is best explained by exposure to delinquent peers, which in turn affects adolescents' tolerance for substance use. The relationship between unstructured socializing and theft was not fully

explained by the proposed theoretical framework, which suggests that there may be other relevant explanatory processes that need to be investigated.

CONTRIBUTION TO THEORY

The findings of the present study contribute to the increasing body of literature on the *routine activity theory of general deviance* (Osgood et al., 1996), which centers on the relationship between unstructured socializing and adolescent delinquency. Several empirical studies have shown that adolescents who are more often involved in unstructured socializing are more likely to be involved in delinquency (for an overview, see Hoeben, 2016). This relationship has proven to be robust in longitudinal tests (Osgood et al., 1996), at the situational level (Bernasco et al., 2013), and in cross-national studies (Steketee, 2012; Vazsonyi et al., 2002). Although some scholars have investigated mediation of the relationship by variables that represent the proposed processes (Agnew and Petersen, 1989; Bernburg and Thorlindsson, 2001; Boman, 2013; Hawdon, 1996; Hughes and Short, 2014; Wong, 2005), we are unaware of previous studies that have simultaneously investigated different explanatory processes to determine their relative contribution. The present study expanded the set of investigated explanatory processes by incorporating explanations that focus on opportunities and group pressure, in addition to explanations that focus on attitude transference and exposure to delinquent peers. Furthermore, the present study examined sequential effects derived from social learning theory and the situational inducement perspective. In line with the theory as outlined by Osgood et al. (1996), our findings give reason to believe that a situation of unstructured socializing is not only a setting that increases opportunity for crime but also a situation that offers a certain social context for behavior. A situation in which peers are present and authority figures are absent opens the gates to several processes of peer influence. The empirical support for a path through exposure to delinquent peers and subsequent perceived temptation (opportunity) gives the impression that *peers are situational motivators*. The specific ways in which peers motivate adolescents into delinquency (e.g., through instigation, reinforcement, modeling, provocation, or other situational peer processes) remain unclear and need to be examined in future studies.

Additionally, our findings indicate that unstructured socializing may result in different types of delinquency through different processes. Vandalism seems to be especially opportunity driven as its relationship with unstructured socializing is predominantly explained by exposure to temptations. The relationship between unstructured socializing and theft, on the other hand, is explained by exposure to delinquent peers and their normative influence. These findings contribute to a further understanding of previous work on the routine activity theory of general deviance, which indicated that involvement in unstructured socializing was related to some types of delinquency but not to others (Miller, 2013; Müller, Eisner, and Ribeaud, 2013). By investigating the relative contributions of various explanatory processes, the present study brings the field one step closer to disentangling the complex amalgam of opportunities and peer influence processes underlying the relationship between unstructured socializing and delinquency.

The present study integrates routine activity theory with insights from social learning theory and differential association theory. Integrating these theories deepens understanding of how legal, regular activities may result in increased risks of delinquency by acknowledging the relevance of peer influence in explaining adolescent delinquency.

Additional research is needed to determine whether principles from social learning theory are also relevant in explaining relationships between individual behavior and routine activities other than unstructured socializing. Specifically, social learning processes may explain the relationship between involvement in structured leisure activities and positive developmental outcomes for adolescents (Eccles et al., 2003).

The present study contributes to literature on the *social learning theory* by providing empirical evidence for pathways that have been explicated in that theory. The theoretical framework in the present study incorporates three processes and two sequential paths that were derived from social learning theory. We found that two of the three processes (exposure to delinquent peers and increased tolerance for delinquency but not exposure to delinquent reinforcement) were relevant in explaining the unstructured socializing–delinquency relationship. Furthermore, we found support for a sequential path of unstructured socializing on delinquency through exposure to delinquent peers and subsequent increased tolerance for delinquency, which is also in line with social learning theory (Akers, 1998; Akers and Jensen, 2006; Akers et al., 1979). The presence of this sequential path indicates that individuals internalize attitudes that are acquired from their social environment. Our results provided stronger support for the proposed sequential path than was found in previous studies (Megens and Weerman, 2012; Reed and Rose, 1998; Reed and Rountree, 1997). For a second sequential path derived from social learning theory, we did not find support: Exposure to delinquent reinforcement did not significantly affect delinquency through shifting attitudes toward delinquency. This result is contrary to the sixth statement of the social learning theory as formulated by Burgess and Akers (1966).

More generally, our findings provide evidence that both short-term processes (of exposure to temptations) and long-term processes (of acquiring attitudes from the social environment) explain the relationship between involvement in unstructured socializing and adolescent delinquency. Thus, the effect of unstructured socializing on delinquency is *not solely situational.* In fact, no activity may have solely situational effects on behavior if one operationalizes it at the individual level as "general involvement in that activity": Repeated exposure to the same situational influences may affect individuals' long-term development and future behavior. Our findings have methodological implications for studies that use unstructured socializing as a proxy for environmental immediate cues (i.e., opportunity). Recent examples are studies aimed at investigating interactions between individual traits and environmental immediate cues by using unstructured socializing as a measure for the latter (Hay and Forrest, 2008; Thomas and McGloin, 2013). What these studies have captured are not only interactions with opportunity but also interactions with more general social processes resulting from unstructured socializing.

We suggest expanding the thinking about unstructured socializing and other routine activities by acknowledging that (leisure) activities are situations that provide opportunities for delinquency (or positive behavior) and, at the same time, form a social context for such behavior. We argue that the situations in which adolescents spent their leisure form a *behavior setting* (Barker, 1968) and should be further investigated as such. Behavior settings are "extra-individual units with great coercive power over the behavior that occurs within them" (Barker, 1968: 17). They incorporate "standing behavior patterns" (extra-individual behavior phenomena) that explain why adolescents would conduct behavior in a setting of unstructured socializing that they would not conduct in another entity of the ecological environment, such as in the classroom or at home with their parents (Barker, 1987; Barker et al., 1978; Barker and Wright, 1955). Behavior objects in unstructured

socializing settings are the present peers, present others who are not directly involved in the activity (e.g., store managers and janitors), and elements of the physical environment where unstructured socializing occurs (e.g., a nearby trash can). The peers are thus part of the setting; they are "interchangeable and replaceable" and contribute to an ecological atmosphere that persists after they leave the setting (Barker, 1968). Criminology may benefit from a behavioral setting approach in its understanding of how environments influence individual behavior. More research is needed to identify conditions that specify the risk of an activity over and above the nature of the activity itself and of the people who are present.

LIMITATIONS AND FUTURE RESEARCH

The extensive information about daily activities of the SPAN respondents derived from the space–time budget interviews and the rich pool of items on potential mediating variables made the SPAN data particularly useful for examining our research question. Nevertheless, despite these advantages, the present study and the data used for the present study have some limitations that will be addressed in the remainder of this section.

First, the longitudinal data incorporated two moments of observation with a time lag of approximately 2 years in between. This time lag may be too short to study development among adolescents but also may be too long to study the explanatory processes from a situational perspective. To truly fathom the relevance of the different processes, the present study needs to be replicated with situational data, as well as with data that cover a longer part of adolescence (Lam, McHale, and Crouter, 2014).

Second, we could have also used a broader set of activities to operationalize unstructured socializing. Unstructured activities, according to Osgood et al. (1996: 640), are activities that "carry no agenda for how time is to be spent." Activities such as watching television or skate boarding also fall under that definition and qualify as unstructured socializing when spent in the presence of peers and in the absence of authority figures. We examined a measure for unstructured socializing that included a broader set of activities. Although our overall findings were similar for both measures, the relationship with delinquency was stronger for the restrictive measure, that is, that included only interactive socializing activities (e.g., talking and hanging out). Therefore, we decided to present here the findings with the stricter operationalization for unstructured socializing. This information may be relevant for other scholars who wish to operationalize unstructured socializing or similar constructs with time diary data.

Third, the operationalization of the processes could be improved on in future studies. Exposure to opportunities for delinquency was operationalized with perceived temptations and provocations, whereas the concept of opportunity is much broader and might require additional information on, for example, deterrence or the presence of guardians or place managers (Felson, 1995; Spano and Freilich, 2009). The absence or presence of delinquent reinforcement (the first variable representing exposure to group pressure) in situations of unstructured socializing could be more accurately determined, for example, in experimental studies that focus on adolescents' reactions to each other's deviant talk (Dishion et al., 1996; Patterson, Dishion, and Yoerger, 2000). The construct of peer influence toward group conformity (the second variable representing exposure to group pressure) was expected to relate positively to delinquency but did not significantly associate with any of the dependent variables. This result may be explained with the

ambiguous nature of our measure of peer influence toward group conformity: A prosocial group will supposedly evoke conventional behavior, whereas an antisocial group will supposedly evoke deviant behavior. The construct also has a relatively low Cronbach's alpha and may be improved when more items are added as it now consists of three items. As an improved measure, we suggest the susceptibility to peer influence scale from Meldrum, Miller, and Flexon (2013). The tolerance measures (rule-breaking tolerance, substance use tolerance, and offending tolerance) could be extended with items from Bandura's moral disengagement scale (Bandura et al., 1996). Furthermore, the present study applies a conventional measure for exposure to delinquent peers, in which respondents were asked about the behavior of their friends. Studies on network-generated data, in which friends report about their own behavior, showed that conventional measures overestimate the association between peer delinquency and adolescents' delinquent behavior (Weerman and Smeenk, 2005; Young et al., 2015), which implies that the mediation effect of exposure to delinquent peers may be overestimated in the present study. Because of the imperfect operationalization of the explanatory processes, the results of the present study should be interpreted as a first step toward elaborating the unstructured socializing–delinquency relationship. Future exploration may benefit from improvement of the measures.

The present study focused on the processes *through which* involvement in unstructured socializing influences delinquency behavior. There are at least three other issues regarding the relationship between unstructured socializing and delinquency that need to be scrutinized in future research. First, it is important to explore the conditions under which unstructured socializing relates to delinquency. The unstructured socializing–delinquency relationship may be stronger, for example, if delinquent peers are present (Haynie and Osgood, 2005; Svensson and Oberwittler, 2010) and adolescents may be more tempted to engage in delinquency if they feel pressured by the peers with whom they engage in unstructured socializing (i.e., moderation by reinforcement or other forms of peer pressure). Previous studies have also found that demographics (e.g., gender) and other individual characteristics (e.g., self-control and moral beliefs) moderate the unstructured socializing–delinquency relationship (Augustyn and McGloin, 2013; Bernburg and Thorlindsson, 2001; Hay and Forrest, 2008). Second, research is needed to investigate the extent to which involvement in unstructured socializing forms an intersection (mediation) between other predictors of delinquency and delinquency, such as parental monitoring (Osgood and Anderson, 2004), age, gender, or socioeconomic status (Osgood et al., 1996). Third, reciprocal relationships within the proposed framework need to be scrutinized: Previous studies have shown that delinquent behavior may also affect involvement in unstructured socializing (Fleming et al., 2008; McHale, Crouter, and Tucker, 2001; Vásquez and Zimmerman, 2014). We considered the examination of reciprocal effects, moderation effects, and predictors of unstructured socializing to be beyond the scope of this study, but they may be fruitful directions for future studies.

CONCLUDING REMARKS

This study responded to the call from Agnew (1995: 364) for "an explicit focus on motivational processes" that explains why predictors relate to delinquent behavior. In previous empirical studies, we have come to know involvement in unstructured socializing as a powerful predictor of adolescent delinquency. However, as Agnew (1995) argued,

only the investigation of motivational processes will help in understanding *why* these and other factors are related to delinquent behavior. The present study strongly suggests that involvement in certain activities evokes situational processes (as argued in routine activity theory), as well as socialization processes (as elaborated in social learning theory), that offer both short-term and long-term explanations for delinquent behavior. Replication of our findings and continued exploration of explanatory processes are necessary to obtain more information on the intriguing association between risky leisure activities and adolescent delinquency.

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Appendix A. Items Measuring Variables Representing the Proposed Processes

Processes	Variables	Items
Exposure to opportunities for delinquency	Perceived temptation	*When was the last time you felt tempted to…* Steal from a shop/destroy or damage something/hit someone/break into a car to steal something *Last week/last month/last year/longer than a year ago/never been tempted*
	Perceived provocation	*How often…* Are you being scoffed at/do people start an argument or quarrel with you/are you being provoked into a fight/do you feel that others disrespect you/do people treat you badly *Never/sometimes/frequently (every month)/often (every week or every day)*
Exposure to group pressure	Delinquent reinforcement	When I would do something that is not allowed, my friends find it quite funny/When I'm with friends I break the rules more often than when I'm alone/I will stick with my friends, even if they do something dangerous/If my friends would get into contact with the police, I would lie for them to protect them *YES!/yes/yes or no/no/NO!*
	Peer influence toward group conformity	Sometimes, my friends make me do things that I don't really want to do/My friends would find it uncool when there is something that I don't dare to do/My friends think it's OK when I don't dare or want to do something *YES!/yes/yes or no/no/NO!*
Increased tolerance for delinquency	Rule-breaking tolerance	*How bad do you think it is when someone of your age does the following:* Bicycling through red light/skipping homework/skipping school without excuse/lying, disobeying or talking back to teachers/skateboarding where it is not allowed/bullying a classmate because of how he or she dresses/stealing a pencil from a classmate *Very bad/bad/a little bad/not bad at all*
	Substance use tolerance	*How bad do you think it is when someone of your age does the following:* Smoking cigarettes/getting drunk on a Friday evening/smoking soft drugs *Very bad/bad/a little bad/not bad at all*
	Offending tolerance	*How bad do you think it is when someone of your age does the following:* Painting graffiti on a house wall/smashing a street light/ stealing a CD from a shop/breaking into a building to steal/using a weapon or force to get money or things from another young person *Very bad/bad/a little bad/not bad at all*
Exposure to delinquent peers	Delinquent peers	*How often do your friends…* Skip school without excuse/get drunk/use drugs/steal something from others or from shops/destroy things/beat up or get into fights with others *(Almost) never/sometimes/often (each month)/very often (each week)*

SUPPORTING INFORMATION

Additional Supporting Information may be found in the online version of this article at the publisher's web site:

Table S1.1. Results of Principal Components Analysis (Forced One Factor Solutions) and Reliability Analysis for Different Types of Delinquency
Table S2.1. Results of Principal Components Analyses (Forced One Factor Solutions) and Reliability Analyses for Variables Representing Explanatory Processes
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Table S6.1. Theft Regressed on Unstructured Socializing, Mediators, and Control Variables, Direct and Indirect Effects at Within-Individual Level
Table S7.1. Vandalism Regressed on Unstructured Socializing, Mediators, and Control Variables, Direct and Indirect Effects at Within-Individual Level