

The Symbolic Benefits of Delinquency for Adolescents

by

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Abstract

The symbolism associated with delinquency can be very powerful. By engaging in delinquent behaviour, adolescents may be able to improve their social status by sending the message to their peers that they have highly valued characteristics such as bravery/nerve. I seek to expand our understanding of how the symbolism of delinquency contributes to the motivation for adolescent delinquent behaviour by presenting three studies that address various aspects of this relationship. These studies expand on prior research by integrating network analysis with situational analysis and by examining the criminogenic importance of differential association and symbolic interactionist perspectives within a network analysis framework. Overall, the studies show that delinquent motivation is often a product of a desire to enhance/maintain social status since delinquency symbolises valued characteristics. But only minor forms of delinquency (substance use) are found to benefit social status; more serious forms (violence) are detrimental. These symbolic incentives are particularly powerful when a) situation-specific supports for delinquency are most evident, and b) when the individual risks losing access to benefits from a delinquent peer group. It is clear that having an optimal position within the network is more important to adolescents than other forms of benefits.

Keywords: Substance use; delinquency; social networks; delinquent image; social benefits; situational analysis

Dedication

To my family and friends. Your support has been tremendous.

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Chapter 1.

Introduction

There is more to crime and delinquency than merely an instrumental drive to get something through “force or fraud” (Gottfredson & Hirschi, 1990). It is not difficult to think of examples of criminal/delinquent acts where the perpetrators do not receive any material compensation for breaking the law. From petty acts such as vandalism, substance use, and minor fighting to serious criminal behavior like rape and murder to ideologically driven terrorist acts like suicide bombing and airplane hijacking, it is clear that sending a message is the impetus for a great deal of crime.¹ As such, the symbolism associated with crime and delinquency can be very powerful. By engaging in delinquent behaviour, adolescents can send the message to their peer group that they are willing to push the limits or to jump into action (rather than being passive) or to show their bravery/nerve. These are characteristics that are highly valued not only by adolescents but among society in general. Firefighters, soldiers, astronauts, etc. all exhibit such characteristics and are highly respected for it. But these socially valued occupational forms of risk-taking are closed to adolescents. Delinquency is a way for adolescents to show these very same qualities (Rebellon & Manasse, 2004). Since delinquency is a way for adolescents to display these highly valued characteristics, it may be a way to enhance their social status. Given the importance of peer relations for adolescents (Brown, 2004; Warr, 2002), anything that improves their standing in the

¹ For terrorist acts, this message generally centres around creating or spreading fear related to nationalist, religious, or ethnic causes. Rape and murder are often used to send the message that a particular group or person has power and is not to be trifled with (Card, 1996). Petty acts are often used by adolescents to show that they are tough or risk-taking in an attempt to improve their social status (e.g., Rebellon, 2006; Rebellon & Manasse, 2004). This dissertation focuses specifically on common forms of adolescent delinquency.

peer group (in this case, delinquency) is likely to act as a strong behavioural motivator. If delinquency sends the message that a person has characteristics that are valued by the peer group, then we should not be surprised that adolescents often choose this behavioural option.

A key idea in this dissertation is that social status is highly important to adolescents and they are therefore likely to shape their behaviours in ways that protect or enhance it. But social status is a multifaceted concept. At the most basic level, it indicates a social hierarchy where people with high status occupy the upper end while people with low status are at the bottom of the hierarchy. Status can come in many forms. For example, income, academic degrees, residential neighbourhood, and the type of car a person drives are all ways of establishing a status hierarchy based on socioeconomic factors. In this dissertation, social status is measured as adolescents' position in their network. This sociometric conception of social status suggests that people who have many friends and are positioned in the middle of the network (as opposed to being at the periphery of the network) are well-known and tend to be in a position to exert power over others (Carrington & Scott, 2011; Wasserman & Faust, 1994). These positions are highly valued by those occupying them and are envied by those who do not.

But this dissertation is about more than the behavioural effect of social status; a main focus is on how delinquency can be used by adolescents to symbolise that they are worthy of high levels of social status. Fundamentally, symbolism is "that in which something stands for something else...e.g. the sense in which a lion is a symbol of strength or a banana is a phallus...; flags, for the nation; the wine of the Eucharist, for the blood of Christ" (Gusfield & Michalowicz, 1984, pp. 419-420). Regarding the interests of this dissertation then, delinquency-related symbols that show that a person is risk-taking/brave can stem from conversations, rumour/stories, pictures, visual evidence (e.g., bloodied clothes), witnessed behaviours, etc. More specifically, a person can talk about their delinquent exploits, have others talk about their delinquent exploits, circulate pictures or display objects that suggest delinquent involvement, or have others actually witness the person engaging in delinquent behaviours. All of these forms of delinquent display are symbols that "stand for" for a person's willingness and ability to be risk-taking. In this dissertation, I focus on the more behavioural aspects of symbolism.

Verbal presentations of delinquency (e.g., conversation) may be used to symbolise risk-taking, but since anyone can talk about being delinquent, verbal symbolism in this context may be meaningless without actions to back it up. That is, a person can talk a big game and make it sound as if they are highly delinquent, but if they do not act accordingly when opportunities for doing so arise, then their verbal claims are likely to be dismissed. Therefore, actual behaviours are likely to be the key mechanism through which symbolism has an influence on delinquency.

There is much yet to be learned regarding how and why the symbolism inherent in a given criminal or delinquent act motivates these behaviours. Much of the relevant research is subject to criticisms surrounding the samples used. Many of these studies use small sample sizes that are focused on specific subgroups. This limits the extent to which we can apply the lessons from these studies to the broader population. Further, symbolism is inherently social. To derive symbolic benefits from a particular act, there must be an audience to witness and subsequently support these acts. Audiences may merely be the people present at a specific time and place who witness an act directly, but they are most important when members of the audience are known and matter to the individual. Under those circumstances, adolescents are most likely to consider the reactions of the both the immediate audience and those who may hear about their actions later. But not all audiences are the same. Some groups support delinquency while others do not. Most research has not adequately accounted for the variety of network structures and personal and behavioural supports offered by peer groups. Furthermore, the influence exerted by an audience on a person's behaviour is likely to be very situational. That is, it should depend upon the audience present at the specific times and places when delinquency is most likely to occur. However, this creates further complications. It is difficult to obtain network data that gets at the situational character of networks and delinquency. Finally, most research assumes that networks are static entities that exert a uniform effect on individual behaviours across all possible situations. I challenge that assumption by focusing on specific situations and the varying levels of incentive for delinquency presented by a given situation.

In this manuscript-based dissertation, I seek to expand our understanding of how the symbolism of delinquency contributes to the motivation for adolescent delinquent behaviour. To do this, I present three related studies that delve more deeply than most

previous research into symbolism as a direct motivational factor for delinquent behaviour as well context-specific effects of symbolism on delinquency. These studies are attentive to important structural aspects of adolescent networks as relevant audiences for which delinquency is a performance. The first study examines how delinquent behaviour and other forms of risk-taking directly influence adolescent social status. That is, how the symbolism involved in engaging in delinquent and risk-taking behaviour sends a message to the peer group that a person has the capacity to be a “badass” (Katz, 1988) and to see how this affects social status. The second study investigates whether receiving benefits from the peer group constrains adolescent behaviour to delinquency when the peer group supports delinquency. In this way, adolescents may engage in delinquency as a way to send the message that they support the norms of the peer group and are therefore worthy of the benefits provided by the peer group. The final study in this dissertation accounts for the fact that network effects are not likely to be absolute but that these effects may actually be specific to a given situation. The implication here is that a person’s symbolic delinquent performance is likely to change from situation to situation depending upon the varying delinquent supports across criminogenic situations.

Theoretical Perspectives on the Symbolism of Delinquency

A number of theoretical perspectives that are often considered to be distinct converge around the symbolic importance of delinquency. Such varied theoretical orientations as subcultural criminology, Moffitt’s developmental taxonomy (1993), and symbolic interactionism all hold relevance for explaining the effect of the audience on individual behaviour from a symbolic perspective. Cross-cutting all of these perspectives is Sutherland’s differential association theory (Sutherland & Cressey, 1978). Sutherland argued that a person will be delinquent in proportion to the delinquent involvement of the people that they associate with. That is, a person is likely to be most strongly influenced by the people with whom they have frequent, long-lasting, early, and intense contact. He further argued that this peer influence dynamic operates through a process of normative internalisation. Therefore, by associating with greater numbers and proportions of delinquents, adolescents are more exposed to “definitions” favourable to delinquency; by internalising these norms, they are more likely to view delinquency as

an acceptable behavioural option which increases the likelihood that they will actually engage in delinquent behaviours themselves. But beyond the normative internalisation effect of associating with delinquent peers, the delinquency of the peer group in general provides an indication of the types of behaviours that the group is likely to support (i.e., people are likely to offer support for behaviours that they are involved in – a behavioural homophily dynamic). Symbolically, then, group-level delinquency tells the individual what sort of image to project. Adolescents seeking to send the right message to their peer group are therefore more liable to engage in delinquent behaviour when the peer group is more heavily involved in delinquency. While differential association explains the type of behaviours that are likely to be supported by a particular group, other theoretical perspectives more explicitly deal with symbolism as a motivating criminogenic factor.

Subcultural Perspectives

Subcultural perspectives on criminal behaviour are highly relevant to understanding the nature of symbolism and its influence on crime and delinquency. The basic idea common to subcultural approaches in criminology are that certain subgroups have different ideas about what types of behaviours are normal, respected, and therefore supported. These norms differ from the predominant norms of the broader society and, as such, these subcultures are viewed as being outside of the mainstream. The link to delinquency is that some groups support and encourage delinquent behaviour to a greater extent than mainstream groups. In these groups, delinquent behaviour may be engaged in as a way to show that a person fits in with that particular peer group. Alternatively, it can be used to send the message that they are not an easy target and that people looking for a victim should look elsewhere or that they should not have messed with the individual in the first place.

Early subcultural works emphasised the role of adolescent gangs in the etiology of delinquent behaviour. For example, Cohen (1955; see also Miller, 1958) discussed how lower class youths often turned to gangs when they were blocked from achieving social status in the middle class school system. Gangs provided a means through which lower class youths could achieve status through such behaviours as acting tough and stealing. In this way, delinquency replaced more pro-social forms of status achievement. If lower class adolescents could not gain popularity, respect, and success through things

like academic performance and sports/club involvement, then they could band together or search out groups that substitute middle class forms of achieving social status with forms that were more readily available to them. By being tough or adept at criminal behaviour, they could show a form of competence that was socially valued by their particular group. For this reason, the symbolism of delinquency was important because it showed the rest of the group that a person has the capacity to engage in behaviours that are respected and admired by the peer group. This positive influence on social status is likely to function as an incentive to engage in delinquent acts.

Other subcultural approaches deal not with the capacity of individuals to gain social status through delinquency but to prevent either losses of status or future victimisation. This approach has its roots in Wolfgang and Ferracuti's (1967) "subculture of violence" where violence is not only more accepted among certain groups but is also the expected course of action in response to perceived affronts. A number of studies touch on this issue. Among the more prominent is the work of Anderson (1999). Anderson described the importance of respect in ghetto areas of the U.S. In many of these socioeconomically deprived areas, one of the most valued resources is respect and there exist norms supporting violent reactions to displays of disrespect. Even what appears to be a minor insult can elicit a serious violent reaction in these subcultures of violence. Jacobs and Wright (2006) focus on the utility of violence among active street criminals in St. Louis. By not reacting to a provocation violently, an individual risks being labeled a "punk" or "bitch" and this leaves them open to further victimisation once word gets around that they can be taken advantage of without fear of violent reprisal. Baron, Kennedy, and Forde (2001) attempted to specify the origins of a violent subculture among male street youths. They found that abusive parenting leads to the internalisation of definitions supportive of violence as well as acting as a push factor leading youths to turn to the streets. Here they find other youths with similar backgrounds and worldviews. The combination of violent males living in highly aversive situations coalesces into a social environment in which opportunities for violence (often related to self-defence) are widely available and there is a great deal of support for doing so. Like street criminals (Jacobs & Wright, 2006), street youths open themselves to victimisation by not acting violently and sending a message of toughness to deter potential victimisers.

The common theme across these various approaches is that criminal/delinquent behaviour can be highly utilitarian even if it does not result in any sort of material benefit. The utility of these behaviours lies in their effectiveness with regard to sending the message to the immediate peer group or others in the broader network that they are tough or risk-taking. These messages either help to enhance social status or else are used to prevent victimisation. However, these works tend to focus on very specific, often small samples of individuals. For example, Jacobs and Wright (2006) interviewed 52 African-American street criminals in St. Louis; Baron et al. (2001) examined 125 homeless male street youths; Cohen (1955) focused solely on lower class males. By ignoring mainstream groups, these studies cannot speak to the ways in which these dynamics might play out within the broader population. It might be the case that even adolescents that are not part of any overly delinquent subculture benefit from engaging in delinquent behaviour. That is, the symbolism of delinquency might be influential for more than gang members and street populations. If this is the case, it raises the possibility that even non-criminal risk-taking acts can improve the social status of adolescents including non-delinquents. It may be that displaying the *capacity* for delinquent behaviour is enough to improve a person's social status even if they do not commit any delinquent acts. If this dynamic is important, then simply looking delinquent may be as symbolically influential as being delinquent.

Symbolic Interactionism

The symbolic interactionist perspective is also highly instructive in terms of understanding the behavioural importance of presenting an image to the peer group. The basic idea behind it is one of identity management (Goffman, 1959). People look to their social groups in an effort to ascertain how others view them (e.g., Blumer, 1969; Cooley, 1922; Matsueda, 1992; Mead, 1934). By having an idea about how the group views oneself, a person can adapt their behaviours in any given situation to that which they feel will be viewed most positively by the peer group. In effect, a person is likely to ask themselves (not necessarily consciously) what behavioural alternative their peer group will most strongly support and subsequently act in ways that are most likely to elicit a positive reaction. In this way, a person can adjust their behaviour in different ways according to the dynamics of a given situation. It therefore allows for the fact that a person may act in very different ways if their perceptions of the group supports for a

particular behaviour differs across situations. Delinquency, then, is symbolic as it is essentially a performance for an audience that the individual perceives to be appreciative of such behaviours. If adolescents feel that the people they are hanging around with want and expect them to smoke cannabis, they are more likely to choose to do so to elicit a positive reaction from their peers. This performative aspect may be particularly important for adolescents who often find delinquency to be socially beneficial (Rebellon, 2006; Rebellon & Manasse, 2004).

There is research support for the performative component of symbolic interactionism in contributing to delinquent behaviour. Matsueda (1992), examining parents as the key audience, found that adolescent's perceptions of themselves as rule-breakers stemmed from their parent's opinions of them as a risk-taker. These "reflected appraisals" (views of oneself as a reflection of the views of others) are the key symbolic interactionist measures in that study. Matsueda found that adolescents who more strongly viewed themselves as rule-breakers were more delinquent. Therefore, delinquency can be viewed as a performance that accords with the expectations that others hold for the individual.

Heimer and Matsueda (1994) tested a complicated symbolic interactionist model incorporating such factors as social location, role commitments, role-taking, and prior delinquency into the causal pathway leading to delinquent behaviour. They showed (among a variety of other findings) that parental appraisals of the individual increased delinquent peer associations which in turn affected the individual's role-taking (reflected appraisals and delinquent attitudes). Role-taking conducive to delinquency was then related to increased delinquency at a later time point. Bartusch & Matsueda (1996) incorporated gender into the role-taking process and found similarities across gender in the criminogenic influence of symbolic interaction. Specifically, they found that parental appraisals influenced reflected appraisals of the individual as a rule violator and this affected delinquent involvement for both males and females. However, for males, labeling by parents and reflected appraisals had a greater influence; for females, prior delinquency was more likely to result in parental labeling. Brownfield and Thompson (2005) found that peer appraisals influenced adolescent delinquency independently of both parental appraisals (which was not found to affect delinquency) and definitions of oneself as a delinquent (self-concept). Other studies that have examined symbolic

interactionism on delinquency generally show support for this perspective (e.g., Heimer, 1996; Koita & Triplett, 1998; Zhang, 1997)

The symbolic interactionist perspective is not independent of other theoretical perspectives. In fact, it is intimately linked with both differential association and the subcultural approach. Both perspectives describe the normative orientation of the peer group and this should determine the behavioural option that the individual perceives as presenting the “right” image to the group. Differential association takes a more etiological approach to peer influence (i.e., associating with delinquents has a causal role in individual delinquency) than the subcultural perspective which views delinquency as more of a selection effect (i.e., that delinquents associate with each other for a variety of reasons), but a key aspect of both approaches is the level of delinquent involvement of the peer group. From a symbolic interactionist perspective, the delinquency of the peer group is likely to convey the message regarding which group-supported behaviour that the individual is likely to adjust their behaviour to. In other words, when the peer group is more delinquent, adolescents are more likely to choose a delinquent behavioural option as a way to manage their identity in a way that the individual perceives will be rewarded by the group.

Moffitt’s Developmental Taxonomy

Moffitt’s (1993) classification of adolescent offenders into either adolescent-limited (AL) or life-course-persistent (LCP) paths is also intertwined with symbolic perspectives on delinquency. A basic overview of Moffitt’s theory is that there is a small group of LCP individuals (~5%) who exhibit “heterotypic continuity” (1993, p. 679) in antisocial behaviour over the life-course. These people have higher than average levels of antisociality throughout life:

Across the life course, these individuals exhibit changing manifestations of antisocial behavior: biting and hitting at age 4, shoplifting and truancy at age 10, selling drugs and stealing cars at age 16, robbery and rape at age 22, and fraud and child abuse at age 30; the underlying disposition remains the same, but its expression changes form as new social opportunities arise at different points in development. (p. 679)

The “underlying disposition” towards delinquent and criminal activity is a product of “brain insult” (or “neuropsychological deficits”) (1993, p. 680) arising out of a variety of

conditions including poor prenatal nutrition and child abuse and conditioned by the fact that LCP individuals disproportionately grow up in criminogenic environments.

There also exists a much larger proportion of the population that falls into the AL group. These individuals are minimally involved in antisocial behaviour in childhood and in the post-adolescent years. However, during adolescence, the delinquency of the AL group parallels that of the LCP group. This involves a dramatic expansion of the pool of offenders at this time. According to Moffitt, the delinquency of the AL group is not a product of neuropsychological deficits, but is actually an attempt to achieve a form of adult status when they are biologically mature but are not yet considered socially to be fully adult. Moffitt terms this the “maturity gap” (1993, p. 687). Since people in the AL group desire adult status but are still generally under the control of their parents in adolescence, they begin to view the behaviours of LCP adolescents more favourably. LCP individuals often have greater access to money through their involvement in illicit money-making activities; they tend to initiate sexual relationships earlier than others; and they are relatively free from the constraints of parental control. These few LCP adolescents appear to be living adult lives at a time when the majority of adolescents desire precisely this. As such, the AL group begins to mimic many of the behaviours of the LCP group, including delinquency. This accounts for both the fact that crime reaches its peak in the mid- to late-teen years and the fact that rates drop as legitimate means of attaining adult status begin to open up to adolescents rendering delinquent behaviour either unnecessary or detrimental to status attainment. Barnes & Beaver (2010) found that the maturity gap predicted minor delinquency and drug use but not more serious delinquent involvement. They also found that it had more of an influence for males than females. Piquero and Brezina (2001) did not find that physical maturity interacted with desire for autonomy in its effect on delinquency, though they also did not assess the *gap* between biological and social maturity.

The link between Moffitt’s developmental taxonomy and the symbolism of delinquency is thus evident in the behavioural mimicry of the AL group. This makes explicit the idea that, for the majority of adolescents, delinquent behaviour is important for what it signifies. By engaging in delinquent behaviour, adolescents can show that they are adult-like and this is socially valued by other adolescents. The implication is that delinquent involvement in adolescence should be related to increased social status.

Delinquents should be more popular than others and are more likely to be the focal points of the network.

While, according to Moffitt (1993), the desire for adult status is the driving force behind the delinquency of the majority of adolescents, the developmental perspective is not divorced from the theoretical approaches outlined earlier. Symbolic acts most effectively convey a message when done in front of a group who can spread the message to others. But not all groups offer equal support for delinquent behaviour (even as a reaction to the maturity gap). Moffitt notes that criminogenic situations are likely to condition the effect of the maturity gap on delinquency such that adolescents who experience the strains of the maturity gap are more likely to engage in delinquent behaviours to appear to be adult-like when environmental conditions are favourable to it. Therefore, adolescents are more likely to choose to engage in delinquent behaviour in an effort to manage their identity when they feel the group will react positively to such behaviours (symbolic interactionism). The group is more likely to react positively when it is more heavily involved in delinquent behaviour on average (differential association, subcultural theory).

The Importance of Social Networks

Regardless of the theoretical perspective one chooses to work from, understanding the influence of symbolism on behaviour is indivisibly linked to understanding a person's social network. One cannot send a message without a group to view, interpret, and spread that message. In the absence of a recipient, messages are meaningless. Therefore, symbolic acts are inherently social and one must understand the nature of social networks to understand the symbolic value of delinquency. Within a social network, information about an adolescent's actions is likely to spread so that other members come to know about it. When these behaviours are socially valued, this spread of information is likely to make the perpetrator more attractive as a friend. As such, others are more apt to seek out a relationship with this person. Thus, they are more likely to be named as a friend by others which not only increases their popularity but may also increase their central positioning in the network. But at the same time, this may also act to increase constraints on a person's behavioural

options. With improvements in social status, adolescents are likely to be less willing to act in ways that are not supported by the peer group since to do so places their highly valued social status at risk. If delinquency holds symbolic importance for adolescent social status, then we would expect that higher levels of delinquent involvement would be related to higher levels of social status. But to determine if this is actually the case, we must be able to measure a person's position in the network relative to the rest of the peer group. From a social network analysis (SNA) perspective, a person's structural location in their network indicates their social status. This occurs in a number of ways. For example, people with high levels of social status are generally those who have many friends (popular) and who are located in the centre of the peer group. They tend to be well-known and well-liked and are therefore highly visible in the network and they can often exert power over others (Hanneman & Riddle, 2011; Wasserman & Faust, 1994). They also play a greater role than others in determining the behaviours that are acceptable in a particular network (Brown, 2004). Therefore, strong network positioning is highly desirable and adolescents are likely to act in ways that optimise their chances of holding a high status position in the network. Since there is evidence that delinquency is socially valued (e.g., Rebellon, 2006; Rebellon & Manasse, 2004), engaging in delinquent behaviour is likely to send the message to the group that a person has the qualities suitable for a person with a high level of social status (e.g., capacity to be brave).

Supporting the expectation that delinquent behaviour is likely to enhance social network positioning, Kreager, Rulison, and Moody (2011) showed that alcohol using adolescent groups were more popular and central in the broader school network than other groups. However, it is also evident that not all delinquent behaviours are socially rewarded. Kreager (2007) found violence to be a form of delinquency that hurts adolescent social status. With the exception of the least academically successful males, violent individuals tended to be the least popular in the network. But Dijkstra et al. (2010) built on the idea that even if more serious forms of delinquent behaviour hurts social status among most individuals, groups that are more at-risk of delinquency can actually benefit from it. They found that a sample of predominantly low socioeconomic Hispanic males in the U.S. gained popularity by carrying weapons.

Understanding networks also allows us to see that individuals occupying optimal positions within the network can be constrained to delinquency. Haynie (2001) showed that adolescents who were more popular and central than others were more likely than others to have their behaviours constrained to delinquency when the peer group offered greater support for delinquency. The implication of this study is that delinquent behaviour symbolises that a person supports the normative delinquent behaviours of the broader network and is therefore worthy of their high status position within the network. To not engage in delinquency is to risk a loss of status and possibly social isolation by going against the behaviours supported by the peer group, a highly undesirable situation for adolescents (Brown & Lohr, 1987; Kreager, 2004).

Overall, the relationship between social networks, symbolism, and delinquency is multipronged. Delinquency is symbolic in that it is a performance to enhance an adolescent's position in the network. But the network also exerts greater pressure on a person to engage in this performance when they occupy an enviable position in the network. Adolescents who have a strong network position (e.g., high centrality) are likely to experience high levels of benefits from their peer groups. They can determine the behavioural norms of the peer group to a greater extent than others and can often exert power over others. These privileges are likely to be inherently rewarding. But beyond this, high status individuals also become valuable to others as friends. Being friends with a person of high status is itself a form of status. Therefore, social status is self-reinforcing in that it produces even greater levels of social status by attracting people to them. For this reason, individuals with high social status are also likely to have more rewarding friendships as others attempt to maintain their own social status by acting in ways that please the high status individuals. This dynamic may act to motivate delinquency as a way for both high status individuals to maintain their standing in the network (particularly when the peer group is more highly delinquent) while also spurring others to engage in delinquency as a way to achieve higher social status for themselves.

The Situational Nature of Symbolism

With the audience being critical for symbolic acts to have the desired effect, we should expect that the message a person wishes to convey will change in accordance

with changes in the audience. This suggests that the effect of audiences on delinquent behaviour is inherently situational. A situational approach examines the supports for delinquent behaviour that arises out of the context of a given situation, not out of general peer group supports for particular behaviours. This means that the way an individual acts while with their peer group (i.e., their performance) is likely to change depending upon the extent to which they perceive that peers will reward certain behaviours in a given situation. Even when associating with the same friends, support for delinquent behaviour will vary from situation to situation. A situational approach to assessing the influence of symbolism on delinquency would attempt to uncover how pressures to engage in delinquent behaviour are a product of the characteristics present in a potentially criminogenic situation. By not being attentive to situational characteristics and supports, adolescents risk behaving in ways that are at odds with the expectations that are contained within the situation and this may hurt their social status. Previous researchers have discussed the importance of situational approaches to crime and delinquency.

[W]hen one considers the frame of reference of an offender contemplating a crime, one should conclude that the aggregation level should be small – not only the aggregation in time, but also spatial aggregation. It is the immediate characteristics of the crime situation that will influence the offenders' decision; not last year's information..., but last week's; not information at the city level but information at the neighborhood level – even better, at the situational level. (Cusson, 1993, p. 60)

Further, Birkbeck and Lafree (1993) argue that “to ignore the objective characteristics of situations...is to ignore the fact that apart from the psychological and social characteristics of individuals, situations also vary in terms of their ability to produce crime or deviance” (p. 120). Osgood, Wilson, O'Malley, Bachman, and Johnston (1996) get directly at the relationship between specific situations and symbolism: “the easier the deviant act and the greater the symbolic and tangible rewards, the greater the inducement to deviance” (p. 639). The implication of this statement is that deviant motivation is generally nothing pathological but is simply a product of a given situation and the potential benefit of engaging in delinquency in that situation. When the peer group offers stronger support for delinquent behaviour, the rewards for engaging in delinquent behaviour are likely to be greater and this should generate greater amounts of personal delinquency. Yet, despite the

importance of the immediate audience, little research has addressed the effect of the network in specific situations. That is to say that most research has used static conceptions of the network. This necessarily makes the assumption that networks do not change over time, an assumption that has been shown to be false (Snijders, Steglich, & Schweinberger, 2007). Network research ranging from work on criminal achievement (e.g., Bouchard & Nguyen, 2010; Morselli, 2009; Morselli, Tremblay, & McCarthy, 2006) to delinquent friendship selection (Young, 2011) to offending specialisation (McGloin & Piquero, 2010) has taken static approaches to network effects. Further, by collecting network data at one point in time, the assumption is necessarily made that a person's overall network influences their behaviour similarly in all situations regardless of whether or not much of the group is absent for a specific situation. The studies that have examined changes in networks over time have generally not collected data conducive to examining criminogenic influence in specific situations (e.g., Baerveldt, Volker, & Van Rossem, 2008; Light & Dishion, 2007; Morselli & Petit, 2007; Smångs, 2010; Snijders & Baerveldt, 2003; Snijders, et al., 2007; Weerman, 2011).

This lack of consideration of the immediate situation in SNA research is likely to stem from measurement difficulties. The ideal approach would be to collect sociometric data in situations conducive to delinquent involvement. For common forms of adolescent delinquency, parties in which substance use occurs would be ideal. This would allow researchers to track who was present at a given criminogenic situation and the status dynamics at these situations. Also, by obtaining self-reports of delinquency at parties, we could match the behaviours of a person's network at those parties back to each respondent to derive measures of egocentric delinquent support. By measuring self-reported behaviours from every individual in the network, we avoid the problem of projection bias. When respondents estimate the behaviour of the other members of the network, there is a tendency to overestimate the similarity between personal and peer behaviours. This is not a problem when using self-reports by network members of their own behaviours and then matching back the behaviours of a person's network to that individual. However, it has been shown that while there is a tendency to project personal behaviours onto the peer group, estimations of peer behaviour do generally tap actual behavioural patterns (Boman, Stogner, Miller, Griffin, & Krohn, In press). Further, projection bias is less problematic for more common behaviours (e.g., cannabis and

alcohol use) than it is for rarer delinquency (e.g., heroin use). It is also important to acknowledge that a person's *perception* of the delinquent behaviour of their peers may have a stronger influence on personal behaviours than the actual delinquent involvement of their peers regardless of whether or not those perceptions are accurate (Akers, 2009). The obvious problem with the situational sociometric approach is its feasibility. Researchers generally do not have access to adolescent parties, and even if they did, their mere presence is likely to change the dynamic of the gathering. A well-trained adolescent research collaborator already embedded in the network would be a way to make it more natural, but even this is likely to inject an artificiality into the environment since the researcher would have to stay sober and take notes which would be unusual and might influence the behaviours of others at the party. Additionally, they would still be rating how much cannabis and alcohol they felt their peers were using which creates the risk of misinterpretation.

In the absence of sociometric data, a more feasible alternative would be to measure the *characteristics* of criminogenic situations (parties). This precludes assessing structural position within the network at parties, but it does allow for us to measure network behaviours and support for delinquency at these situations. This approach would involve asking respondents to think back to parties that they have attended and to report the amount of cannabis and alcohol they used and the number of fights they got into at those parties. It would also involve asking respondents to record the number of friends who engaged in those behaviours and the extent of their friends' delinquent involvement as a way to index the situational delinquent supports displayed by the network. By understanding these situationally-specific characteristics, we will have an idea of the type and amount of delinquency (mostly referring to substance use) that adolescents are likely to engage in to send the message to the rest of the network that is most likely to be received positively and that should enhance or sustain their social status.

It is important to keep in mind that research has shown that some delinquent behaviours have social value for adolescents (e.g., Kreager, et al., 2011; Rebellon, 2006; Rebellon & Manasse, 2004), but this does not imply that the same behaviours are uniformly beneficial across all situations and in front of all audiences. Even if most adolescent groups offer some support for alcohol use, the situational support is likely to

change according to the nature of the specific situation. At some times and places, getting severely intoxicated might be valued (e.g., at keg parties), while at other times low level social drinking might be expected (e.g., a quiet night watching the game with a few friends). To go against the expectations of appropriate behaviour at a specific situation is to risk losing social status, the fear of which is likely to act as a deterrent to behaving in ways that do not conform to the norms of the situation.

Furthermore, the behaviours that are supported in any given situation are likely to be conditioned by a variety of socio-demographic characteristics such as age, academic performance, socioeconomic status, gender, and religion. Since alcohol use tends to start at an earlier age than cannabis use (Paglia-Boak, Mann, Adlaf, & Rehm, 2009), the situational support for alcohol use should be stronger than for cannabis use among younger adolescents and converging somewhat as adolescence progresses. Kreager (2007) showed that males who perform poorly in school increase their popularity by engaging in violent behaviour while the popularity of other groups suffer from violent involvement. Dijkstra et al. (2010) found that low socioeconomic Hispanic males benefit from carrying weapons (increased popularity) which suggests possible social class, race, and gender dependencies in the relationship between social status and delinquency. These varying findings make it clear that group supports are not uniform for all adolescents. While this seems to present a huge number of possible intergroup dynamics for researchers to consider,² there is a simple, effective way to account for varying group-specific dynamics. Simply by measuring changes in group supports across various criminogenic situations (as indexed by group behaviours) and tracking corresponding changes in personal delinquent behaviours, we can essentially control for group characteristics. That is, all types of groups can offer different levels of support for certain behaviours at different times regardless of the specific characteristics of a given group. Groups that tend towards heavy drinking can expect and reward very high levels of drinking sometimes and more moderate levels at other times; groups that generally

² E.g., even if we only consider gender, SES (low, medium, high), academic performance (low, medium, high), and religion (Muslim, Hindu, Christian, Jew only), there are 72 possible groups.

drink little can range from supporting no alcohol use most of the time to offering support for minor levels of drinking at other times. By examining how these changes in support affect changes in use, we can effectively ignore varying baseline levels of substance use. This applies to any form of delinquent behaviour.

Research Contributions

It is evident that symbolism plays an important role in shaping adolescents' choice to engage in delinquent behaviour or not. If delinquency is perceived to be socially beneficial, then adolescents are likely to choose a delinquent behavioural option over other possible courses of action because it sends the "right" message to the group. However, there are a number of gaps in the literature dealing with the criminogenic importance of symbolism. First, little research has examined the antecedents of network position. That is, we do not know how delinquency (and the message that it sends) is related to sociometric conceptions of social status. Second, there has been minimal research examining the context of peer group influences on social status. Most research treats the influence of the peer group as something that uniformly affects behavioural choices without considering the extent to which a person benefits from their peer group. However, individuals who benefit from their peer group are more likely to want to send the right message than individuals who get little from their peer group. When associating with groups that provide benefit, the individual is more likely to engage in delinquency when the peer group is more delinquent. Third, the message that is valued most strongly by the peer group is likely to change according to the characteristics of the immediate situation. When hanging out with a more delinquent group, the individual is more likely to be delinquent themselves than when hanging out with a less delinquent group. These situational characteristics have mostly been ignored by network researchers who assess characteristics of the global network and examine its effect on delinquency even though a large proportion of the network might not be present in specific situations that are conducive to delinquent behaviour. This dissertation extends our understanding of the criminogenic importance of symbolism by presenting three studies designed to address these research gaps.

Study #1: Image is Everything: Delinquent Displays and Social Status Among Adolescents

The first study provides the most direct test of the symbolism of delinquency. In this study, I model the effect of delinquency on social status. By examining whether and how delinquency (specifically substance use) is related to social status, we can understand the social benefits conveyed by displaying a capacity for risk-taking. In other words, this study examines how social status can act as a motivator for delinquent behaviour. However, I also consider the possibility that sending a message to the peer group that an adolescent is delinquent is not limited to actually *being* delinquent. It may be that simply *looking* delinquent is enough to show the capacity for delinquency that is socially valued even if the adolescent is not involved in any sort of law-breaking activity. This may range from exhibiting impulsive behaviour such as acting out in class (i.e., low self-control) to associating with people who are delinquent. By displaying impulsivity, adolescents may show the rest of the peer group that they have the potential to be delinquent by engaging in “analogous acts” to delinquency (Gottfredson & Hirschi, 1990, p. 90). By hanging out with delinquents, adolescents may inherit the reputation of the group even if they are not offenders themselves. These are both likely to send a message to the peer group that a person is delinquent regardless of their actual behaviours.

Given some evidence that minor forms of delinquency are socially valued (e.g., Kreager, et al., 2011) while more serious forms are generally not (e.g., violence - Kreager, 2007), I also account for differential effects of delinquent behaviour on social status. This is a key point that speaks to the importance of looking delinquent over actually being delinquent. I hypothesise that adolescent social status will benefit from minor forms of delinquency (as well as non-delinquent risk displays) while serious delinquency will be seen as maladaptive by peers and will therefore hurt social status.

This study will use the National Longitudinal Study of Adolescent Health (Add Health) data. Add Health is a large, multi-wave longitudinal data set of American adolescents in school who were in grades 7 through 12 at the first wave of data collection.³ It is well suited to address the relationship between delinquency/non-delinquent risk display and social status as it includes delinquency-related measures at time 1 and sociometric data collected at time 2. The sociometric data can be used to create network measures of social status (popularity, centrality).

Study #2: Positional and Experienced Social Benefits as Constraints Towards Delinquency

The second study will address the context under which symbolism is most likely to exert a powerful criminogenic effect. The fundamental idea in this study is that not all groups are likely to have an equal effect on adolescent delinquency and that adolescents are more likely to seek to present an image of delinquency under certain conditions. Specifically, conditions which are most likely to foster delinquency are when the peer group not only supports delinquency but also when the peer group provides more to the individual in terms of social benefits. Social benefits are anything that the individual values that can be drawn from their peer network. These benefits can range from accessing sexual partners to getting help with homework to exerting power over others to finding co-offenders. There are two basic forms of social benefits that a person can access from their network: positional and experienced benefits. Positional benefits stem from a person's structural position within the group. People who are highly popular and central in their network are likely to be well-known and liked by others and therefore receive a good deal of psychological support from peers. They can also exert power over their peers. Experienced benefits are not a product of the potential benefits that come with network positioning, but are related to the quality of peer relationships. Even

³ For detailed information on Add Health, see <http://www.cpc.unc.edu/projects/addhealth>. Specific information on the data used for each study is addressed in the methods sections of each of the three studies.

a person occupying a poor structural position in the network (i.e., being located at the periphery) may have intimate peer relations that are very meaningful to them and that they feel are highly beneficial to them. Since adolescents are likely to attempt to protect the benefits they receive from their peer group, they may engage in delinquency to show that they support the norms of the peer group (when the peer group is more highly delinquent).

Most peer influence research considers only the effect of the behavioural supports of the peer group in general - i.e., that the raw amount of delinquency within the peer group or the percentage of a person's peers that are delinquent have a similar effect for all adolescents regardless of the context of those relations. But not all groups are equally valued. In the situation where a person is a member of a highly delinquent peer group that means very little to them, they may place little value on their peer relations. This may limit the symbolic value of delinquency since the adolescent does not particularly care what their peer group thinks of them. Haynie (2001) examined these interests and found that associating with delinquent peers was more strongly related to personal delinquency when they occupied more beneficial positions in the network (in terms of popularity and centrality) or were embedded in networks more likely to act on behalf of group members (cohesive networks). But there may be more to the story than this. By examining only positional conceptions of social benefits (popularity, centrality, cohesion), one must assume that occupying these positions inherently conveys benefit. But it is possible that a person has what objectively appears to be a highly beneficial structural position without feeling that the group really does much for them. It may be that actually experiencing benefits from the peer group is more important in predicting delinquency than the potential benefits that come with optimal structural positioning. As such, the symbolism of delinquent behaviour might have the strongest effect on a person's behaviour when they subjectively feel that the (delinquent supporting) group is acting in their favour. The key point here is that delinquency is symbolic as it may be required to send the message that is necessary for a person to maintain their peer group derived benefits (i.e., it sends the message to the group that the person is willing to do what it takes to maintain access to the group). Operationally, the important effect that is tested in this study is therefore the interaction between associating with delinquent peers (which indicates the normative orientation of the peer

group that symbolic acts are likely to be in accordance with) and both positional (sociometric) social benefits and experienced social benefits.

As with the first study, this study will use the Add Health data. Add Health is ideal for the interests of this study as it contains the time 1 sociometric data necessary for the positional social benefits measures (popularity, Bonacich centrality, reach in 3 steps, density) as well as the time 1 experienced benefits measures (talking with friends and spending time with friends) and time 2 delinquency.

Study #3: Does the Audience Matter? Situational Network Influences on Delinquency

The final study in this dissertation addresses the situational nature of the influence of symbolism on delinquency. This may be the most neglected of all the research gaps identified earlier. As has been suggested throughout this chapter, delinquency is a way to send a message to the group. That is, it is a performance for the group at specific times and places when delinquency may be expected. In situations where the peer group is more involved in delinquent acts, the individual is more likely to view delinquency as an ideal behavioural alternative since it sends the message that a person supports the behavioural norms of the peer group. As such, sending the proper message to the group may be an important motivating factor for delinquency. To examine how symbolism influences delinquency in specific criminogenic situations, I will examine how the characteristics of the audience that is present at adolescent parties influences individual behaviours at those parties. By examining the extent to which the peer group present at a party supports delinquent behaviour (as indicated by the involvement of peers in those behaviours), I can test whether situationally-specific delinquent supports cue the individual as to the type and amount of delinquent behaviour that is likely to be supported in a given situation. But this study is attentive to more than having a high base rate of delinquent friends. The key contribution of this study is an assessment of *changes* in delinquent support across criminogenic situations and how this relates to changes in individual delinquent involvement at those situations. This essentially controls for variations in peer delinquency base rates. Both heavy drinking groups and light drinking groups can offer greater or lesser support for drinking at

different times. It is the changes in delinquent support across criminogenic situations that is the critical test. If an increase in peer delinquency across situations is related to increases in personal delinquency across those situations, that would provide support for the effect of situational cues determining the message that an adolescent will choose to send to his/her peer group. Essentially, the behavioural options chosen by adolescents are likely to be a reflection of group supports for those behaviours in specific situations. Adolescent delinquency can therefore be thought of as a symbolic attempt to enhance/maintain their status in the group by acting in ways perceived to be supported by the group.

But if symbolism is truly important, it may be that even the non-delinquent characteristics of the group present at a specific situation will have implications for the behavioural option that an adolescent chooses at that situation. Since most adolescents engage in delinquency (particularly substance use - Johnston, O'Malley, Bachman, & Schulenberg, 2010; Paglia-Boak, et al., 2009), perceived peer group support for these behaviours may not even depend upon the actual behaviours of the peer group. It may be that support for behaviours such as substance use are perceived even if a person's immediate peer group is not directly involved in it given that other groups of adolescents likely are. In fact, it may even be the case that the first adolescents to engage in a particular delinquent behaviour gain the most social status since they are the ones to start a "trend" within their peer group. If sending a delinquent message to the group is valuable regardless of whether or not a person's peer group is delinquent at all, then it may simply be the size of the group that is present for a given situation that is key to establishing the symbolic value of delinquency. Merely by having many peers in attendance as potential witnesses of delinquent behaviour, a person may perceive greater value since they feel that they are "performing" for a wider audience to view and appreciate their behaviours.

Since no known data exists that measures network characteristics at specific situations, a new data set partly designed for addressing the interests of this study was collected. Students in 10th grade life skills courses were surveyed in classes in six Burnaby high schools between March and May of 2011 (n=829 - this survey is described in detail in chapter 4). Students were asked to recall their delinquent behaviour at the last two parties they attended (mostly cannabis and alcohol use; violence was also

included but it is not analysed due to the small numbers of students who reported engaging in violent behaviours at those parties). Students were also asked to report the number of friends in attendance at the party and the amount of cannabis and alcohol used by friends at those parties. These items index the situational delinquent support and therefore suggest the behavioural option that is likely to carry the strongest symbolic value. Further, general (non-delinquent) audience characteristics were measured by asking respondents to report on the number of people present at each party, the number of close friends in attendance, and the number of opposite sex friends in attendance in an attempt to partial out the situational network characteristics that are most strongly related to delinquency in that situation.

Summary

Overall, this dissertation will provide an in-depth assessment of the symbolism of delinquency as a motivating factor for delinquent involvement. By examining direct, context-specific, and situational effects of symbolism on delinquency, I go beyond conceptions of peer audience influence as an unchanging entity and beyond conceptions of the audience that are divorced from the context of the peer group. The first study assesses the role of social status in motivating delinquent involvement since delinquency (and related risk-taking behaviour) presents an image to the peer group that is often valued by adolescents. The second study examines whether adolescents who access higher levels of social benefits from the peer group are more constrained to delinquency when their peer group is more delinquent. That is, whether adolescents are more likely to present the image supported by the peer group in contexts in which they have much to lose by not doing so. The third study extends the focus on delinquency as a way to present a favourable image to the peer group to specific criminogenic situations and examines whether the behavioural cues inherent in these situations shapes adolescent behaviours to conform to the norms of the situation.

A common implication across all three studies is that if engaging in delinquent behaviour is something that is symbolically beneficial and therefore acts as a motivator for delinquent involvement, then providing alternative, more prosocial ways for adolescents to display their capacity for risk-taking/bravery/daring should reduce

delinquency rates. If adolescents can send the message to the peer group that they are risk-takers by participating in contact sports or wilderness survival courses, etc. and can enjoy social status gains because of these acts, then a great deal of delinquency may become unnecessary (not to mention the crime-minimising effect of a reduction in unstructured socialising time). Since these delinquency reductions should occur in proportion to the availability of (and participation in) prosocial risk-taking activities, this dissertation would provide support for the creation or expansion of opportunities for adolescents to participate in these activities at little to no cost to the individual. These programs would not reduce crimes of necessity or passion, but since most delinquency does not fall into either of these categories, programs designed to provide more positive outlets to display risk-taking should produce noticeable reductions in delinquency rates and should improve adolescent health by reducing the symbolic appeal of cannabis and alcohol use.

Chapter 2.

Image is Everything: Delinquent Displays and Social Status Among Adolescents

Introduction

Social network analysis (SNA) has been increasingly used in criminology as a framework to understand crime and delinquency. The most fundamental assumption of SNA is that patterns in social relations influence behavior (Knoke and Yang, 2008) and are indicative of an individual's power in their network (Borgatti, Mehra, Brass, & Labianca, 2009; Brass, 1984; Yamagishi, Gillmore, & Cook, 1988). Among network researchers, structural relations are often seen as more powerful predictors of behavior than individual characteristics such as age, gender, race, or attitudes. This makes SNA an intriguing framework for understanding criminal behavior. Peer influence researchers also put social relations at the forefront in understanding delinquency, but have not traditionally made use of network methods to examine the mechanisms underlying the influence of peers on delinquent behavior. Although things have started to change (e.g., Haynie, 2001, 2002; Kreager, et al., 2011; McGloin & Piquero, 2010), a lot more work needs to be done in taking advantage of network methods to understand delinquency.

The current study pursues that end by examining an issue that has received little attention in criminology, namely how presenting a delinquent or risk-taking image contributes to adolescent social status. In a sense, we take a step backwards: While a handful of studies have examined the effect of social status on delinquency, the reverse dynamic has been mostly ignored. In effect, we are interested in the possibility that delinquent and related behaviors might arise out of an effort to gain social status. Despite some evidence suggesting that delinquency might enhance an adolescent's social status, this idea has not been adequately pursued in previous research.

Subcultural research has shown that groups outside of mainstream society can provide a setting in which a person who is unsuccessful or blocked from achieving social status within conventional groups can do so within deviant groups (e.g., Bourgois, 1995; Cohen, 1955; Miller, 1958), though this research tends to be on a small scale and is generally limited to a focus on particular outsider groups. The generalizability of this type of research is therefore minimal. This is particularly problematic since delinquency is much more widespread than these specific subcultures. In fact, Haynie (2002) showed that most adolescent friendship networks are comprised of both delinquents and non-delinquents. To be able to examine the idea that adolescents who do not have particularly high social status might attempt to display a capacity for delinquency as a way to improve their social status in a way that is generalizable to a greater adolescent population, a large, longitudinal data set with sociometric data collected at the second wave (or later) is required. The difficulties in meeting such requirements have made addressing the concerns of this study particularly challenging and, as such, no known studies have addressed this research question. In the absence of strong theoretical guidance on the precise mechanisms through which displays of risk-taking might improve social status, we draw from a varied set of theoretical models to construct our predictive framework.

Social status broadly refers to the position occupied by an individual in a social hierarchy. The simplest indicator of adolescent social status in schools is popularity (i.e., receiving many friendship nominations from others). According to Wasserman and Faust (1994), “actors who are prestigious tend to receive many nominations” (p. 202). Compared to less popular individuals, adolescents who have many friends are generally the most prominent in the network and others often seek direct ties to them (i.e., individuals are more likely to seek friendships with popular peers than others) (Hanneman & Riddle, 2005, p. 147). Further, those who are popular receive greater attention from other members of the peer group (Vaughn & Waters, 1981), tend to be received more positively by individuals who they approach (Dodge, 1983), and have the ability “to set styles and determine what activities will be undertaken and who will be included” (Brown, 2004, p. 372). Therefore, they occupy a position of prestige in their networks, tend to be well-liked by others, and are more likely to influence others. As such, popularity is highly desirable among adolescents.

Key to this study is whether presenting a delinquent image is associated with higher levels of social status among adolescents. Such an inquiry is welcome in a field where social status is rarely predicted. Instead, popularity tends to be taken as a given by researchers, and the consequences of such a status on those popular adolescents and others become the object of investigation (e.g., Haynie, 2001; Sabongui, Bukowski, & Newcomb, 1998). Three models are specifically examined in this study. The first model may be referred to as the minor deviance model where an adolescent's capacity for risk-taking/delinquency is displayed through behaviors such as alcohol and cannabis use. Whereas engagement in predatory crimes such as robbery or assault may bring negative attention from a majority of adolescents, substance use is subject to much more tolerance in this age group, and is likely to increase social status.

The second model is the propensity model, where a risk-taking/delinquent image is displayed through attitudinal predispositions towards criminal behavior. The main indicator of propensity used in prior research has been low self-control, a measure which taps into the kind of impulsivity that may attract attention among adolescents (Gottfredson & Hirschi, 1990; Hirschi, 2004). Impulsive adolescents may be seen as more fun and entertaining as well as more risk-taking and dangerous than others since they tend to be unconcerned with the consequences of their behavior than more restrained adolescents.

Finally, the third model is the delinquency balance model where the focus is on the types of social relationships maintained by adolescents and their effects on status. We are most interested in the proportion of the peer group that is delinquent. Associating with a greater proportion of delinquents is likely to improve social status as it may effectively convey a delinquent image via one's associates.

While we treat the three predictor models separately, there is substantial conceptual overlap between them. In line with the focus of the study, all models measure the extent to which adolescents convey a delinquent image, the implication being that adolescents who occupy the lower rungs of the status hierarchy might attempt to improve their standing by displaying their capacity for delinquency in one (or more) of these ways. The difference between the models is how this image may (or may not) be displayed. Basically, we are asking whether it is what they do (minor deviance model),

who they are (propensity model), or who they hang out with (delinquency balance model) that affects social standing among adolescents. If possessing a delinquent image is socially valuable, we attempt to determine whether adolescents must actually engage in delinquent behavior, or maybe there are other ways to achieve this image (i.e., through displays of delinquent propensity or associating with delinquents).

Minor Deviance and Social Status

Rebellon and Manasse (2004) drew on the work of Zahavi (1975) to suggest that there are social benefits to delinquency which may result in delinquents achieving greater social status than others. Zahavi argued from an evolutionary biological perspective that animal characteristics (e.g., brightly colored plumage) and behaviors (e.g., highly visible mating displays) often place individuals at risk of predation and are therefore personal handicaps. But these handicaps also signal a desirable degree of fitness. "It is possible to consider the handicap as a kind of a test imposed on the individual. An individual with a well developed sexually selected character, is an individual which has survived a test" (Zahavi, 1975, p. 207). Therefore, these animals are often more successful at finding a suitable mate since these traits indicate to others that they possess characteristics that are attractive. From this perspective, delinquent behavior can be considered a handicap in that it places the individual's health/safety and future prospects at risk. But such behavior is a way to exhibit valued traits such as nerve and bravery and those that do so are likely to enjoy higher levels of status than those purely conventional adolescents. As noted by Rebellon and Manasse (2004), "(d)anger and risk are one of the surest means of attracting and entertaining crowds... (T)he delinquent will generally be viewed as more fun than the conformist...(P)eers may grant risk-takers a measure of status, to the extent that they value risk-taking, a small-scale version of the esteem society grants explorers, astronauts, soldiers, firefighters, and others" (p. 359 - internal references deleted). As such, adolescents are likely to actively seek out opportunities to display their capacity for delinquency with the knowledge that doing so should enhance their standing relative to the rest of the group.

Using a longitudinal study of adolescents, Rebellon and Manasse (2004) found that delinquent behavior (using a measure consisting of violent crime, property crime,

and substance use) improved dating success. However, it could be that the dating success of delinquents found by Rebellon and Manasse does not extend to status within the greater social group. In other words, delinquents may be adept at attracting a romantic partner but they may also tend to alienate the greater group and therefore may have less social status than others. Other research suggests that this is not the case and provides further evidence that minor deviance works to improve social status in general. For example, Hagan (1991), using a longitudinal sample of high school students, showed that members of a “party subculture” (focused on drinking and dating) had greater occupational prestige thirteen years later due to what he suggests is a socialization process that aids job-based networking later in life. Occupational prestige is a form of social status that may not be directly comparable to popularity, but it does show that delinquent behavior in adolescence is not entirely detrimental to social status attainment. Dijkstra et al. (2010), using a sample consisting mostly of low socioeconomic Hispanic-Americans, found that weapon carrying was related to increases in popularity. Another study, using a rural sample of middle-school aged students in Iowa and Pennsylvania, found that groups who reported higher levels of alcohol use were more central and enjoyed greater average popularity within the school network than groups less involved in alcohol use (Kreager, et al., 2011). In a similar vein, studies from the psychological and child development literature have shown that greater levels of substance use (e.g., Allen, Porter, McFarland, Marsh, & McElhaney, 2005; Fallu, Brière, Vitaro, Cantin, & Borge, 2011; Moody, Brynildsen, Osgood, & Feinberg, 2011; Smetana, Campione-Barr, & Metzger, 2006; Valente, Unger, & Johnson, 2005) and aggression (Cillessen & Rose, 2005; Schwartz, Gorman, Nakamoto, & McKay, 2006) have been found to be related to increased popularity though these have generally not considered other theoretical models of social status.

Rebellon’s later work (2006) examined the hypothesis that delinquency makes an individual more attractive to their peers which will then increase both their own engagement in delinquency and the delinquency of their peers who see the positive effects and attempt to derive those benefits for themselves. Using waves I and III of the National Youth Survey (NYS), Rebellon found that delinquency increased adolescent attractiveness to peers. This in turn increased peer involvement in delinquency (a vicarious effect), but not further personal involvement. However, Rebellon acknowledged

that the measure of social rewards used in his study, the amount of time spent with peers, “could conceivably reflect something other than social reward” (p. 394). Sociometric measures of social status are improvements over socializing time as it is unambiguously distinguishable from the opportunity perspective (Osgood, et al., 1996) and is conceptually more closely related to social reward than time use (i.e., high social status is by definition rewarding). To elaborate, delinquency could potentially cause a strong relationship with one person while alienating all others. In this situation, responses to the ‘time with friends’ items in the NYS would show a positive relationship between time use and delinquency when in fact the delinquent has merely limited their social network to the one person who does not reject them and spends much of their time with that person. While this single relationship may be socially rewarding, it comes at a loss of the rest of the peer group – this should likely be considered a net loss in social rewards. Since sociometric measures account for an individual’s position relative to the rest of their network, it is likely to be a more accurate measure of social rewards accruing from delinquent behavior.

It is important to note the distinction between the effects of minor and more major forms of deviant behavior on social status. Whereas relatively minor deviance such as substance use appears to be widely tolerated and even encouraged by adolescents, more serious delinquency such as violence is less acceptable. Supporting this, Kreager (2007) showed that violence reduced the number of friendship nominations received (though a positive relationship was found among males who perform poorly in school). To be able to assess possible distinctions between the beneficial and detrimental forms of delinquency, it is necessary to account for more serious involvement in delinquent behavior beyond the minor deviance (substance use) thought to improve social status. Without doing so, it would be impossible to discern whether the hypothesized status enhancing effect of minor deviance is in fact a product of involvement in less serious forms of deviance or whether broader engagement in any form of delinquency improves social status.

Propensity and Social Status

At least two well-known criminological theories make explicit predictions on the role of delinquent propensity on social relations: Hirschi's (1969) social control theory of crime and Gottfredson and Hirschi's (1990) general theory of crime. Both of these suggest that individuals with a high level of delinquent propensity are incapable of fostering meaningful, lasting relationships. In this way, delinquent propensity would be thought to affect social status in a negative way. Several studies, however, have found that delinquents foster relationships that are just as close and warm as non-delinquents. Giordano et al. (1986), drawing from an urban sample of teens, have shown that there is little difference across delinquents and non-delinquents in terms of friendship intimacy and cohesion. Other studies have found similarities across delinquent and non-delinquent relationships in emotional support and intimacy (Baerveldt, Van Rossem, Vermande, & Weerman, 2004; Houtzager & Baerveldt, 1999). A recent study by Smångs (2010) on a sample of young offenders illustrated how delinquents demonstrate their social ability through their capacity to close "forbidden triads", that is, to make connections between previously unconnected friends.

These studies address how adolescents benefit from associating with others, and confirm that an understanding of social relationships among adolescents should not be based on the assumption of weak or broken relationships among delinquents. Yet, they tell us little about why some people have higher social status than others. The studies examining friendship intimacy are also unable to contribute to the discussion surrounding why individuals have the social status that they have. In fact, these studies raise the possibility that delinquent propensity is something that could be treated as a predictor of social status for any adolescent. If it does not lead to cold and brittle relationships, it may have an attractive force as a personality trait, even among those who would not be considered delinquent. By acting without regard to consequences, adolescents may be able to show that they are risk-taking/brave/willing to push boundaries and this is likely to have a similar enhancing effect on social status as actually engaging in delinquency.

A recent study by McGloin and Shermer (2009) is relevant to the idea that instead of propensity leading to alienation, it may be that adolescents are actually

attracted to those displaying characteristics of delinquents if propensity is respected and admired. Drawing from a large sample of adolescents, McGloin and Shermer (2009) specifically modeled the effect of self-control on social status though that particular study had other goals, namely to specify the precise criminogenic role of self-control relative to peer influence. In doing so, they found that low self-control did not hinder the capacity of adolescents to be central in their network. That is, instead of low self-control being associated with reduced social status, the relationship between self-control and centrality (an alternative form of social status) was nonsignificant.

The propensity model is distinct from the minor deviance model despite the fact that a pure propensity perspective views delinquent behavior as endogenous to low self-control (Gottfredson & Hirschi, 1990). From a propensity point of view, social status is determined by relatively stable personality traits rather than the minor deviance model which is concerned with actual behavior. In sum, delinquent propensity does not appear to hinder social status, though too little research has been conducted to make any strong conclusions at this point.

Delinquency Balance and Social Status

The balance of delinquents to non-delinquents within the peer group (i.e., the proportion of the group that is delinquent) may have important consequences for the social status of adolescents in the group. If, as we have argued, displaying a capacity for delinquent behavior can increase an adolescent's social status, then hanging out with a 'dangerous' crowd may help to generate a personal reputation for risk-taking/delinquency regardless of an individual's involvement in delinquent behavior. Others are unlikely to make the distinction between the actions of the group in general and the actions of individual members of the group. By being seen with people known to be delinquent, then, adolescents are likely to inherit the reputation of the group that they associate with.

Delinquency balance is not a new concept in criminology though no known studies have assessed its role in establishing social status. One study that uses the concept of delinquency balance is the work of Haynie (2002). She examined the relative

criminogenic importance of the proportion of the peer group that is delinquent in comparison with the absolute delinquency of the peer group. Using the Add Health data, she found that being a member of a group in which a greater proportion of members are delinquent is a more relevant factor to personal delinquent behavior than being in a peer group with higher absolute levels of delinquency. McGloin (2009) provides an interesting take on the concept of delinquency balance by examining how individuals seek to achieve balance with the delinquency of their best friend. This is a different form of balance that has less to do with the composition of the peer group than it does with the dynamics of friendship dyads. Also using the Add Health data, she found that adolescents alter their delinquent behavior to match that of their best friend. This results in increases in delinquent behavior over time when the best friend is more delinquent, and reductions when the best friend is less delinquent.

Current Study

Social status among adolescents is known to have important behavioral implications and yet little is known about why certain individuals but not others have high social status in their peer group. We examine three overlapping explanations regarding antecedent factors of social status: the minor deviance model, the propensity model, and the delinquency balance model. Each of these models accounts for different ways in which conveying a risk-taking/delinquent image might enhance the social status of adolescents. The minor deviance model examines whether low level deviance (alcohol and cannabis use) might increase the social status of adolescents. The propensity model assesses the idea that impulsivity might improve adolescent social status. In the delinquency balance model, we test whether having delinquent friends increases the social status of adolescents. To establish the generality of the proposed dynamics, we will also examine whether displaying a delinquent capacity is something that influences social status differently for delinquents and non-delinquents since displaying a delinquent image is not strictly limited to adolescents who are actually involved in delinquent behavior. As such, we will examine these effects for a general sample of adolescents before testing to see whether results hold for delinquents and non-delinquents separately.

Data and Methods

This study uses data from the National Longitudinal Study of Adolescent Health (Add Health), a nationally representative sample of American students in grades 7-12 at the first wave of data collection (1994-1995). There have since been three follow-up periods with the most recent data collection occurring in 2008 when the sample was between 24 and 32 years of age (Harris et al., 2009). The first data collection point was an in-school sample of ~90,000 students. This sample was stratified by region, urbanicity, school size, type, and ethnic composition to ensure representativeness of the greater U.S. high school population. From those eligible for the school sample, 20,745 were selected to participate in the more extensive wave I in-home sample and 14,738 were included in the wave II in-home sample. We decided that the strongest approach

was to predict wave II outcomes using wave I independent variables.⁴ However, the sample that is analyzed in this study is a reduced form of the in-home surveys called the “saturation sample.” For the saturation sample, an attempt was made to survey all students enrolled in 16 schools longitudinally (14 small schools with enrollment under 300 students; two large schools with a combined enrollment greater than 3300 students – one large school was from a mid-size urban area with a predominantly white population, the other was from a major urban center with an ethnically diverse

⁴ There were three possible approaches to analyzing the research questions, each with its own strengths and weaknesses: 1) cross-sectional analysis using the network outcomes from the in-school survey and the delinquent image variables from the wave I in-home survey; 2) changes scores (Allison, 1990) examining the relationship between changes in the delinquent image variables from wave I to wave II and changes in social status from wave I to wave II; 3) lagged regression longitudinal analysis predicting wave II social status from wave I delinquent image. Literature on the philosophy of causality is informative in determining the optimal approach. Hume (1964, pp. 173-175) outlined a number of rules for establishing causality (see Beebee, 2006 for an extensive discussion), the basis of which is that a relationship between the hypothesized cause and effect must be established and that the cause must precede the effect (other rules were proposed but they mostly deal with issues surrounding the establishment of the relationship). The cross-sectional approach would include the greatest number of cases, but it tells us nothing about causal ordering. The change score approach is more useful as it includes a longitudinal aspect in which within-person changes in social status and within-person changes in delinquent image display can be shown to vary together (or not). This is more informative than the between-person differences of a purely cross-sectional approach. But showing that increases or decreases in displaying a delinquent image coincides with increases or decreases in social status does not mean that we can determine which is the cause and which is the effect. Therefore, the change score approach is no better than the cross-sectional method in establishing causality. The best that they can do is to tell us if there is a relationship or not. The final option is therefore the best approach. By predicting wave II social status from wave I delinquent displays, we can both establish whether or not a relationship exists (the first major criterion) and we can discuss delinquent image displays as a cause of social status since its measurement is temporally prior to social status (the second criterion). However, this must be interpreted with the caveat that true temporal priority is extremely difficult to assess since this would require social network and delinquency image data to be collected from the time a person first starts associating with others outside the family (i.e., since the first moment that person’s social status outside the family can be determined), or randomized experiments in which deviant behavior is manipulated.

population) (Harris, et al., 2009).⁵ This sample was not meant to be nationally representative, but it allows for longitudinal network analysis since within-school social networks can be recreated from the friendship nominations collected at waves I and II. The wave I in-home sample produced a total of 3614 valid cases from saturation schools; 2776 also participated in the wave II in-home survey.⁶ Of these, 2565 had valid scores on all study variables and are included in the current study.⁷ All independent variables were drawn from the wave I in-home survey; all dependent variables were created using the wave II in-home survey.

Dependent Variable

There are a variety of theoretically derived network measures that provide conceptually distinct information on varying aspects of the network (Borgatti & Lopez-Kidwell, 2011). In this study, we use the simplest measure of social status: popularity. Popularity is indicated by summing the total number of friendship nominations received from others (referred to in the network literature as in-degree). It is a basic measure of how well-known and liked a person is. Popular individuals are key to establishing the normative order of the group (Brown, 2004) and tend to receive positive attention from

⁵ Some previous research has restricted the saturation sample to only the two large schools. For example, Schaefer, Simpkins, Vest, and Price (2011) elected to only use these two schools because they required at least a 75% response rate and a minimum number of friendship changes to be able to use exponential random graph models. While our approach does not require a consideration of friendship changes, we nonetheless replicated our analysis using only these two schools (valid n = 1699). Substantial diversion from the pattern of results found using all saturation schools would have suggested important differentiation between the samples. The results, however, were substantively similar. We decided that the optimal approach was to include all saturation schools to somewhat enhance the generalizability of the findings.

⁶ Compared to those respondents from the saturation schools who participated at both waves (and were therefore included in the analysis), those who participated at only wave (and were therefore dropped) were slightly older, from lower SES families, more likely to be male and non-white, and were slightly less popular. There were no differences in delinquent involvement.

⁷ Respondents who participated at both waves but were dropped due to missing values on study variables were no different than valid cases in terms of age, sex, and race, but did tend to come from families with lower levels of SES and reported higher levels of delinquency. They also had lower social status.

others in the peer group (Dodge, 1983; Vaughn & Waters, 1981). The simplicity of this measure is its greatest strength as it unambiguously indexes social status in a highly intuitive fashion. Unlike more sophisticated measures where interpretation is less straightforward,⁸ in-degree directly measures the idea that popular (high social status) adolescents have lots of friends while unpopular (low social status) adolescents have few friends.

Popularity was created using the wave II in-home friendship nomination data. Respondents from the saturation schools were asked to nominate up to five male and five female friends. By matching unique identifiers, school-specific sociomatrices could be created. Each school sociomatrix was entered into Ucinet (Borgatti, Everett, & Freeman, 2002) from which network measures could be created. The popularity variable was then merged back into the original data set containing the other study variables. Despite the efforts of the Add Health researchers, not all individuals in the saturation schools were included in the in-home surveys. This means that respondents could nominate friends from the school roster that could not be included in the network data. The effect of this is to underestimate the extent of the network. To account for this in the multivariate analysis, we created a missing nominations variable that isolated the number of friendship nominations to people who did not show up in the sample. This can be seen as an indicator of the extent to which an adolescent's school network is underestimated. In all, the average respondent nominated one friend who did not participate in the wave II survey (the wave at which the network dependent variables

⁸ For example, Bonacich centrality is often posited as the strongest indicator of social status as it takes into account both the connectivity of the respondent as well as the connectivity of their friends. But this combination of multiple concepts makes precise interpretation less intuitive. That is, there is no easy answer to the question of who has greater social status: a person with two highly connected friends or a person with five poorly/moderately connected friends. This would depend upon the *B* value chosen (Bonacich, 1987). Popularity, by ignoring the connectivity of peers, would clearly indicate the person with five friends as having the greater social status. While this may be misleading in contexts such as organized crime research where the most powerful players may actively restrict their network as a defensive mechanism, such a dynamic is highly unlikely among adolescents. Nonetheless, more sophisticated measures of social status will be tested in supplementary analyses in an effort to ascertain whether or not similar dynamics are at play as for popularity.

were created) (mean = 1.04, median = 1), and 95% of the study sample had three or fewer missing nominations. Table 2.1 displays descriptive statistics for the variables used in this study. While respondents received as many as 25 friendship nominations, the average respondent received around two (mean popularity = 2.14).

Table 2.1. Descriptive Statistics

	Mean			Test	Min	Max	SD	Skew
	Full	Non-del	Del					
Dependent variable:								
Popularity ^a	2.14	2.24	2.18	1.29	0	25	2.36	1.78
Controls:								
Age ^b	16.23	16.24	16.2	0.252	12.35	20.57	1.47	-0.43
Male ^c	0.5	0.36	0.6	100.49**	0	1	0.5	0.01
White ^c	0.52	0.58	0.49	13.88**	0	1	0.5	-0.09
SES ^b	5.73	5.84	5.7	1.16	0	10	2.51	0.05
Proportion male ^a	0.42	0.39	0.45	-3.31**	0	1	0.33	0.22
Delinquent (w1) ^c	0.6	0	1	1.7x10 ³ **	0	1	0.49	-0.42
Missing nominations (w2) ^a	1.04	1.06	1.07	-0.06	0	10	1.27	1.6
Violence ^a	0.92	0	1.75	-30.72**	0	6	1.32	1.57
Propensity:								
Self-control ^b	2.95	3.13	2.79	6.44**	1	5	1.11	-0.04
Minor deviance:								
Alcohol use ^a	1.06	0.5	1.58	-16.37**	0	6	1.43	1.33
Cannabis use ^a	1.81	0.14	3.77	-13.38**	0	500	12.5	27.14
Delinquency balance:								
Proportion delinquent ^a	0.5	0.45	0.56	-6.26**	0	1	0.39	-0.09
Sorting variable:								
Delinquent involvement (w1 & 2)	Full n	Non-del	Del					
	2565	790	949					

Note: Full = full sample; Non-del = non-delinquent subsample; Del = delinquent subsample. Test related to mean differences between delinquents and non-delinquents. Minimum, maximum, standard deviation, and skew values are for the full sample.

az score reported (Wilcoxon rank-sum (Mann-Whitney) test).

bt score reported (t test).

cChi square reported.

* p<0.05, ** p<0.01.

Minor Deviance Variables

Alcohol use was measured with the following item: During the past 12 months, on how many days did you drink alcohol (0 = never to 6 = every day/almost every day)? Cannabis use was measured as the raw frequency of use over the past 30 days (wave I of Add Health contains measures for lifetime and past 30 day use of cannabis but not past 12 months). The average respondent reported infrequent alcohol use (mean = 1.06) with over half reporting no alcohol use in the past year (53%). The mean cannabis use score was 1.81 but this was skewed by heavy users. Over 84% of respondents reported no cannabis use in the past month.

Propensity Variable

For our measure of delinquent propensity, we used a variable that closely matches Hirschi's (2004) reconceptualization of self-control. Hirschi's updated argument (since the initial formulation by Gottfredson & Hirschi, 1990) is that self-control is the proclivity to consider the consequences of a given action, a concept akin to impulsivity. Following a number of previous studies (Fletcher, Deb, & Sindelar, 2009; Nagin & Pogarsky, 2004; Paternoster & Pogarsky, 2009), we use an item that asks respondents to indicate their level of agreement with the statement that "When making decisions, you usually go with your 'gut feeling' without thinking too much about the consequences of each alternative" (1 = strongly agree to 5 = strongly disagree). Therefore, higher scores equal higher levels of self-control. The average respondent reported moderately high levels of self-control (mean = 2.95).

Delinquency Balance Variable

The vast majority of previous research on peer influence effects has used the amount of delinquency within the peer group to indicate the probability that the individual will themselves be delinquent. However, this leaves open the possibility that one or two highly delinquent peers will make an otherwise non-delinquent peer group appear to be more criminal overall than is actually the case. The ratio of delinquents to non-delinquents in a group might therefore be a more important component of the

criminogenic peer influence effect than absolute or mean levels of delinquency by more accurately showing peer support for delinquency that will not be skewed by highly delinquent peers. This extends to our focus on social status. If associating with delinquents has an influence on social status, it is likely that associating with greater or fewer friends involved in delinquency is more important than the actual level of delinquent involvement of these friends. Therefore, we use a measure of the *proportion of the peer group that is delinquent* instead of the more traditional measures of peer delinquency. This was created using the wave I friendship nominations. Respondents were asked to list up to five male and five female friends. The first step in creating this variable was to create an indicator of delinquency involvement using the Wave I In-home survey. The commonly used 14 item variety index was ideal for this purpose (e.g., Haynie, 2001, 2002).¹ This variable was coded into a dichotomous delinquency indicator which was then matched to each respondent's friendship nominations. From there, it was possible to derive counts of the number of delinquent and non-delinquent friends for each respondent. The delinquent proportion variable was finally created by dividing the number of delinquent friends from the total number of nominated friends (using the send-network). This resulted in a variable in which a score of 0 means that none of the respondent's friends are delinquent; a score of 1 indicates that all their friends are delinquent. The mean score (0.50) indicates that half of the average respondent's friends are delinquent.

¹ This scale was comprised of 14 property crime, violent crime, or drug selling acts in the past year. These acts included graffiti, damaging property, shoplifting, stealing something worth less than \$50, stealing something worth \$50 or more, burglary, borrowing a car without the owner's permission, selling drugs, physical fighting, causing serious injury to someone, using/threatening to use a weapon, participating in a group fight, pulling a knife/gun on someone, or shooting/stabbing someone. Any involvement in any one of these acts in the past year resulted in that person being considered a delinquent. This means that having a friend who steals less than \$50 is equivalent to having a friend who shoots someone since they are both delinquent. While item response scaling would differentially weight the individual delinquency items based on the rarity of the act, it would only be appropriate if we were interested in the level of delinquency of the peer group. Since we are more concerned with the proportion of the peer group that is delinquent than the level of delinquency within the group, item response scaling was deemed unnecessary. In this situation, the described method is ideal.

Control Variables

We include an indicator of delinquent involvement at wave I to ensure that any effects of presenting a delinquent image on social status are not attributable to delinquent status (0 = no delinquent involvement, 1 = engaged in at least one of the 14 delinquent acts described above for peer group delinquency in the previous year) (mean = 0.60). This means that any possible effects on social status associated with delinquent image displays cannot simply be a product of actually being a delinquent (i.e., it controls for the fact that delinquents might better exhibit a delinquent image because they are, in fact, delinquent).

Furthermore, to ensure that any effects on social status related to the delinquency balance of the peer group is not simply a proxy for associating with boys (given the well-known gender discrepancy in delinquent behavior - e.g., Chesney-Lind & Shelden, 2004; Steffensmeier & Allan, 1996), we also controlled for the gender balance of the peer group. This was done by including a variable measuring the *proportion of the peer group that is male*. To do this, the number of nominated male friends was divided by the total number of nominated friends (send-network) resulting in a variable in which a score of 0 indicates no male friends in the peer group while a score of 1 means that the peer group consists entirely of males. The average respondent reported having slightly more female friends than male friends (mean = 0.42).

Following Bearman et al. (2004) and Young (2011), the socioeconomic status (SES) measure was based on the educational achievement and occupational status of parents. Education was coded on a six point scale with the following categories: 0 = "never went to school"; 1 = "less than a high school diploma"; 2 = "high school diploma"; 3 = "some college education or equivalent"; 4 = "graduated from college"; and 5 = "additional professional education". Likewise, occupation was a six point scale coded into 0 = "unemployed"; 1 = "unskilled worker"; 2 = "skilled worker"; 3 = "low-level white collar"; 4 = "high-level white collar"; and 5 = "professional". Scores were then summed to create the measure of family SES and the parent with the highest SES score was taken to indicate family SES (mean = 5.73). For single parent families, the SES score was based on the responses for that parent alone.

To control for possible racial effects, a dummy variable was created comparing *whites* to other racial groups (0 = non-white, 1 = white). 52% of the study sample was white. *Age* (mean = 16.23) and *gender* (0 = female, 1 = male) were also included. The study sample was equally distributed along gender lines.

To be able to further partial out the influence of minor deviance on social status, we controlled for violence in the delinquent-only models. This ensures that, even among delinquents, any effect of minor deviance is not attributable to more serious patterns of criminal behavior. For the violence measure, we employed Felson and Haynie's (2002) variety index assessing involvement over the past 12 months in six violent behaviors (each 0 = no, 1 = yes): pulled a knife/gun; shot/stabbed someone; got into a serious physical fight; caused an injury that required medical care; robbery; group fighting ($\alpha = 0.765$). Violence was only controlled in the delinquent model since the items used to create this variable were also used to discriminate between delinquents and non-delinquents (i.e., by definition, all non-delinquents score 0 on the violence variable). On average, respondents engaged in fewer than one type of violent behavior in the past year (mean = 0.92), however this was entirely driven by the delinquent sample which averaged engaging in nearly two types of violent behavior over that span (mean = 1.75).

Analytical Approach

Longitudinal regression models with lagged independent variables (wave I predictors on wave II outcomes) were run to test the associations between the theoretical models and social status.² Subsequently, additional analyses were run for delinquents and non-delinquents independently to check for correlates of social status

² Readers interested in bivariate correlations should see the correlation matrix (Appendix 2.1).

that may be contingent upon delinquent involvement.³ Since popularity had an overdispersed Poisson distribution, negative binomial models were used. Random intercepts using the `xtnbreg` command in Stata were included to account for the school-based cluster sampling. The standardized forms of all independent variables (with the exception of the dichotomous race, gender, and delinquent status variables) were entered into the regression models to ease interpretability. Multicollinearity was not found to be an issue (highest variance inflation factor = 1.42) and model fit was good.⁴

Results

The first key finding is that both delinquents and non-delinquents can achieve equally high levels of social status. Table 2.1 shows that the difference in popularity between delinquents and non-delinquents is not significant. Delinquents and non-delinquents significantly differ, as we would expect, on a majority of the predictors in this study. Delinquents tend to use more cannabis and alcohol and score lower on self-control. Overall, delinquents tend to belong to a peer group geared towards delinquency

³ The delinquent and non-delinquent samples were distinguished using the same 14 item variety index created for the peer delinquency measure. Respondents who reported having engaged in any of the 14 acts in the past year were considered to be delinquent at that particular wave. The delinquent subsample consisted of those who were delinquent at both waves ($n = 949$); the non-delinquent subsample consisted of those who were non-delinquent at both waves ($n = 790$). This was done to avoid confusion concerning which subsample should include those who were delinquent at only one wave ($n = 826$). However, the multivariate analysis was replicated using a lower threshold criterion for the delinquent subsample which required that respondents only need to report delinquent involvement at one of the two waves to be considered delinquent. This allowed for the inclusion of all 2565 cases in either the delinquent or non-delinquent subsamples. The results of those models are very similar to the main results reported in this study (see Appendix 2.2, models 1 and 2).

⁴ Additionally, a supplementary analysis was conducted using models with wave I popularity included as an independent variable to control for the possibility that wave II social status is determined by wave I social status. This allows for an examination of the effect of displaying a delinquent image on social status independent of an adolescent's social status history. The coefficient patterns were similar to the models presented in this study (without wave I social status as predictors of wave II social status). It was therefore decided that the most parsimonious models should be presented (i.e., without wave I social status).

in that they associate with more delinquents than non-delinquents while the reverse is true for non-delinquents.

Table 2.2 presents the regression models predicting popularity for the full sample and the delinquent and non-delinquent subsamples. In general, popular adolescents tend to be younger, white, from higher SES families, and associate with greater proportions of boys. Regarding the influence of delinquent displays on social status, it is evident that those who can present a risk-taking image tend to attract a greater number of friends than others. However, this does not mean that any form of delinquent behavior is socially valued; only minor forms of delinquency are associated with increased adolescent popularity.

Table 2.2. Random Intercept Negative Binomial Regression Models Predicting Popularity – *b*(SE)

	Full	Non-del	Del
Controls:			
Age	-0.133** (0.025)	-0.214** (0.041)	-0.124** (0.043)
Male	-0.055 (0.043)	-0.008 (0.077)	-0.067 (0.071)
White	0.191** (0.069)	0.131 (0.125)	0.286** (0.108)
SES	0.058** (0.021)	0.014 (0.037)	0.046 (0.035)
Proportion male	0.111** (0.023)	0.048 (0.042)	0.136** (0.038)
Missing nominations (w2)	0.052** (0.019)	0.050 (0.035)	0.069* (0.029)
Delinquent	-0.032 (0.042)	-	-
Violence	-	-	-0.144** (0.032)
Minor deviance:			
Alcohol use	0.016 (0.022)	0.109* (0.053)	0.047 (0.032)
Cannabis use	0.027* (0.013)	-0.187 (0.318)	0.031** (0.011)
Propensity:			
Self-control	0.041*	-0.027	0.043

	(0.020)	(0.036)	(0.033)
Delinquency balance:			
Proportion delinquent	0.074** (0.022)	0.070+ (0.038)	0.086* (0.037)
Intercept	0.448** (0.080)	0.628** (0.146)	0.469** (0.130)
Chi ^a	78.34**	31.92**	17.61**
BIC	9,791	3,133	3,634
n	2565	790	949

Note: Full = full sample; Non-del = Non-delinquent subsample; Del = Delinquent subsample.

^aLikelihood-ratio test of random intercept model vs. pooled model.

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$.

From the minor deviance model, we see that adolescents who use cannabis are likely to enhance their popularity ($b = 0.027$). However, alcohol use is not found to enhance social status. This may be due to the fact that alcohol use is highly prevalent among adolescent groups and therefore, due to its ubiquity, it is not a viable way to stand out from the crowd to display a risk-taking image. However, looking ahead to the non-delinquent specific results, we see that alcohol use does matter for this group of adolescents. Specifically, non-delinquents who use greater amounts of alcohol tend to experience higher levels of popularity ($b = 0.109$). Importantly, the addition of the delinquent status variable ($b = -0.032$) means that the effect of minor deviance on social status cannot be attributed to involvement in more serious patterns of delinquent behavior. This supports the idea that displaying a delinquent image is not so much about being delinquent as it is about making it *look* like an adolescent is delinquent. Therefore, where engaging in behaviors like theft, violence, and/or drug dealing appears to be too maladaptive to promote social status, engaging in minorly deviant behavior (substance use) appears to provide the right balance between risk-taking and law abiding to enhance social status.

From the propensity model, Table 2.2 suggests that higher levels of self-control lead to increased popularity ($b = 0.041$). This refutes the idea that displaying a capacity for risk-taking that comes with the impulsivity of low self-control improves adolescent social status. Instead it appears that those adolescents who can present this sort of image in other ways are most likely to be popular. This suggests that predictability in

delinquent displays is valued over more erratic behavior. Also, there is clear support for the effect of the delinquency balance model on social status. Associating with greater proportions of delinquents is related to increases in popularity ($b = 0.074$). The implication is that being a member of a delinquent peer group is valuable in terms of improving an adolescent's social standing. Given that this is a proportional measure and not a count of delinquent friends, this effect cannot be attributed to simply having more friends.

But the question remains as to whether these risk display dynamics operate even for people who are not involved in delinquent behavior. Even non-delinquents can show a tendency towards delinquency by using cannabis/alcohol, associating with riskier groups, or exhibiting low self-control. We therefore ran additional models to test whether displaying a delinquent image can boost social status similarly among non-delinquents and delinquents. Models 2 and 3 in table 2.2 shows that it can. Non-delinquents can enhance their social status through substance use and by associating with delinquents in much the same way that delinquents increase social status. However, some interesting distinctions arise at this point. Where alcohol use was not related to social status in the full sample, it does appear to have an effect on the popularity of non-delinquents ($b = 0.109$). While alcohol use is common among adolescents, it is much less so for non-delinquents than delinquents (65% of delinquents reported alcohol use in the past year compared to only 29% of non-delinquents) and is therefore a way for non-delinquents to stand out by engaging in risky behavior. A different story emerges for cannabis use. Among delinquents, heavier levels of cannabis use tends to increase social status ($b = 0.031$) whereas the few otherwise non-delinquent cannabis users ($n = 30$) have substantially lower levels of social status than non-delinquent cannabis non-users ($b = -0.187$, though $p > 0.1$). Cannabis use thus appears to aid the social status of delinquents, but this behavior may be "too delinquent" to offer status benefits to non-delinquents. Furthermore, we controlled for violence in the delinquent-only model to see if more serious forms of delinquency enhanced social status for delinquents. Congruent with the rest of the analyses in this study, we find no evidence that serious delinquency helps adolescent social status, even for those most likely to be violent. In fact, violence actually hurts the social status of delinquent adolescents ($b = -0.144$). In all, the primary implication is that displaying a delinquent image is an important way for adolescents to

improve their social status above and beyond their involvement in more serious delinquency.

Additional Analyses

Popularity is a simple, yet powerful measure of adolescent social status. However, some readers may find it to be overly simplistic as it collapses network status into a count of the number of friendship nominations an adolescent receives within his/her school. In essence, it is unclear whether structural forms of social status that depend upon the relationship patterning of the rest of the network is a product of the same factors as being friends with many others. Therefore, to address the robustness of the predictors of social status based on popularity, we ran supplementary models testing more sophisticated measures of social status that account for more complicated relationship patterns. To do this, we substituted betweenness centrality for popularity. Being structurally located as a link between various groups is thought to be a powerful position for its ability to broker information between the groups (Burt, 1992). Betweenness centrality assesses the extent to which members of the broader network must go through the respondent to reach others. While it is generally thought to be important since the individuals in these positions can control the flow of information between various groups and can therefore choose what to pass on (Wasserman & Faust, 1994), a form of broker's advantage, it also provides a useful measure of adolescent social status since high status individuals are likely to connect with many others and in various groups since they are well liked and sociable. That is, they are likely to be in the middle of the network. Table 2.3 shows that the factors predicting betweenness centrality are virtually identical to those predicting popularity. Again, associating with a greater proportion of delinquents is associated with greater social status (in terms of betweenness centrality). Also, alcohol use once again appears to enhance the betweenness of non-delinquents while delinquent betweenness benefits from cannabis use and higher levels of self-control are related to greater social status. The only difference between the popularity and betweenness centrality models (among the delinquent display variables) is that the relationship between social status and self-control now reaches significance in the delinquent sample. In other words, delinquents who exhibit more self-control are significantly more likely to act as "brokers" between unconnected friends. This analysis was also performed using Bonacich centrality, a form

of social status that measures the individual's level of connectivity as weighted by the connectivity of their friends (i.e., it measures how connected to socially prominent others a person is) (B set to 0.1), and results were found to be substantively similar (results not shown).

Table 2.3. Random Intercept Negative Binomial Regression Models Predicting Centrality – $b(SE)$

	Full	Non-del	Del
Controls:			
Age	-0.249** (0.029)	-0.353** (0.048)	-0.208** (0.055)
Male	-0.033 (0.059)	-0.012 (0.106)	0.028 (0.100)
White	0.846** (0.063)	0.699** (0.113)	0.962** (0.104)
SES	0.030 (0.028)	-0.004 (0.050)	-0.006 (0.048)
Proportion male	0.125** (0.032)	0.047 (0.057)	0.158** (0.051)
Missing nominations (w2)	0.155** (0.023)	0.206** (0.044)	0.126** (0.037)
Delinquent	-0.076 (0.058)	- -	- -
Violence	- -	- -	-0.199** (0.044)
Minor deviance:			
Alcohol use	0.030 (0.030)	0.134+ (0.076)	0.063 (0.044)
Cannabis use	0.049* (0.021)	-0.976 (0.783)	0.057** (0.015)
Propensity:			
Self-control	0.118** (0.028)	0.071 (0.051)	0.091* (0.046)
Delinquency balance:			
Proportion delinquent	0.119** (0.030)	0.139** (0.053)	0.109* (0.050)
Intercept	-2.663** (0.066)	-2.589** (0.147)	-2.711** (0.100)
Chi ^a	491.32**	170.11**	123.03**
BIC	24,172	7,752	9,158

	Full	Non-del	Del
Controls:			
n	2565	790	949

Note: Full = full sample; Non-del = Non-delinquent subsample; Del = Delinquent subsample.

^aLikelihood-ratio test of random intercept model vs. pooled model.

+ p<0.1, * p<0.05, ** p<0.01.

We also provide further analysis into the issue of causal direction. Previous research has suggested that social status predicts delinquency (see, for example, Haynie, 2001; Kreager, et al., 2011) which is the reverse dynamic that is tested in this study. We ran supplementary models to test this part of the story. Appendix 2.2 (models 3 and 4) shows that higher popularity (wave I) predicts greater delinquency (wave II) for the full sample, but not the delinquent subsample. It also shows that betweenness centrality is unrelated to delinquency.⁵ These effects are no more consistent and, in many instances, of smaller magnitude than when predicting social status with the various ‘delinquent image’ variables. This suggests that the dynamics examined in this study are at least as important as the more commonly noted association whereby social status predicts delinquent outcomes. The longitudinal data and the fact that these results were confirmed with additional models using different definitions of the delinquent sample (both waves versus at least one wave) and including wave I social status in models predicting wave II social status contribute to the robustness of these findings.

Discussion

Social status has important behavioral implications for the individual and others in their group. Popular adolescents have the ability to influence what is considered normal or valued in the peer group and therefore are critical for determining the behaviors engaged in by group members (Brown, 2004). At the same time, these people are limited by their own social status. Being as visible as they are in the peer group, they

⁵ Additional analyses showed that Bonacich centrality is negatively related to delinquency but only for the delinquent subsample – results not shown.

are less likely than others to be able to avoid having their indiscretions discovered. When the peer group supports delinquent behavior, adolescents with higher social status are therefore less able to avoid participating in delinquent acts as to do so would be to risk ostracism by the group (Haynie, 2001).

While these dynamics are known, what is unclear is why certain people have greater social status than others. The antecedents of social status have received less attention than their effects (Borgatti & Foster, 2003; Klein, Lim, Saltz, & Mayer, 2004). The end result is that no theoretical model currently exists to guide analyses of social status among delinquent and non-delinquent adolescents. The current study takes a unique approach by examining the association between peer relations and delinquency in a way that is rarely done in criminology; that is, by testing how presenting an image of delinquency enhances adolescent social status as opposed to assessing the effect of peer relations on delinquency. We addressed this gap in the literature by proposing three models of social status that account for the various methods that adolescents can employ to display a risk-taking persona: the minor deviance model, the propensity model, and the delinquency balance model.

We found that displays of delinquent behavior can be an effective way to improve social standing; more so than displaying a more law abiding persona. This capacity can be shown in a variety of ways, from associating with people more involved in risk-taking behavior to actually engaging in minor deviant behavior. However, it is evident that with the influence of displays of risk on social status, there must be some connection to actual deviant behavior. That is, because low self-control is not associated with social status, simple displays of impulsivity are insufficient to improve social standing in the peer group. In fact, *high* self-control can improve a person's popularity which suggests that while presenting a risk-taking image is an important determinant of social status, impulsivity is not. To be sure, we conducted a supplementary analysis that showed greater levels of popularity among highly delinquent adolescents with high self-control (one standard deviation above the mean for delinquency and self-control; mean = 3.00) than among highly delinquent adolescents with low self-control (one standard deviation above the mean for delinquency, one standard deviation below the mean for self-control; mean = 2.73). These findings have implications for control theories (Gottfredson & Hirschi, 1990; Hirschi, 1969) which suggest that delinquents (those with low self-control)

are incapable of creating intimate peer relationships and should therefore have lower social status since their peer network is likely to be small with transient connections to others of low social status. This study refutes these suggestions by showing that the social status of delinquents is no better or worse than non-delinquents. However, the refutation is incomplete since we find support in the multivariate analysis for the suggestion that low self-control hurts adolescent popularity.

While low self-control is insufficient to display the risk-taking image that increases adolescent social status, behaviors and the social environment appear to do a good job in this regard. But this is not about delinquent behavior in general; this is specifically focused on minor deviance. We show that delinquent status (in terms of more serious delinquent involvement than cannabis and alcohol use) is unrelated to social status. Furthermore, controlling for delinquent status ensures that the minor deviance results are not a product of involvement in more serious offending. Interpreting these findings from an evolutionary perspective, substance use may have consequences, but it signals a level of daring and flouts the rules in a way that is admired and reinforced by peers and therefore leads to increased social status (Rebellon & Manasse, 2004; Zahavi, 1975). This risk-display dynamic is similar to the concept of the maturity gap proposed by Moffitt (1993) who argued that the majority of adolescent offenders engage in delinquent behavior as a way to achieve a form of adult status at a time when they are biologically mature but are not considered by the greater society to be adults. The two dynamics are not mutually exclusive but may be mutually reinforcing. Adolescents may desire both social status and adult status and find that substance use is a way to achieve both. These findings are supported by previous research on the relationship between alcohol use and social status (e.g., Allen, et al., 2005; Fallu, et al., 2011; Kreager, et al., 2011; Moody, et al., 2011; Smetana, et al., 2006).

As for the general social environment in which adolescents are embedded, we found that the delinquency balance of the peer group (proportion of delinquents) was particularly important in determining social status. Having a greater proportion of peers who engage in delinquency allows adolescents to access the risk-taking image of the group vicariously. This means that regardless of an individual's ability (or inclination) to prove their risk-taking on their own, associating with peers who do display this image by actually engaging in delinquent behavior appears to result in this reputation sticking to

others in the peer group. From the Rebellon and Manasse (2004) perspective, associating with delinquents may signal a valued capacity for danger regardless of whether or not the adolescent is actually involved in delinquent behavior and beyond the effect of minor deviance and delinquent propensity and this is found to lead to higher levels of social status. The importance of peer behavior for personal status should therefore not be underestimated.

The focus of this study on the status impact of risk displays naturally leads to the question of whether the dynamics found in this study operate similarly for delinquents and non-delinquents given the differences in the extent to which these two groups convey a delinquent image. We find that, despite minor differences, delinquents and non-delinquents can both increase their social status by displaying a delinquent image. For both, showing a capacity for risk-taking by engaging in substance use and associating with delinquents is a way to enhance social status. However, the type of substance that an adolescent uses has different implications for social status depending upon whether or not they are delinquent. A delinquent may not experience any status gains from using alcohol whereas alcohol use among non-delinquents appears to display the capacity for risk-taking that is valued among adolescent groups. To achieve similar gains, delinquents must use less common substances such as cannabis. An implication of these findings is that studies linking general substance use to social status by combining multiple substances into a single measure may be missing important distinctions between substance-specific effects. At the very least, substance-specific effects should be examined before combining them into a single measure.

In all, the results of the analysis of the three overlapping models shows a substantial amount of support for the perspective offered by Rebellon and Manasse (2004). Their arguments surrounding the social benefits of delinquency appear to have a more broadly based influence than they originally suggested. Not only does deviance improve an adolescent's popularity, but so does associating with friends who engage in delinquent behavior. Therefore, it is not simply what adolescents do, but also who they are friends with that determine their standing in the greater social group as long as these behaviors present the image that they are brave and are willing to rebel against conventional society. But this does not mean that any display of risk-taking is socially valued. Social status suffers among adolescents who may be seen to be overly

impulsive. Furthermore, only relatively minor forms of delinquency are beneficial to social status. More serious displays (i.e., violence) appear to exhibit a maladaptive image which hurts social status. The influence of these minor delinquent displays suggest that there might be an underlying latent construct that could be termed “risk display” that plays a role in establishing social status hierarchies in adolescent groups. However, a supplementary principle component analysis showed that these dynamics are better modeled separately (Cronbach’s alpha = 0.344). Future work should attempt to sort out the various specific ways that presenting a delinquent image might improve a person’s standing in their peer group by accounting for a wider variety of minor (e.g., vandalism, truancy) and more serious forms of delinquent behavior (e.g., joy-riding, harassment, theft), as well as non-delinquent forms of risk behavior (e.g., engaging in mixed martial arts; hunting; impulsive risk taking – not wearing seatbelts/helmets, etc.), and non-risk behavior that may still signal daring (e.g., talking back to teachers/parents/authority figures). Future work should also be careful not to collapse minor and more serious forms of deviance into a single scale given that they have different effects on social status. To do so would be to risk masking important distinctions in the relationship between delinquent image displays and social status.

Additionally, future work should consider this process as part of a broader criminological pattern. It is likely that social status incentives provide the impetus for initially minor deviant acts. This minor deviance is likely to increase social status which provides the positive feedback for adolescents to step up their offending to more serious acts which may work up to a certain point. But soon, adolescents are likely to come to find that acts of a certain seriousness hurt their social status and thus their offending returns to previous low levels. This feedback dynamic is likely to converge on a specific level of offending that is known from experience to enhance social status but limits more serious delinquent involvement. This study suggests that this level is likely to be quite minor, but future work should address whether alcohol and cannabis use is the limit to which delinquent behavior improves social status or whether this limit is actually minor theft or bullying, etc.

While this study offers important contributions to our understanding of the processes underlying social status in adolescent groups, it is not without limitations. One of the main limitations is that we were unable to use the self-control scale developed by

Grasmick et al. (1993). However, various conceptions of self-control tend to produce similar results which suggests that this may not be a major problem (Pratt & Cullen, 2000; Tittle, Ward, & Grasmick, 2003). Furthermore, the 'gut feeling' measure used in this study nicely taps Hirschi's (2004) reformulation of the concept that focuses more on impulsivity and the tendency to consider the possible consequences of choosing a behavioral alternative making it highly appropriate despite the fact that it is a single item. This measure has been used in numerous previous studies (e.g., Fletcher, et al., 2009; Nagin & Pogarsky, 2004; Paternoster & Pogarsky, 2009).⁶ Further, Add Health limited the number of possible friendship nominations to five male and five female friends. This may have led to underestimates of the number of friendship nominations received (popularity). However, this limitation is not likely to be particularly problematic since only 1% of the study sample nominated the full ten friends. The average respondent nominated approximately three friends (mean = 3.2).

Another issue is that, while this study was analyzed longitudinally, there can be no guarantee that what we interpret and discuss as a causal mechanism (i.e., the effect of displaying a delinquent image on social status) is truly causal. We have taken steps to improve our confidence in the causal ordering by supplementing the analysis with models that partial out the effect of time 1 social status on time 2 social status and also by examining the reverse causal direction (predicting time 2 delinquent involvement with time 1 social status). The results all point to the hypothesized causal direction, but without data going as far back as the establishment of peer networks or randomized experiments manipulating a person's deviant behavior, the results cannot be concretely interpreted as causal.

⁶ Further supporting the suitability of the self-control measure used in this study, supplementary models using the 7 item scale that McGloin and Shermer (2009) demonstrated to perform similarly to the Grasmick et al. scale displayed very similar results (not shown) to those presented here. However, the 'gut feeling' measure appears to be slightly more conservative than McGloin and Shermer's version (reduced effect sizes using the 'gut feeling' measure).

Finally, while Add Health was designed to be nationally representative, the saturation sample used in this study was not. To be able to use the longitudinal network data contained in the saturation sample, the tradeoff was a reduction in sample generalizability. Tempering this concern, the schools contained in the saturation sample encompass a range of average socioeconomic backgrounds and racial compositions.

This study gives credence to the idea that there are multiple paths to social status. To achieve social status, some adolescents might display their nerve by smoking cannabis while others might display theirs by seeking friendships with delinquents. Even though only one of these approaches involves any sort of deviant behavior, both might be enough to show the capacity for risk-taking that is clearly valued among adolescents. In all, this study shows that displaying a delinquent image is more important than actually engaging in serious delinquent behavior in terms of determining social status. Adolescents who associate with peers who are involved in delinquent behavior and adolescents who only engage in minor deviant acts that merely hint at a person's capacity for delinquency (rather than being any tangible sign of "hardness") tend to enjoy greater popularity in their peer groups.

Chapter 3.

Positional and Experienced Social Benefits as Constraints Towards Delinquency

Social groups tend to be highly valued for a variety of reasons. They have the power to provide individuals with both emotional and material support and are a prime means through which such desirable relationship characteristics as social status can be attained. Peers groups are particularly important to adolescents (Brown, 2004; Warr, 2002). But not all groups are equal. They often differ in the types of behaviors that are encouraged by its members. Therefore, what is offensive to members of one group may not be offensive to members of another group. In this way, certain groups may encourage academic achievement; others may encourage athletic involvement; some groups may promote delinquent behavior and/or substance use. The behaviors supported by the peer group are important because they play a major role in determining individual delinquent involvement (e.g., Pratt et al., 2010). However, given the dynamic nature of adolescent behavioral influences, the effect of peers on behavior is likely to depend as much on the context of the peer group as on the actions of members of the peer group. In this study, we expand the focus of the peer influence lens in an attempt to understand the context in which peers influence delinquent behavior. This focus goes beyond simpler approaches based on counting the number of delinquent peers an adolescent has. In doing so, we examine how *benefiting* from delinquent relationships acts to constrain behaviors to delinquency.

By ignoring the benefits provided by the peer group, researchers must make the assumption that the context of the peer group is similar for all adolescents. But just because a person has contact with a delinquent peer group does not necessarily signify that the group is meaningful to them. An adolescent may be ostracized within the group and may wish he/she were part of another group but ends up interacting with the only one available to them. A social benefits perspective might therefore improve our

understanding of the context of peer influences on crime as it explicitly addresses the idea that groups are important for what they can provide. This perspective avoids the assumption that merely possessing connections to the group is responsible for the behavioral effect of peers. When individuals receive some sort of benefit from being part of a group, they are likely to behave in ways that are supported by the group to avoid losing their spot and thus the benefits that come with it. With groups differing in what they consider normal, these pressures can be in the direction of either delinquent or conventional behavior.

Sutherland's differential association theory (Sutherland & Cressey, 1978) is key to explaining the delinquent behavior of adolescents as it takes the position that greater contact with a delinquent peer group will result in greater internalization of delinquent definitions and therefore more delinquent behavior. Differential association has received a substantial amount of empirical support (e.g., Pratt, et al., 2010). While it is not explicitly about social benefits, there is an element of social benefits inherent in differential association theory. Sutherland argues that the frequency, intensity, priority, and duration of associations with group members are the primary ways in which the individual internalizes the norms of the group. In this way, Sutherland was sensitive to the fact that the influence that friends have on behavior is more complicated than simply possessing connections with those peers. Relationships that are long lasting with frequent contact and intense emotional closeness are likely to be perceived as the most beneficial and therefore the most painful to lose. As such, adolescents are most likely to match their behavior to these peers as opposed to those who do not provide such strong attachments. However, the vast majority of research on peer influence effects have ignored the behavioral implications of differing levels of social benefits that Sutherland clearly felt was important. These studies have instead focused on the extent to which having any sort of contact with delinquents is related to personal delinquency. Possessing more delinquent friends is important in understanding the normative orientation of the group, but it does not tell us the extent to which individuals would suffer from the loss of that peer group. In essence, the number or proportion of delinquents in the peer group cannot indicate the degree to which the peer group constrains behavior. Although some work has been conducted on the effects of the behavioral constraints associated with the structure of peer relationships (Haynie, 2001), the general state of

affairs is that we know little about how social benefits constrain behaviors among different types of groups.

There are a variety of specific forms of social benefits, but the two broad categories are a) experienced, and b) positional social benefits. Experienced social benefits are the things that a group can concretely do for a person that are likely to be valued by the individual. There are virtually an infinite number of ways that a person can benefit from their peer group, but the people who benefit most are likely to be those who have close contact with other members of the group. Adolescents who spend greater amounts of time with their friends and who regularly talk with friends are generally the ones who draw greater benefits from the group both in terms of psychological support and in other ways through mutual expectations that close friends will act on each other's behalf whenever possible.

The second major form of benefits are positional benefits. This stems from the social network perspective which suggests that a person's structural location within their network indicates both their power over others and the extent to which they are likely to benefit from their network relations. Individuals who are located in networks with dense ties are thought to receive more benefits from their relations than others due to expectations of reciprocity within cohesive networks (Coleman, 1988). Additionally, individuals who are popular and located in the center of the peer group have the highest social status and command greater levels of positive attention than others (Brown, 2004; Carrington & Scott, 2011; Dodge, 1983; Hanneman & Riddle, 2011; Vaughn & Waters, 1981; Wasserman & Faust, 1994). However, using positional measures to index social benefits necessarily makes a conceptual leap between optimal network positioning and actual experiences of social benefits when in fact they may be distinct. It is possible that even people in the densest networks and occupying what should be the most beneficial structural position within the network experience little in the way of subjective perceptions of benefit. That is, a person may be in a network in which their friends are all friends with each other (high density) and in which they are well known, well liked, and highly connected to others (high popularity and centrality) without feeling that the network is meaningful to them. It may simply be that their group does not really do much for them. It is therefore unclear which of these general forms of social benefits, positional or experienced, plays a stronger role in constraining behaviors since there are

theoretical arguments for both. As such, we will assess various conceptions of both positional and experienced social benefits to see whether and how they constrain adolescent behavior to delinquency when the peer group is more highly supportive of delinquent behavior.

Constraints of Social Benefits

To start, the work of Hechter (1987) provides conceptual guidance to understand how being a member of a peer group that works to the benefit of group members might act to constrain behaviors. Hechter states that the more an individual is dependent upon the group for benefits, the greater the costs of leaving that group, and the greater the “tax” that they will be willing to pay to be a member of the group. Leaving the group often means to be socially isolated, a highly undesirable situation particularly among adolescents (Brown & Lohr, 1987; Kreager, 2004). Most adolescents are therefore likely willing to do what it takes to avoid this. In other words, social benefits that stem from an individual’s relationship to other members of the group have the effect of constraining behavior to those acts supported by the group. If this “tax” consists of delinquent behavior (as it very well might in groups that are more highly delinquent), then those who derive the greatest benefits from the peer group will be the most constrained to delinquent behavior.⁷

By focusing on socially-derived benefits, the work of Hechter (1987) allows for the fact that not all relationships are beneficial. Many relationships are superficial and/or transitory. There may be little effort devoted to the friendship or the friend may have little

⁷ While this perspective overlaps to a certain degree with social exchange theory in terms of its focus on social relations, it differs in important ways. Where “theorists agree that social exchange involves a series of interactions that generate obligations” (Cropanzano & Mitchell, 2005, p. 874; see also Emerson, 1976), the constraining effect of social benefits has less to do with obligatory exchanges than it does with a more one-way flow of resources. That is, we are not concerned with what a person provides to the group; what matters is what a person receives from the group in terms of creating psychosocial pressures to act in particular ways to avoid losing access to those resources.

power an individual can make use of. For whatever reason, these relationships may provide very little benefit for the individual regardless of the structure of the peer group. In these situations, it is unlikely that the possibility of losing a spot in the peer group will constrain a person's behavior to any substantial degree. However, empirical evidence for this dynamic is minimal since there has been little effort to address how social benefits might constrain behavior *in the direction of delinquency*.

Positional Social Benefits

There are two general forms of benefits that can be derived from the peer group that may contribute to the "tax" discussed by Hechter (1987): positional benefits and experienced benefits. Positional benefits stem from the structure of a person's relationships. Within a network, a given individual may have many friends or they may have few friends; they may be in the middle of the network or they may be peripheral; they may have powerful or powerless associates; their network may be cohesive or sparse. Some of these positions are likely to result in greater benefits for the individual than others. As Coleman (1990) noted, cohesive (dense) networks in which most people in the greater network are connected to each other tend to establish norms of reciprocity. That means that when everyone in the network knows each other, there are expectations that people will attempt to do things for each other whenever possible and these favors will be returned at some point. As such, a person in a cohesive network essentially has the resources of the whole group at their disposal and this is likely to be highly valued by individual members of the network.

That people who have many friends and who are in the center of the network tend to accrue greater social benefits stems from the fact that "(a)ctors who are the most important or the most prominent are usually located in strategic locations within the network" (Wasserman & Faust, 1994, p. 169). Popular individuals (those with greater numbers of friends) are generally well-received by others (Dodge, 1983) and generate greater amounts of attention from other group members (Vaughn & Waters, 1981). Popularity is therefore likely to be valued not only for the emotional validation it provides, but also because popular adolescents tend to possess the ability "to set styles and determine what activities will be undertaken and who will be included" (Brown, 2004, p.

372). Similarly, adolescents who are in the middle of the network and who hang out with well-connected others tend to enjoy greater social status for themselves (Sabongui, et al., 1998). These centrally located adolescents are generally more highly visible than others and therefore receive more attention than individuals at the periphery of the network. As such, their opinions and actions are most important for the behavioral norms of the peer group. These are the members that tend to hold the power within the network (Hanneman & Riddle, 2011). Therefore, popular and central adolescents are likely to experience the highest levels of benefits from their peer group relations since the high levels of social status and power they command is likely to be strongly valued. These social network benefits are indicated strictly by a person's position within the network. When a person occupies an optimal position within the network, they are expected to be less willing to go against the norms of the network since they have more to lose by doing so. Therefore, when a person occupies an optimal position within a network that offers greater support for delinquency, their behaviors are more likely to be constrained to delinquent acts regardless of their attitudes towards engaging in those acts.

The most relevant study concerning the antisocial behavioral constraints of positional benefits is the work by Haynie (2001). Much like the current study, Haynie argued that more popular and centrally located adolescents in the peer network and those in denser networks were more likely than others to act in ways supported by the group. Using a large sample of American adolescents, she found that adolescents with these network characteristics were most delinquent when their network was more highly delinquent. Therefore, respondents were most likely to match their behavior to that of the network when the network showed support for delinquency and when the individual had stronger positioning. Haynie's study lends strong support for the constraining effect of positional benefits. However, the positional measures used in her study to index peer group relations were based on possessing connections to others without accounting for the content of those relationships. This is a limitation of strict positional measures in general. That is, by using sociometric measures that index the extent to which a person is embedded in their network (popularity, centrality, density), it can only be *assumed* that benefits are derived from the group through connections to others since these measures do not get at the features of relations that actually produce benefits for group members.

It is conceivable that a person could have many connections to socially powerful peers while deriving little benefit from the group.

Experienced social benefits

To expand upon previous work on the behavioral constraints of social benefits towards delinquency, we consider the effects of experienced benefits beyond the effects of positional benefits. Very broadly, experienced benefits are things that the social network can do for an individual that they subjectively interpret as something that is valuable. For example, members of the peer group might help a person solve a problem or provide them with positive reinforcement. This differs from the positional benefits perspective which, despite theoretical arguments regarding the advantages of popularity, centrality, and density (Wasserman & Faust, 1994) does not generally measure these benefits in a direct way.⁸ We can examine peer group constraints of benefits independently of structural position by asking a person about aspects of the network that have a more explicit bearing on their experiences of group-based benefits. But there are a virtually infinite number of specific ways that an adolescent can experience benefits from the peer group (e.g., help with school work, sexual partners). As such, it may be best to focus on *general* categories of benefits that are unequivocally experiential. Spending time with friends outside of school might be the simplest approach to measuring experienced social benefits. While adolescents generally have no choice but to attend school,⁹ spending time with friends outside of school hours is likely to reflect a personal choice to associate with people who they enjoy spending time with. As such, it is likely to indicate that the person derives some personal benefit from their associations with these people (e.g., Newcomb & Bagwell, 1995 found that friends had significantly more social contact than non-friends). Some previous work has made use of time with

⁸ Though valued sociometric data has the potential to do so as it can be used to index the strength of ties within a sociometric data set. This is essentially what is done in this study by using the send-network to measure experienced social benefits.

⁹ Even those students who are beyond the age at which they are required to attend school are generally pressured into completing high school.

peers as a form of benefits (e.g., Rebellon, 2006 used time with peers as a measure of rewards in his study examining the reciprocal effects of delinquency and social rewards).

Additionally, research has shown that talking with peers is linked to closer interpersonal relationships (Camarena, Sarigiani, & Petersen, 1990; Newcomb & Bagwell, 1995). It is therefore likely that talking with friends is a way to cultivate relationships that benefit the individuals involved more so than relationships in which there is less communication and sharing. When relationships are close, adolescents are likely to look out for each other and do things for each other. We suggest that adolescents who have more friends that they can talk with about problems and outside of school time will benefit from their relationships more than others.

These forms of experienced social benefits (spending time with friends, talking with friends) may act as constraints on behavior if adolescents value them enough to fear their loss. If this is the case, then they are likely to act in ways that prevent the loss of these benefits. When the peer group more strongly supports delinquent behavior, these constraints are likely to act in the direction of delinquency.

Current Study

To summarize, this study tests whether accessing greater levels of both positional and experienced benefits from the peer group can act to constrain behaviors which result in delinquency when the group is more highly delinquent. Therefore, the main concern of the study is to examine how these various conceptions of social benefits interact with group delinquency in its effect on delinquent behavior. The overarching hypothesis is that when the group provides greater social benefits and is more highly delinquent, the likelihood of individuals being involved in delinquency will be at its peak.

Data and Methods

This study uses data from the National Longitudinal Study of Adolescent Health (Add Health), a nationally representative sample of American students in grades 7-12 at

the first wave of data collection (1994-1995). There have been multiple follow-up periods with the most recent data collection occurring in 2007-2008 when the sample was between 24 and 32 years of age (Harris, et al., 2009). The first data collection point was a large scale sample of students in schools (n = 90,118) conducted between September 1994 and April 1995. The second point was the first of the more extensive In-Home surveys (n = 20,745) conducted between April and December 1995. These participants were drawn from the pool of students who were eligible to participate in the In-School survey. A total of 15,355 students participated at both of these collection points and 14,411 were given valid sample weights. A total of 14,320 cases were used in the analysis.¹⁰ For this analysis, independent variables were drawn from the In-School survey (T1), and outcomes from the first In-Home survey (T2). Add Health sampled 80 high schools stratified by region, urbanicity, school size, type, and ethnic composition to ensure representativeness of the greater U.S. high school population. To be eligible, high schools must have had more than 30 students and included an 11th grade. Over 70% of sampled schools participated and refusals were replaced by another school within the stratum. An additional sampling feature of Add Health was the inclusion of a feeder school for the sampled high schools. These were schools that had a 7th grade and from which at least five graduates went to the sampled high school (no feeder schools were sampled for high schools that included students in grades 7 through 12).

¹⁰ These were the cases with valid scores on the key sociodemographic indicators (age, sex, race). Missing values on the other variables were imputed using chained equations which were averaged over 100 iterations. Approximately 1% of the sample had imputed values for the delinquency scale. A number of the main independent variables had over 5% of cases with imputed values. For popularity, centrality, and density, 6.6% of the final sample of 14,320 had imputed values while 10.1% were imputed for density, and 22.9% for peer delinquency. Imputing did not change the distributional properties for any variable (very similar means, skew, and kurtosis between the imputed and unimputed versions).

Dependent Variable

The outcome variable in this study was a measure of *general delinquency*.¹¹ It was drawn from the first In-Home sample (T2). This commonly used scale was comprised of 14 property crime, violent crime, or drug selling acts in the past year (see, for example, Haynie, 2001, 2002). These acts included graffiti, damaging property, shoplifting, stealing something worth less than \$50, stealing something worth \$50 or more, burglary, borrowing a car without the owner's permission, selling drugs, physical fighting, causing serious injury to someone, using/threatening to use a weapon, participating in a group fight, pulling a knife/gun on someone, or shooting/stabbing someone ($\alpha = 0.850$). Each of these items were first coded into 0 = no involvement in the past year, 1 = engaged in the act at least once. These dichotomous indicators were then summed to create a variety index ranging from 0 to 14 that counts the number of different acts a person participated in during the past year (mean = 1.80).¹²

Table 3.1. Descriptives

	Mean	SD	Min	Max
Dependent variable:				
Delinquency	1.80	2.35	0	14
Positional benefits:				
Density	0.30	0.14	0.06	1
Popularity	4.37	3.53	0	32
Bonacich centrality	0.80	0.63	0	4.29
Reach in 3 steps	55.54	46.08	0	270
Experienced benefits:				
Spend time with friends	6.66	5.77	0	30

¹¹ Additionally, alcohol use, cannabis use, and violence were tested separately. The results were substantively similar to those found for general delinquency. For this reason, we chose to present only the general delinquency results.

¹² Since this scale considers stealing something worth less than \$50 to be as delinquent as shooting someone, we considered item-response theory scaling. This approach differentially weights the individual items in a scale according to their rarity (in this case, this essentially equates to the severity of the act). Doing so resulted in Spearman correlations with the raw delinquency scale of 0.955 for the Bayesian version and 0.994 for the maximum likelihood version of the item-response scale. Given such high rank correlations, we decided to use the simpler raw form of the delinquency scale.

Talk with friends about problems	2.91	2.77	0	10
Talk with friends on the phone	3.13	2.68	0	10
Controls:				
Peer delinquency	3.76	3.01	0	24
Proportion male	0.45	0.27	0	1
School problems	6.39	4.41	0	16
Lack of club involvement	0.16	0.37	0	1
Attachment to parents	4.71	0.62	1	5.04
Age	15.04	1.70	10	19
Male	0.48	0.50	0	1
White	0.50	0.50	0	1
SES	6.15	2.56	0	10
Grades	2.65	0.42	1	4

n=14320

Independent Variables

All independent variables were drawn from the In-School survey (T1).

Positional benefits.

Like Haynie (2001), we used *density*, *popularity*, and *Bonacich centrality* as sociometric independent variables. Density measures the ratio of the number of ties present in a network to the number of pairs in that network. In other words, it is a measure of the proportion of all possible connections in a network that are actually made. Networks in which the majority of people are friends with each other are highly dense (cohesive) networks. In this study, 30% of all possible ties are made in the average friendship network (using the send- and receive-network). Popularity is the number of friendship nominations a person receives from others (also called in-degree; mean = 4.37). Bonacich centrality indexes a person's connectivity as weighted by the connectivity of their peers (Bonacich, 1987). It measures how connected to socially powerful others a person is and therefore indicates how socially powerful the individual is through their connection to prominent others (*B* set to 0.1). People with higher Bonacich centrality scores are therefore those who have more friends who are

themselves highly connected (mean = 0.80). Unlike Haynie (2001), we also included *reach in three steps* as another measure of centrality. This is a more straightforward measure of centrality than Bonacich centrality¹³ as it indicates how many others a person can reach within three ties.¹⁴ Those who can reach a greater number of people within a small number of steps are thought to be more centrally located and thus visible (prominent) in their network than individuals who can only reach a small number of people (mean = 55.54).

Experienced benefits.

We examined three measures of experienced benefits: *spending time with friends*, *talking with friends about problems*, and *talking with friends on the phone*. Spending time with friends was coded from three different sets of questions in which students were asked how many of their nominated friends they spent time with after school in the past 7 days, spent time with last weekend, and went to their house in the past 7 days ($\alpha = 0.831$). Each student could indicate that they did any of these with a total of ten friends (five male and five female). The number of friends that they indicated doing any of these things with were summed into a scale ranging from 0 to 30 (mean = 6.66). A similar process was done for the talking with friends items. Students were asked to indicate how many friends they talked with about a problem in the last 7 days (mean = 2.91) and how many friends they talked with on the phone (mean = 3.13). We decided to examine these items separately as they may get at different aspects of social benefits. Talking on the phone may signify a certain level of comfort with peers, but talking about problems might indicate an even greater degree of friendship intimacy.

¹³ While Bonacich centrality is often considered the best measure of network social status, the combination of multiple concepts makes precise interpretation less intuitive. For example, there is no easy answer to the question of who has greater social status: a person with two highly connected friends or a person with five poorly/moderately connected friends.

¹⁴ For example, consider the network connections A-B-C-D-E. Person A can reach persons B, C, and D within three steps, but not person E as they are four steps away

Peer delinquency.

Following previous work examining the influence of peer delinquency using Add Health (Haynie, 2001, 2002; McGloin & Shermer, 2009), the measure of *peer delinquency* used in this study was drawn from self-reports of minor delinquent behavior by those individuals nominated by respondents as friends. By using the peer's own reported behaviors, the potential bias introduced by asking respondents to estimate the delinquent involvement of their friends is limited. Similar to McGloin and Shermer (2009), the peer delinquency measure is based on the send-network. By using the send-network, we make the assumption that peer group effects are most salient among peers perceived to be friends regardless of whether that friendship is actually reciprocated. Four items that were found to scale well were summed to create the measure (e.g., drinking beer/wine/liquor, getting drunk, smoking cigarettes, skipping school in the past 12 months) ($\alpha = 0.831$) (mean = 3.76).

To ensure that what we interpret as group support for delinquency as indicated by the level of peer delinquency is not confounded by the gender composition of the peer group, we control for the *proportion of the group that is male*. From the friendship nominations, the number of nominated male friends was divided by the total number of nominated friends resulting in a variable in which a score of zero indicates that there were no males in the peer group and a score of one indicates that all members of the group were male (mean = 0.45).

A four item measure of *school problems* was controlled by creating a variable in which responses to the following questions were summed: Since school started this year, how often have you had trouble: a) getting along with your teachers? b) paying attention in school? c) getting your homework done? d) getting along with other students? (all coded 0 = never to 4 = everyday) ($\alpha = 0.840$) (mean = 6.39).¹⁵

¹⁵ Since the In-School survey did not include items useful for measuring self-control, we used the school problems items to index a behavioral manifestation of low self-control.

We also controlled for *lack of club involvement* by including an item in which participants responded affirmatively if they “do not participate in any clubs, organizations, or teams at school” (0 = involved in at least one club/organization/team, 1 = not involved in any club/organization/team) (mean = 0.16). This is used as a proxy for delinquent opportunities. The rationale here is that adolescents who are not involved in any of these activities will have more opportunities to engage in delinquency (see Osgood, et al., 1996). While this is likely to account for much of the variance associated with delinquent opportunities, it is an imperfect proxy as it does not account for organized activities outside of the school.

To account for the fact that adolescents can benefit from family relationships as well as the peer group, we controlled for *attachment to parents*. This variable was created from items in which respondents were asked how much their mother/father cares about them (1 = not at all to 5 = very much). The mean score across parents (or for the only parent in the case of single parent families) was taken (mean = 4.71).

A measure of *socio-economic status* (SES) was created that indexed parental education and occupational status (mean = 6.15). The parent with the highest score was used. For single parent families, the SES score was based on the responses for that parent alone. *Grades* was measured by taking the average score across English, history/social science, science, and mathematics (1 = D to 4 = A). If a student did not take a particular subject, their score was based on subjects they did take (mean = 2.65). Finally, *age* (mean = 15.04), *race* (0 = not white, 1 = *white*; mean = 0.50), and *sex* (0 = female, 1 = *male*; mean = 0.48) were also controlled.

Analytical Methods

We started by running regression models testing the relationship between general delinquency and each of the social benefits by peer delinquency interactions individually. The interaction variables were created by first standardizing and then multiplying the social benefits and peer delinquency variables (Aiken & West, 1991). In fact, all non-dichotomous independent variables were entered into the regression analysis in standardized form to ease interpretation. Next, we provide a more robust test of the benefits by peer delinquency interactions by including all significant interactions in

the same model. Then we examined the factor structure of the social benefits variables to see if any useful scales could be created. The final set of models test the benefits by peer delinquency interaction using the scales suggested by the factor analysis. This combination of models should clearly show which types of benefits are most important in forming behavioral constraints that lead to delinquency when the peer group is delinquent. All multivariate analyses consist of random intercept Poisson models using the *gllamm* protocol in Stata with a log link (Rabe-Hesketh, Pickles, & Skrondal, 2004). Random intercepts were specified to account for the school-based clustering. Sample weights were employed to ensure representativeness of the greater American school population (Chantala, 2006). Multicollinearity was not found to be a problem.¹⁶

Results

Table 3.2 provides the initial test of the constraining effects of the various forms of social benefits towards delinquency. In this table, each coefficient represents the interaction between the specified benefit and peer delinquency from separate regression models (with control variables included but not reported). The most notable finding is that only positional benefits appear to result in delinquent behavior when the peer group is more delinquent. None of the interactions involving experienced benefits reach significance. Of the positional benefits interactions, the two centrality measures are most strongly related to delinquency. When adolescents have more friends who are themselves highly connected (Bonacich centrality), they are most likely to engage in delinquent behavior when their peer group more strongly supports delinquency ($b = 0.060$). Therefore, the benefits of having socially powerful peers may be valued highly enough that adolescents are unwilling to risk jeopardizing these relationships by going

¹⁶ Though we did examine whether we could include interactions using the individual benefits variables and the scaled benefits variables in the same model but these were highly collinear. Separating the models using the individual benefits variables and the scaled benefits variables avoids this problem.

against the norms of the peer group. When this peer group supports delinquency, the result is an increased likelihood of engaging in delinquent behavior.

Figure 3.1 provides greater insight into the nature of this interaction.¹⁷ It shows that for adolescents with low levels of Bonacich centrality (i.e., those who connect with few friends who tend to have little social status), the delinquency of the peer group has little bearing on their own delinquent behavior. That is, the behavior of their peer group has a minimal effect on their delinquent involvement when the individual cannot access much social power from their peers. But when we look at adolescents with increasingly high levels of Bonacich centrality, the delinquency of their peers is more strongly related to their own delinquency. In other words, we have strong evidence for the fact that Bonacich centrality is a social benefit that constrains adolescent behaviors towards delinquency when the peer group is more heavily involved in delinquent behavior.

¹⁷ To create the interaction plots, the specified social benefits variables were first recoded into low (≤ 1 standard deviation below the mean), medium (between ± 1 SD), and high levels of social benefits (≥ 1 SD above the mean). The categorical social benefits variables were then entered into supplementary survey-corrected Poisson models (using the *svyset* family of commands in Stata) in interaction with peer delinquency (regression results not shown). The relationship between peer delinquency and the delinquent outcomes were then plotted at each level of social benefits (holding all other independent variables at their mean).

Table 3.2. Interactions Between Individual Social Benefits and Peer Delinquency on General Delinquency – Random Intercept Poisson Models

	b	SE
Peer delinquency interaction with:		
Positional benefits:		
Density	0.008	0.009
Popularity	0.016+	0.010
Bonacich	0.060**	0.015
Reach in 3 steps	0.061**	0.015
Experienced benefits:		
Spend time with friends	-0.004	0.010
Talk with friends about problems	0.001	0.013
Talk with friends on the phone	-0.006	0.011

Note: Each coefficient corresponds with a separate regression model that controls for the non-interaction component variable listed, peer delinquency, proportion male, school problems, lack of club involvement, attachment to parents, age, male, white, SES, and grades.

** p<0.01, * p<0.05, + p<0.1

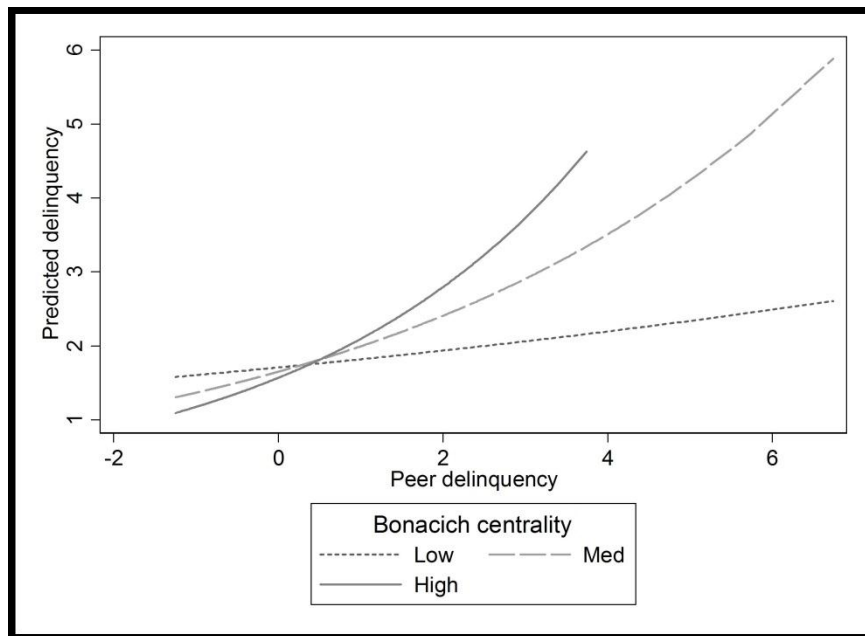


Figure 3.1. Predicted Relationship Between Delinquency and Peer Delinquency at Low, Medium, and High Levels of Bonacich Centrality

Table 3.2 also shows that the interaction between peer delinquency and reach in three steps is significantly related to delinquency ($b = 0.061$). Plotting this interaction (see figure 3.2) shows that peer delinquency has a stronger effect on personal

delinquency at higher levels of centrality. That is, when the adolescent can connect to greater numbers of people within three links (i.e., are more centrally located in the network), the adolescent is more likely to engage in delinquent behavior when the peer group is more highly delinquent. The biggest distinction here is between the low reach group and the other two groups (medium and high reach). The regression plot shows that reach in three steps constrains behaviors to delinquency similarly for the medium and high reach groups but these constraints are substantially weaker for the low reach group.

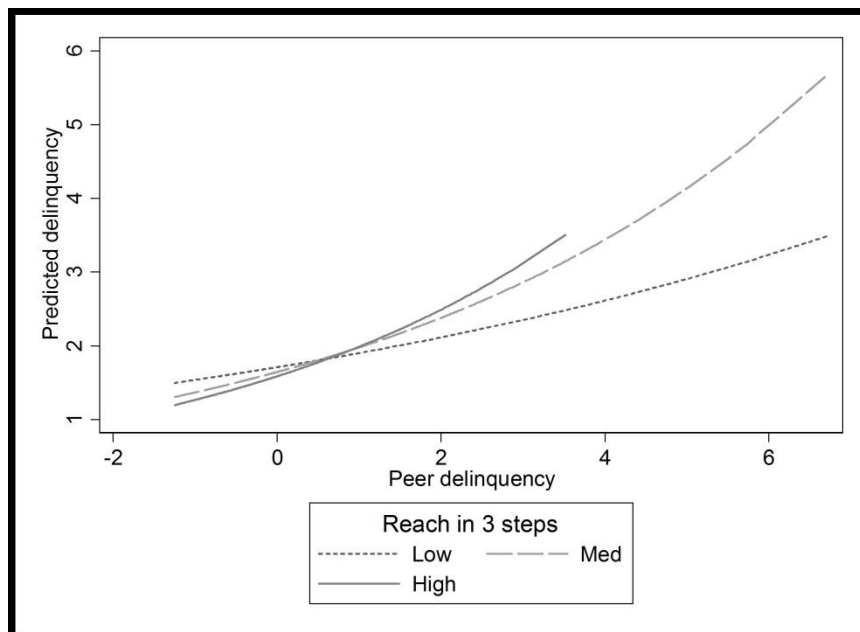


Figure 3.2. Predicted Relationship Between Delinquency and Peer Delinquency at Low, Medium, and High Levels of Reach In 3 Steps

The final significant variable in table 3.2 is the interaction between peer delinquency and popularity ($b = 0.016$). This coefficient is only marginally significant ($p < 0.1$). However, when entering all significant social benefit interactions into the same model (Bonacich centrality, reach in three steps, popularity), popularity becomes nonsignificant (see table 3.3). As such, there is evidence that the behavioral constraints associated with peer-group derived social benefits are not only purely positional, but are also carried by the centrality measures. Higher levels of peer delinquency in combination with both Bonacich centrality ($b = 0.038$) and reach in three steps ($b = 0.036$) are related

to increased levels of personal delinquency. Therefore, it appears that the greatest benefit that adolescents derive from their peer group is the social status that comes with being in the center of the peer group (a position that is likely to indicate being known by, and visible to, many others) and having high status friends. These are the benefits that adolescents appear to be most likely to fear losing and therefore result in adolescents abiding by the normative behaviors of the peer group.

Table 3.3. Random Intercept Poisson Model Predicting General Delinquency from the Significant Social Benefits by Peer Delinquency Interactions

	b	SE
Interactions:		
Popularity by peer delinquency	-0.007	0.011
Bonacich by peer delinquency	0.038*	0.018
Reach in 3 steps by peer delinquency	0.036*	0.018
Popularity	0.068**	0.018
Bonacich	-0.060**	0.019
Reach in 3 steps	0.023	0.020
Peer delinquency	0.185**	0.016
Proportion male	-0.031*	0.012
School problems	0.103**	0.017
Lack of club involvement	0.096*	0.038
Attachment to parents	-0.120**	0.013
Age	-0.118**	0.015
Male	0.499**	0.030
White	-0.194**	0.027
SES	0.020	0.014
Grades	-0.099**	0.014
Intercept	0.306**	0.027
SD of random intercept	0.135**	0.003
n	14320	
BIC	6.01x107	

** p<0.01, * p<0.05, + p<0.1

To assess whether some of the benefits measures are tapping into the same underlying concept, a factor analysis was conducted (table 3.4). Of the positional variables, Bonacich centrality and reach in three steps appear to be related constructs. This is not entirely surprising since they both measure forms of network centrality.

Density and popularity, however, are distinct network measures. The three experienced social benefits variables also scale well: spending time with friends, talking with friends about problems, and talking with friends on the phone. These all index forms of peer contact. Two scales as indicated by the factor analysis were created. The positional benefits scale was created by summing the standardized versions of Bonacich centrality and reach in three steps ($\alpha = 0.806$). The experienced benefits scale was created by summing the standardized versions of spending time with friends, talking with friends about problems, and talking with friends on the phone ($\alpha = 0.814$).

Table 3.4. Factor Analysis of Social Benefits Items

	Factor 1	Factor 2	Factor 3
Positional benefits:			
Density			1.002
Popularity			
Bonacich centrality		1.017	
Reach in 3 steps		0.581	
Experienced benefits:			
Spend time with friends	0.761		
Talk with friends about problems	0.671		
Talk with friends on the phone	0.874		
Eigenvalue	1.463	1.499	1.613

Note: Factor loadings under 0.3 omitted. Maximum likelihood factor analysis with an oblique rotation.

Table 3.5 displays the results when these scales are entered into regression models. Where none of the peer delinquency by experienced benefits interactions were significantly related to delinquency when examining the individual experienced benefits variables, it may be that a more sophisticated measure might better reflect benefits than any of its components. If this is the case, the interaction between peer delinquency and the experienced benefits scale might constrain behaviors even though there is no evidence for any of its components doing so. What we see in table 3.5 is that this is not the case. The peer delinquency by experienced benefits scale interaction is not significantly related to delinquency ($b = -0.008$). This adds to the strength of the interpretation that behavioral constraints stemming from social benefits and leading to

delinquency is carried by a person's position in the network as opposed to benefits that are more experiential in nature. The interaction between peer delinquency and the positional benefits scale is significantly related to personal delinquency ($b = 0.068$). This is expected given that both components of this scale (Bonacich centrality and reach in three steps) are independent predictors of delinquency (when moderated by peer delinquency). Figure 3.3 confirms that the delinquent influence of peers on individual delinquency is strongest among those with the highest levels of positional benefits (in this case, with the greatest centrality scores), though medium and high levels of positional benefits are similar in their constraining effect while low levels of positional benefits offer little in the way of behavioral constraint.

Table 3.5. Random Intercept Poisson Model Predicting General Delinquency from the Social Benefits Scales by Peer Delinquency Interactions

	b	SE	b	SE
Interactions:				
Positional benefits by peer delinquency	0.068**	0.016	-	-
Experienced benefits by peer delinquency	-	-	-0.008	0.012
Positional benefits	-0.011	0.015	-	-
Experienced benefits	-	-	0.187**	0.013
Peer delinquency	0.188**	0.016	0.149**	0.018
Proportion male	-0.034**	0.012	-0.071**	0.014
School problems	0.104**	0.017	0.109**	0.016
Lack of club involvement	0.082*	0.039	0.109**	0.039
Attachment to parents	-0.120**	0.013	-0.117**	0.013
Age	-0.122**	0.014	-0.132**	0.015
Male	0.500**	0.031	0.595**	0.032
White	-0.177**	0.026	-0.222**	0.025
SES	0.025+	0.014	-0.000	0.014
Grades	-0.096**	0.015	-0.102**	0.014
Intercept	0.317**	0.027	0.268**	0.028
SD of random intercept	0.126**	0.003	0.133**	0.003
BIC	6.03x10 ⁷		5.95x10 ⁷	

Note: n=14320.

** p<0.01, * p<0.05, + p<0.1

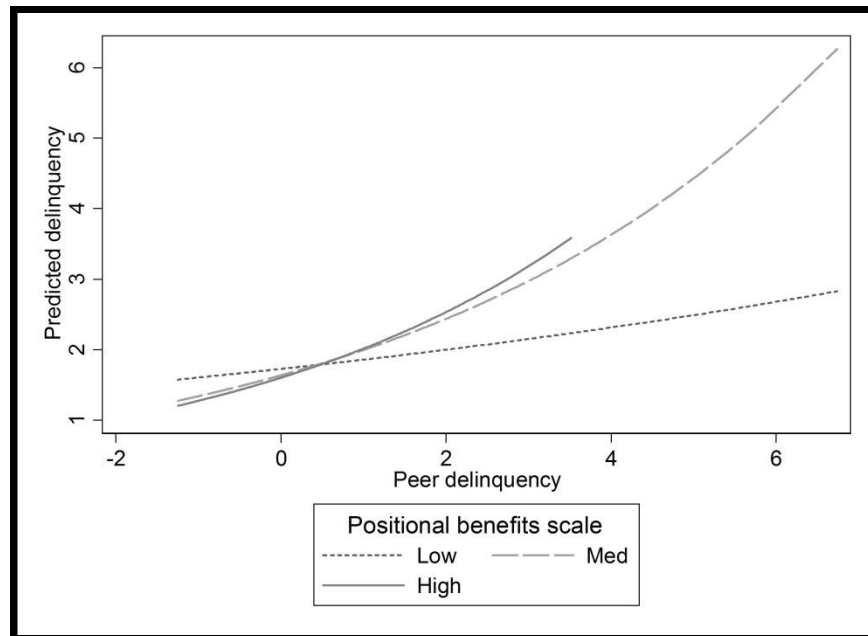


Figure 3.3. Predicted Relationship Between Delinquency and Peer Delinquency at Low, Medium, and High Levels of the Positional Benefits Scale

Examining the main (non-interaction) effects, table 3.3 shows that adolescents with higher levels of popularity ($b = 0.068$) tend to be more involved in delinquent behavior than others. But at the same time, adolescents with *lower* levels of Bonacich centrality are likely to be more delinquent ($b = -0.060$). The relationship between popularity and delinquency echoes the fact that a great deal of adolescent offending is done with co-offenders (Warr, 1996, 2002). Socially isolated adolescents may not be very involved in delinquent behavior but those with a greater number of friends are likely to have a larger pool of potential co-offenders to draw from or to be drawn by. However, this appears to operate differently for the highest status adolescents. Those who have higher levels of Bonacich centrality are likely to be more visible and well-known than others and as such their behaviors are likely to be more closely scrutinized. Therefore, adolescents with higher levels of Bonacich centrality tend to be more constrained to non-delinquent behavior. Though it is clear that the nature of the group is a key consideration since we have seen that when a person is centrally located in a *delinquent group*, they are likely to be more delinquent themselves.

Table 3.5 shows that experienced benefits have a positive relationship with delinquency ($b = 0.187$) when not in interaction with peer delinquency. Like the

association between popularity and delinquency discussed above, this speaks to the social nature of adolescent delinquency. Those adolescents who experience greater social benefits are adolescents who have closer friendships with people who they spend more time with. This may increase the number of opportunities for delinquency which, according to Osgood et al. (1996), is all that is needed to generate delinquent behavior.

Importantly, it appears to be the case that the constraining effect of social benefits and peer delinquency cannot be attributed to opportunities (since a proxy measure of delinquent opportunities was controlled) or to the gender composition of the peer group. Nor is it the case that social benefits is endogenous to school problems (i.e., variability in social benefits is not strictly determined by the extent to which a person has problems in school) since school problems, a self-control proxy, was included in the models. Across the various models, adolescents who associate with greater numbers of delinquents, have more school problems, are not involved in organized clubs, have less attachment to parents, are younger, male, not white, and achieve lower grades but who associate with greater proportions of females are likely to be more heavily involved in delinquency than others.

Discussion

The results of this study show the importance of social benefits provided by the peer group in establishing the context under which offending behavior occurs. We approach this in a more comprehensive way than has been done before. By including both positional and experienced social benefits, we sought to determine whether it is the power and social status that comes with positional benefits that most effectively establishes behavioral constraints leading to delinquency or more concrete experiences of benefitting from the network (e.g., spending time and talking with friends) that lead to feelings of constraint. This focus parallels the work of Lin (1999) who noted that both mobilized and accessed forms of social capital improved status attainment outcomes. Like accessed and mobilized social capital, positional and experienced social benefits are likely to be complementary. Those with greater positional benefits are also more likely to experience social benefits in various ways. But the focus of this study was to determine whether these forms of social benefits perform similarly in their capacity to

establish behavioral constraints. In doing so, we confirm that approaches to studying the influence of peers on delinquent behavior that rely simply on counting the number of peers that are delinquent may be overly simplistic. Where Sutherland had a keen sense for the importance of context,¹⁸ this has mostly been lost on researchers examining differential association effects who tend to view peer influence as a unitary phenomenon. By ignoring the benefits provided by the peer group, researchers must make the assumption that the context of the peer group is similar for all adolescents. This is likely to mask variations in the effect of peers on delinquency. By drawing on the work of Hechter (1987) to develop a social benefits framework, we find that it is important to account for the degree to which adolescents benefit from their relationships to the peer group. What we find is that adolescents' level of delinquency was dependent upon the extent to which they get something that is valued from their relationship to the peer group. Adolescents are more likely to adhere to the norms of the peer group when it seems like the group is acting in their favor (regardless of whether or not the individual actually achieves greater returns because of the group). Therefore, when the group supports delinquency, adolescents are more likely to engage in delinquent behaviors if they risk losing their social benefits by not doing so. While a person has a choice to engage in delinquent behavior or not in any given situation, these dynamics are thought to increase the odds that they will choose the delinquent option. Social networks take time to form and adolescents are likely to be keenly aware that they are dependent upon their school-based network for group interaction and accessing the benefits provided by peer groups (since schools are the primary venue for friendship maintenance – see Warr, 2002). Therefore, by not acting in ways supported by the group, adolescents may be jeopardizing their access to the social status and power that comes with occupying a central position in the network.

But not all forms of social benefits appear to be equally valued and the idea of substitutability may play a key role here. The results clearly show that positional

¹⁸ As Birkbeck and Lafree (1993) note, "Sutherland even felt that a situational explanation could be "a superior" crime explanation" when compared with other approaches" (p. 114).

measures play a more important role in establishing behavioral constraints than experienced social benefits. It may be that finding peers to spend time with and to talk to (experienced benefits) is not particularly difficult for most adolescents in school. In essence, the peers that fill this role may be substitutable. If an adolescent knows that they can find others to spend time with and talk to, then risking relationships by not acting in ways supported the group may be more palatable and thus the behavioral constraints of the peer group are likely to be weak or nonexistent.

However, positional benefits cannot be substituted like experienced benefits can. Positional benefits are a product of a person's pattern of relationships to the other members of the group. Adolescents would have a much more difficult time manipulating their position relative to the rest of the network than they would have finding others to spend time with or call on the phone. This is because a person's position in the network is based on their history of social competence within the group from the time of their first contact with members of the network. Social status (from a sociometric perspective) is a limited commodity in any network and, as such, some people will have more friends than others and some people will be located in the center while others are at the periphery. Since positional benefits equate to social status and power (Hanneman & Riddle, 2011; Wasserman & Faust, 1994) and cannot be exchanged in the same way that experienced benefits can, positional benefits may be more highly valued since the loss of these benefits may be very difficult to retrieve. But it is not any form of positional strength that acts to constrain behavior; it is centrality specifically that plays the strongest role in limiting behavior to delinquency under conditions of associating with delinquent peers. This may be due to the fact that people can have a fairly large number of friends (popular) and be a member of a dense (cohesive) network that is relatively isolated from the broader network. In such a situation, these adolescents may not be very visible by the rest of the school network and therefore do not possess much in the way of social status or power (despite possibly quite high levels of popularity within their clique – a “big fish in a small pond” type of scenario). As such, they may gain little from their relationships which minimizes the constraints they feel to engage in specific peer supported behaviors. But centrality measures get at the bigger picture. Even a person with many friends will not be able to reach a great number of others if they are located in a peripheral clique. Nor are they likely to be connected to others who are highly

connected. The adolescents who do reach large numbers of others and who are friends with the most socially powerful peers are those in the middle of the overall network and these are the people who have the highest levels of social status. Given the desirability of their situation, adolescents are unlikely to do anything to jeopardize it. If this means engaging in delinquent behavior, they are more likely to do so; much more so than people who spend time with friends and talk with friends without being in the center of the network.

It should be noted that there are differences in the constraining effects of some of the positional variables between the results of this study and the results of Haynie (2001). Where Haynie found there to be significant interactions between peer delinquency and popularity, Bonacich centrality, and density, we found only the interaction with Bonacich centrality to maintain significance throughout. This is likely to be due to differences in the peer delinquency measure. Haynie used the self-reported delinquency of the send- and receive-network while we chose to follow the lead of McGloin and Shermer (2009) and used the send-network. The reason for this is because the behavior of the people perceived to be friends are likely to have more of an effect on individual behavior than the acts of people who list the respondent as a friend but who the respondent does not reciprocate the friendship with. Also, Haynie (2001) included two other items (did dangerous things on a dare; raced vehicles) that were not included in the current study as the strongest scale using the send-network delinquency items were found to exclude these.

Importantly, these findings cannot be explained away by other criminological correlates. The multivariate analysis shows that there are significant interaction effects on delinquency between social benefits and peer delinquency even when controlling for socio-demographics and other important variables (e.g., proxies for self-control and delinquent opportunities).

Overall, this study provides support for the work of Hechter (1987). He argued that a person is likely to behave in ways supported by the group to the extent that they have something to lose by going against the norms of the peer group. However, Hechter's work has received little attention in criminology. We show that his theory provides a simple, useful way to explain context-specific peer influence effects. Future

work should consider other applications of this framework. For example, it might be particularly applicable to heavy drug using subcultures. People in these groups may associate predominantly with others who are also group members. They may also be ostracized by more conventional individuals and groups. In such cases, their only access to the social status and power that comes with being centrally located in a network may be from their membership in the group at the expense of any outside sources. Therefore, the possibility of giving up access to their sole source of social status might act to prevent them from leaving the group. In this way, social benefits might play less of a role in enforcing deviant behavior than it does in preventing desistance. Desistance might only be possible (or at least most likely) when another source of social benefits appears that can act as a replacement for the benefits that they are giving up by leaving the drug subculture.

Another avenue for future research concerns conflicting group norms. Many adolescents associate with more than one group (e.g., school friends, extracurricular groups). What happens when an individual encounters conflicting group norms from their membership in multiple groups? If one peer group encourages delinquency while another group does not, do the norms of the group that provide more benefits necessarily trump the norms of other groups? It may be that the influence is more situational. Adolescents may be more likely to engage in delinquency when they are associating with a group that supports delinquency but avoid doing so when they are associating with groups that do not, though this is likely to depend upon the levels of social benefits provided by each group. In short, future work should expand this analysis of context-specific effects to account for a more diverse set of situations and group pressures.

This study is subject to a number of limitations. Potentially the most important one is that we cannot be sure that accessing social benefits creates a situation where the individual fears losing those advantages. While it seems unlikely, it may be that some centrally positioned adolescents are unconcerned about maintaining access to social status. A more direct assessment of this fear component which could be integrated into the analysis could be to ask respondents "If something were to happen that caused your friends to stop talking to you, how painful would that be to you?" (1 = not at all painful to 5 = very painful). Further, there are other ways in which an

adolescent might benefit from their membership in a peer group. In fact, there are innumerable specific ways in which this might occur. Adolescents might benefit by receiving help with school work, sexual partners, a good reputation, accessing people to buy alcohol, etc. Our broader approach that focuses on more general forms of social benefits is different than focusing on actual, concrete benefits themselves. It is likely that some things exert a more important influence on behavior than others (e.g., the risk of losing access to sexual partners may play a more important role in constraining behaviors than the risk of losing access to people willing to buy alcohol). However, a more specific approach risks making arbitrary decisions regarding which behaviors researchers feel are most likely to act as constraints on adolescent's behaviors. Future work would do well to attempt to systematically determine which social benefits are most important to adolescents and then to assess the effect of these benefits as behavioral constraints.

Conclusion

The premise of this study was that simplistic assessments of the peer influence effect on delinquency are likely to mask the reality under which peers have an effect on adolescent delinquent behavior. We suggested that adolescents are most likely to engage in substance use and violence when the normative behaviors of the group support these behaviors and when the group does something for the adolescent that they particularly value. Importantly, we examined differences in peer group benefits stemming from the social status conferred by occupying certain positions in the network (e.g., being in the center of the network) to more concretely experienced benefits (e.g., spending time with friends). We found strong support for the importance of accounting for the context of delinquent peer influence. Specifically, group contexts in which adolescents receive much benefit from their peer group in terms of social status (i.e., when adolescents are centrally positioned in the network) tend to result in higher levels of delinquent behavior when the peer group supports delinquency.

Chapter 4.

Does the Audience Matter? Situational Network Influences on Delinquency

Criminologists have become increasingly aware that social networks have important consequences for criminal behavior. Early work in this regard showed that much crime involved co-offenders (Shaw & McKay, 1931) and that delinquent peers were responsible for transmitting norms conducive to criminal involvement (Sutherland & Cressey, 1978). Recent work has broadened the scope of network research to examine a wide array of dynamics. These range from showing that adolescents who are more popular and central in the peer group can be pressured into delinquent behavior by groups that support delinquency (Haynie, 2001) to the fact that optimal patterns of relationships can enhance criminal outcomes (Bouchard & Nguyen, 2010; Morselli, 2009; Morselli, et al., 2006) to influences on offending specialization (McGloin & Piquero, 2010) and delinquent friendship selection (Young, 2011). Further, there is growing understanding that both the content and structure of the group has implications for crime and delinquency (e.g., Baker & Faulkner, 1993; Bouchard & Nguyen, 2010; Kreager, et al., 2011; McCarthy, Hagan, & Martin, 2002; Morselli, 2001, 2003, 2009; Morselli, et al., 2006; Nguyen & Bouchard, 2011). However, network researchers have been slow to center their attention on specific situations and the immediate context of offending.

This study adjusts the focus of network analysis to zero in on the immediate criminogenic situation. We specifically argue that the network that is present at a specific time and place is likely to have more of an impact on the behaviors of adolescents than their overall network, a large proportion of which might not be present at any given situation. Therefore, we expect that when the audience changes from one situation to the next in ways that increase support for delinquent behavior, the amount of adolescent delinquency is likely to increase correspondingly.

The relative neglect of situational factors has meant that most criminological work from a network perspective has employed static measures. This requires that a number of assumptions necessarily be made. First, it must be assumed that networks are unchanging entities. By collecting network data at one point in time, we get a snapshot of an individual's or group's pattern of relationships and network characteristics without the ability to address changes that may occur over time. This is not a trivial issue. According to Snijders, Steglich, and Schweinberger (2007), "networks are not static but evolve over time. Friendship ties form and dissolve again over the life course, trade relations between business partners typically cover only a limited time period – indeed, change over time occurs naturally for most social relations" (p. 41). It is therefore unreasonable to assume that relationship patterns remain stable over any extended period of time.

Second, it must be assumed that the influence of the network on behaviors is the same across the various situations in which opportunities for delinquent behavior arise. Network studies using sociometric data tends to be collected by asking respondents to identify their friends and then patterns of relationships are mapped while other peer influence studies generally ask respondents to report on the behaviors of their friends. These approaches give a general overview of individual networks. But if the characteristics of an individual's network at a specific point in time are more important for behavioral outcomes than the network in general, traditional sociometric and peer influence studies are incapable of addressing these situational network effects. Since peer networks are highly important to adolescents (Brown, 2004; Warr, 2002), they are likely to be very conscious of the network that is present at any given situation. Those who are not attentive to the situational characteristics of the network risk losing social status by acting in ways that are inappropriate for that situation (e.g., smoking cannabis while associating with friends who do not support it).

It is important to understand that certain forms of delinquent behavior tend to be socially valued among adolescent groups and are likely to result in increases in social status for adolescents who engage in those behaviors. For example, Kreager, Rulison, and Moody (2011) found that alcohol using groups were more popular and central in the broader peer network than other groups. Rebellon and Manasse (2004) showed that delinquents had greater dating success than non-delinquents. Rebellon (2006) found

that delinquency increased adolescents' attractiveness to peers (which in turn spurred delinquency among peers who desire these social benefits for themselves). As such, the support for delinquency offered by the peer group at a specific time and place is likely to be noted by adolescents seeking to maintain or improve their social status. Since the peer group provides a relevant audience for which adolescents perform in ways that they feel will improve their social status, they must have a sense for how the peer group will react to specific acts, particularly if these acts are not universally supported (e.g., alcohol/cannabis use). For this reason, it is important to consider the influence of peer groups in specific situations that are most conducive to delinquency.

Theoretical Perspectives on Audience Effects

There are a number of theoretical approaches to the explanation of audience effects on individual delinquency. Potentially the two most closely aligned with audience effects are differential association and symbolic interactionism. Differential association takes the position that individuals internalize the norms of the people in their social group to the extent that they have frequent, long-lasting, intense, and early contact with these people (Sutherland & Cressey, 1978). These sorts of peer relationships are thought to be particularly influential in terms of shaping the individual's norms and therefore behaviors. As such, when a person is closely associated (in the aforementioned ways) with people who support delinquency, the individual is likely to internalize norms supporting delinquent behavior. The implication is that having a greater number of associates (particularly close associates) who support delinquency makes it increasingly likely that the individual will engage in delinquent behavior.

Symbolic interactionism suggests that people try to take the role of others in an attempt to view themselves, the situation, and behavioral alternatives from the perspective of their peers (e.g., Blumer, 1969; Cooley, 1922; Goffman, 1959; Matsueda, 1992; Mead, 1934). Therefore, when presented with a situation in which delinquent behavior is a possible outcome, the individual is likely to (consciously or unconsciously) ask themselves what they think their peers would want or expect out of them in that situation in an attempt to manage their identity so that they present an image of themselves that their peers are likely to find favorable (Goffman, 1959). Thus, the

audience is important in generating behaviors because people are likely to act in ways congruent with their perception of what is expected or desired of them.

The criminological implications of both theoretical perspectives are the same: the norms of the peer group are expected to translate into individual action such that when the peer group offers greater support for delinquent behavior, the individual is more likely to engage in delinquency. However, a symbolic interactionist perspective also allows for the possibility that even groups that are not particularly delinquent can increase the likelihood of an individual engaging in delinquency. Given evidence that delinquent behaviors can have social value among adolescents (Kreager, et al., 2011; Rebellon, 2006; Rebellon & Manasse, 2004), there may be symbolic incentives to act out regardless of the norms of a specific peer group. That is, because some forms of delinquency generate social rewards (e.g., increased attractiveness to peers - Rebellon, 2006), these benefits may encourage adolescents to engage in delinquent acts even if the peer group is not particularly delinquent if it is known that those specific behaviors tend to be valued by adolescents more broadly. In this case, simply associating with greater numbers of people may provide the incentive needed to engage in substance use.

The major issue is that, while highly applicable, neither explanation has been utilized to any great extent to examine situational differentiation in peer group supports. Differential association usually measures peer group delinquency through an assessment of the delinquency of a person's overall friendship group (either by collecting sociometric data or by asking about perceived delinquent involvement of friends). Symbolic interactionist research has examined the influence of reflected appraisals on delinquency by asking about a person's perceptions of how they feel relevant others see them (e.g., by measuring the extent to which respondents agree with the statement that "parents agree I break rules") and use that to predict delinquency (e.g., Heimer & Matsueda, 1994; Matsueda, 1992). Traditional uses of differential association and symbolic interactionism in criminology have therefore not generally been concerned with how support for delinquency may vary from situation to situation. This is an important gap in the literature since peer groups are very likely to change according to the specific situation. It is to these situational interests that we now turn.

Integrating Situational Analysis

In this study, we propose that integrating a situational approach into network analysis will provide important insights into the influence of peers on delinquency. Birkbeck and LaFree (1993) note that “situational analysis in criminology focuses on the crime-producing effects of physical and social stimuli captured by individuals from the immediate setting” (p. 129). Further, they argue that “to ignore the objective characteristics of situations...is to ignore the fact that apart from the psychological and social characteristics of individuals, situations also vary in terms of their ability to produce crime or deviance” (p. 120). Osgood, Wilson, O'Malley, Bachman, and Johnston (1996) draw on Briar and Piliavin (1965) to suggest that motivation for a particular act is also inherently situational rather than a product of long-standing motives. In this way, Osgood et al. (1996) state that “the easier the deviant act and the greater the symbolic and tangible rewards, the greater the inducement to deviance” (p. 639). Since there does not need to be anything inherently deviant about the individual and symbolic rewards such as peer group reinforcement can act as incentives for delinquent behavior (see also Birkbeck & LaFree, 1993), then merely associating with peers (Osgood, et al., 1996) may be conducive to delinquent behavior by providing an appreciative audience. This is particularly so when the peer group displays greater support for delinquent behavior. For instance, when the peer group present at a party consists of a greater proportion or greater absolute numbers of peers who drink alcohol and smoke marijuana, the situational support provided by the audience for those behaviors are more likely to result in the individual engaging in that behavior themselves. More so than for the same individual at a party in which a lesser proportion of the audience supports substance use.

The distinction between traditional sociometric and perceptual peer influence studies and the current situational network effect examined here is important. Traditional sociometric and perceptual peer influence studies would suggest that the individual is equally likely to engage in substance use in both situations (i.e., parties) since their *overall* network is the same at both points in time. Therefore, the crime-producing effects specific to given situations are lost by studies that only ask who adolescents are friends with without asking about their relationships at times and places when delinquency is

likely to occur. But the arguments here suggest that these two situations, regardless of whether they are a day or a year apart, will present different rewards for the individual: the first situation offers a more supportive audience for substance use than the second situation. We should therefore expect that the likelihood of the person using alcohol or marijuana in the first situation to be greater than in the second situation even if the broader network remains unchanged.

Various aspects of the audience that is present at a given situation may be important in determining delinquent outcomes. There are two broad types of audience effects that are particularly plausible: general audience effects and delinquency support audience effects. The general audience effect refers to characteristics of the group that is present for a criminogenic situation that do not account for the extent to which the group supports delinquency. Within this, there are a number of key subtypes of audience effects: the total number of people present; the number of close friends present; the proportion of those present that a person is close friends with; and the number of opposite sex friends present. Having more people present at a time and place where delinquency is a possibility makes a person's behavioral choice visible to a greater number of people. This may increase the pressure to act in ways that the individual perceives their audience to support. But the total size of the group may not matter at all. It is possible that adolescents are only concerned with acting in ways that they feel their close friends expect and support. In this case, a large total audience would be irrelevant, but having more close friends present in a given situation would be related to acting in ways perceived to be supported by their friends. A related consideration is that maybe it is the proportion of people in attendance that a person is close with that creates the audience effect. An adolescent may perceive minimal audience pressure to act in certain ways when they are associating with five close friends at a party of 100 people, but may experience audience pressure when they are close friends with five people at a party of only ten attendees. It is also possible that being around opposite sex peers plays a key role in determining behavioral outcomes. Opposite sex relations become increasingly important in adolescence. Delinquency may be seen as something that improves opposite sex peer relations (see, for example, Rebellon & Manasse, 2004) and may therefore be most likely when associating with members of the opposite sex.

The other possibility is that the general audience does not matter, but rather it is the support for delinquent behaviors offered by the peer group that is the primary situational determinant of delinquency. This is closer to the traditional differential association dynamics than the general audience effects. From a situational perspective, if the audience that is present at a given situation offers support for a delinquent activity by engaging in it themselves (e.g., more people drinking alcohol and/or smoking cannabis and in larger amounts), then the individual is more likely to read the situational cues stemming from their peers as being supportive of delinquency. In these cases, adolescents may perceive the norms of the peer group in that situation to involve substance use making it likely that the individual will view substance use more positively as a behavioral option.

In sum, this study focuses on situational network effects and how the network present in a given criminogenic situation influences delinquent behavior. To address these research interests, we will take a longitudinal network approach to examine whether changes in the audience and support for delinquency during these delinquent opportunities coincide with changes in delinquent behavior. Relatively few studies have examined longitudinal patterns of network evolution on criminal behavior and, among those that have, the focus has generally been on testing selection versus influence effects (e.g., Baerveldt, et al., 2008; Light & Dishion, 2007; Snijders & Baerveldt, 2003; Snijders, et al., 2007; Weerman, 2011), social ability versus disability models (Smångs, 2010), and criminal network responses to law enforcement pressure (Morselli & Petit, 2007). Therefore, it is evident that in criminology, the analysis of networks is increasingly being expanded to account for longitudinal patterns, but there has been little attempt to extend network analysis to account for situational contingencies. The current study is innovative in that it will assess the situational influence of the audience present and the delinquency support of the peer group at a specific time and place through the implementation of longitudinal methods. This approach will be clarified in the following section, but in brief, we will examine who the respondent attended the past two parties with, plus their delinquency and the delinquency of their friends. This combines both situational and longitudinal methods.

Data

The data set used in this study differs from the current trend in peer influence research towards using sociometric data. By asking respondents about the characteristics of the group that was present at the last two parties they attended, we can derive a form of longitudinal network data at a single collection point. This approach also allows for the collection of network data (network characteristics rather than sociometric data) in criminogenic situations that researchers would generally not have access to and in which sociometric data would be difficult to collect. These network questions were integrated into a larger project examining various aspects of adolescent drug use among students in a large Canadian city. Surveys were distributed in tenth grade life skills courses that address a range of important issues such as careers, financial planning, and health. The survey was used as part of the drug and alcohol use educational component. A follow up/debriefing/education session was conducted in schools that provided the time and space for such sessions. The survey was distributed in six out of the eight high schools in the district (the other two schools declined participation). A total of 829 students mostly in the tenth grade were surveyed (age range = 14 to 19; mean = 15.5). There were between 74 and 226 students surveyed in each school (mean = 138, median = 125). Individual classrooms were surveyed over the course of one to three days in each school between March and May of 2011. At least two researchers were present in each classroom to present and distribute the survey and answer any questions that arose.

Students were asked to indicate their behavior, the behaviors of their friends, and network-relevant questions related to the last two parties they attended where alcohol was consumed by people there. A total of 411 students reported data on 775 parties. This is the sample that was used for the cross-sectional analysis. There were 361 students who provided valid information on their attendance at two parties. This is the sample that was used for the longitudinal change score analysis. Approximately 50% (n = 418) of the total sample had never attended a party where alcohol was consumed. Students from an Asian background were most likely to have reported never attending a party (64% compared to 37% of white students and 38% of students from another background). There were no gender differences in the proportion of students who

reported never having attended a party (~50% for both male and female students). Recall problems for two parties should not be a major issue since those who attend parties frequently will likely have attended them recently whereas they are likely to have been a memorable event for those who have only attended a small number of parties. The longest amount of time from the date of the survey to a party that a respondent reported on was four years. However, most respondents provided data on much more recent parties. The average amount of time elapsed between the survey and party was less than four months with the median time being under two months.

Measures

Dependent Variables

The situational delinquency measures are a) alcohol and b) cannabis use at the last two parties. Alcohol use was measured by asking how many drinks the respondent had at each party. Cannabis use was measured on a 5 point scale asking how high they got at each party (0 = I did not use cannabis, 1 = I used cannabis, but did not get high, 2 = only a little high, 3 = pretty high, 4 = very high). In the cross-sectional analysis, both of these variables were taken in raw form. In the longitudinal change score analysis, the score from the second last party was subtracted from the score from the last party so that a positive score indicates an increase from one party to the next while a negative score indicates a decrease. A dichotomous measure of violence was also included in the survey which asked if the respondent got into a fight at or after the last party, however a preliminary analysis shows that the small number of respondents reporting getting into fights appears to be too small to be able to use this variable. As such, the delinquency measures will be limited to cannabis and alcohol use.

Independent Variables

The situational network characteristics measured both general audience characteristics and delinquency support. Four variables comprise the general audience measures: a) the *total number of people in attendance*, b) the *number of close friends in attendance*, c) the *number of opposite sex close friends in attendance*, and d) the *ratio of*

close friends to total number of people in attendance. The ratio measure was included to determine whether situations in which the respondent is close to a larger proportion of people in attendance has a stronger effect on substance use than situations in which the respondent is not close with a large proportion of the people in attendance. For the delinquency support measures (a more specific type of audience – one that is likely to reinforce delinquent behavior), four measures were included: a) the *number of close friends who i) drank alcohol and ii) used cannabis* and b) the *average amount of i) alcohol and ii) cannabis that close friends used* (number of drinks; how high friends got on the scale detailed above – see appendix 4.1 for the wording of situational network variables). As with the dependent variables, these variables were analyzed in raw form in the cross-sectional analysis and as change scores in the longitudinal analysis by subtracting values given for the second last party from values given for the last party.

Time-Invariant Control Variables

A variety of important criminological correlates were controlled to ensure proper model specification including self-control, unstructured socializing time, and various socio-demographic variables. The *self-control* scale involved a summation of the standardized scores of the following items: a) when you have a problem to solve one of the first things you do is get as many facts about the problem as possible; b) when you are attempting to find a solution to a problem you usually try to think of as many different ways to approach the problem as possible; c) when making decisions you generally use a systematic method for judging and comparing alternatives; d) after carrying out a solution to a problem you usually try to analyze what went right and what went wrong; e) how often do you have trouble paying attention in school in the past year?; f) have you had trouble getting your homework done in the past year?; g) have you had trouble keeping your mind on what you were doing during the past year? ($\alpha = 0.688$). Items a through d were coded 1=strongly disagree to 5=strongly agree; items e and f were coded 0 = every day to 4 = never; item g was coded 0 = most/all of the time to 3 = never or rarely. McGloin and Shermer (2009) did extensive work to show that this measure performs similarly to the traditional self-control scale (see Grasmick, et al., 1993). Higher scores equal higher self-control.

Unstructured socializing was measured through the item “In the course of one week, how often do you go out at night with friends without a parent or other adult present? (0 = never to 6 = everyday/almost everyday). *Socioeconomic status (SES)* was created from items asking respondents if their family owns or rents their residence (0 = family rents apartment, 1 = rents house, 2 = owns apartment, 3 = owns house) and if their family owns a vacation home (0 = no, 1 = yes). Cross-tabulating these variables shows that there is variability across these items but that families that own their home are more likely than renters to own a vacation home. Standardized scores for these variables were summed. *Age*, *gender* (0 = female, 1 = male), and *race* were also controlled. Two race dummies were created to reflect local demographics: *Asian* and *Other race* (white was the reference category).

Analytical Methods

As alluded to earlier, both a cross-sectional and a longitudinal approach to the analysis was undertaken. The cross-sectional analysis was conducted to examine how audience characteristics at a given criminological situation were related to individual delinquency (substance use). For this, we predicted substance use at a party from characteristics of the audience at that party. To do this, we arranged the data set so that each party a person attended was treated as a separate observation. Since we asked about the last two parties that respondents had attended, many respondents contributed two observations to this data set. We accounted for this lack of independence among cases by specifying multilevel models. Specifically, we included random intercepts at both the individual and school levels. Therefore, the modeling approach that was used in the cross-sectional analysis was a set of 3-level Poisson models (parties clustered within individuals clustered within schools).

The longitudinal analysis was conducted through the use of change scores examining simultaneous changes in network characteristics and delinquency across both criminogenic situations (parties). This approach allows us to assess whether changes in potentially criminogenic network characteristics are associated with changes in delinquent behavior. The use of change scores are not without criticism. Two particular criticisms suggest that change scores are less reliable than their component

variables and that they simply reflect the tendency for more extreme scores to return to average levels over time (regression to the mean) (Cronbach & Furby, 1970; Kessler, 1977). However, Allison (1990) examined such issues and determined that the use of change scores is a valid approach. McGloin's (2009) recent peer influence study used change scores as the dependent variable to index within-individual changes in delinquency over time. That study found that adolescents were likely to match their delinquency to that of their best friend to reduce the delinquency gap within the friendship. Following Allison (1990, p. 96), we dropped the time-invariant controls from the change score models. Random intercept linear regressions were used to account for the within-school cluster sampling.¹⁹

Results

Before getting to the multivariate results, it is important to understand the general partying behaviors and network characteristics of the sample. From table 4.1, we see that the typical adolescent drinks moderate amounts at parties (mean = 3.56, SD = 6.34). There are a few reports of impossibly high amounts of alcohol consumption at a party (~4% reported 20 or more drinks, with one person reporting 100 drinks). We decided not to recode these since they did not exert an overly strong influence on the regression results and likely represent genuinely high levels of alcohol use relative to the rest of the sample. In terms of cannabis use at parties, the average respondent reported low levels (mean = 0.53) though slightly over 80% did not use cannabis. Parties tended to be sizable affairs (mean = 32.80 attendants, SD = 51.09) though there was a large degree of variability with ~3% of parties having 100+ people in attendance (maximum = 600). On average, adolescents attended parties with about six close friends, almost three of whom were members of the opposite sex. Nearly five of those close friends

¹⁹ We also examined longitudinal change score models excluding respondents who did not change the amount of cannabis or alcohol that they used across parties to see if audience effects are more or less influential among adolescents who are prone to fluctuations in substance use (valid n: alcohol = 249; cannabis = 65). Results matched the analysis presented.

drank alcohol and fewer than two smoked cannabis. Friends who consumed alcohol tended to drink substantial amounts (mean = 4.16 drinks) but friends who used cannabis did not generally get very high (mean = 1.25). Respondents were close friends with about a third of the people in attendance at parties (mean = 0.34). Among all the variables indexing change from one party to the next, the tendency is towards no change. This is not particularly surprising. Those who consumed large amounts of cannabis or alcohol and who attended large parties with many friends tended to do so at both parties, though there is still substantial variability in the amount of change from one party to the next across all variables. The average respondent age was 15.5 years. The sample was skewed slightly to males (54%) and consisted of approximately equal numbers of whites (35%), Asians (35%), and students of another racial background (30%).

Table 4.1. Descriptive Statistics

	Mean	SD	Min	Max	n
Cross-sectional variables ^a :					
Alcohol use	3.56	6.34	0	100	775
Cannabis use	.53	1.18	0	4	775
Total in attendance at party	32.80	51.09	0	600	775
Close friends in attendance	6.45	5.69	0	45	775
Ratio of close friends to total	.34	.299	0	1	775
Opposite sex friends in attendance	2.83	3.65	0	28	775
# Friends used alcohol	4.85	5.18	0	45	775
Amount alcohol used by friends	4.16	3.70	0	25	775
# Friends used cannabis	1.65	3.04	0	23	775
Amount cannabis used by friends	1.25	1.46	0	4	775
Change score variables ^b :					
Alcohol use	.04	3.27	-18	18	361
Cannabis use	.05	.93	-4	4	361
Total in attendance at party	-.18	40.84	-170	440	361
Close friends in attendance	-.41	5.19	-24	25	361
Ratio of close friends to total	.01	.29	-.98	1	361
Opposite sex friends in attendance	-.60	3.14	-16	14	361
# Friends used alcohol	-.25	4.79	-25	25	361
Amount alcohol used by friends	-.19	3.00	-15	19.72	361
# Friends used cannabis	-.17	2.39	-20	9	361
Amount cannabis used by friends	-.03	1.13	-4	4	361
Time-invariant controls: ^a					
Age	15.51	.78	14	19	775
Male	.54	.50	0	1	775
Asian	.35	.48	0	1	775

	Mean	SD	Min	Max	n
Other race	.30	.46	0	1	775
SES	.14	1.60	-2.17	3.07	775
Self-control	-.46	4.14	-22.42	8.58	775
Unstructured socializing	2.86	1.86	0	6	775

^aTreating each party as a separate case (775 parties across 411 individuals).

^bUsing the 361 individuals that report data from two parties. Values indicate the change from the second last party attended to the last party attended (positive score indicates increase, negative score indicates decrease).

It is also important to understand how individual substance use varies according to party characteristics. One of the clearer methods of doing so was to divide alcohol and cannabis use into non-users, low/moderate users, and high level users and using a non-parametric ANOVA equivalent (the Kruskal-Wallis Test) to examine cross-group differences.²⁰ Table 4.2 shows that large parties are not necessarily the domain of substance users. Non-drinkers attended the largest parties on average (mean = 47.37 people), substantially larger than the parties attended by moderate (mean = 26.08 people) and heavy drinkers (mean = 30.42). But heavier alcohol users tend to have more close friends who consumed alcohol at parties and in higher amounts. Therefore, when the audience consists of close friends who are drinking, the individual is also more likely to drink. Regarding cannabis use, it is clear that neither abstainers nor consumers systematically avoided parties. However, as with alcohol use, when the audience at a party consists of more friends who use cannabis and in greater amounts, adolescents were likely to use greater amounts of cannabis. There appears to be little relationship between substance use and attending parties with close friends (not taking into account the support for delinquency of those friends) or opposite sex friends. Moderate and heavy alcohol users tended to party with a greater proportion of close friends relative to

²⁰ Using the definition of binge drinking from the Centre for Addiction and Mental Health, high levels of alcohol use were defined as having five or more drinks on one occasion for males and four or more drinks on one occasion for females (http://www.camh.net/about_addiction_mental_health/drug_and_addiction_information/binge_drinking.html). Therefore, low/moderate levels of drinking were between one and four drinks for males and one and three drinks for females. For cannabis use, high levels were considered those who reported getting “pretty high” or “very high” while low/moderate levels were those who used but did not get high and those who got “only a little high.”

the overall size of the party, though there was no significant relationship between this variable and cannabis use.

Table 4.2. Party Characteristics by Reported Substance Use

	Alcohol use			Chi ^a	Cannabis use			Chi ^a
	None	Moderate	High		None	Moderate	High	
Cross-sectional: ^b								
Total in attendance at party	47.37	26.08	30.42	24.73**	33.09	26.66	34.56	6.49*
Close friends in attendance	6.54	6.08	7.10	.32	6.44	6.53	6.48	1.04
Ratio of close friends to total	.28	.37	.34	12.37**	.35	.37	.29	3.92
Opposite sex friends in attendance	2.73	2.63	3.36	4.92+	2.81	3.14	2.84	3.97
# Friends used alcohol	3.05	5.05	6.39	85.69**	-	-	-	-
Amount alcohol used by friends	2.51	3.53	7.24	206.05**	-	-	-	-
# Friends used cannabis	-	-	-	-	.99	3.76	4.83	242.46**
Amount cannabis used by friends	-	-	-	-	.84	2.52	3.24	254.46**
n	206	380	189		626	56	93	
	Decrease	No change	Increase	F ^d	Decrease	No change	Increase	F ^d
Change scores: ^c								
Total in attendance at party	-.35	2.01	-5.61	.99	-2.76	.46	-3.41	.21
Close friends in attendance	-1.40	-.23	.12	2.01	-1.36	-.44	.60	1.17
Ratio of close friends to total	-.02	.01	.04	.60	-.07	.01	.06	1.74
Opposite sex friends in attendance	-.89	-.48	-.63	.51	-.94	-.59	-.45	.21
# Friends used alcohol	-1.41	-.06	.43	3.34*	-	-	-	-
Amount alcohol used by friends	-1.11	-.24	.87	9.15**	-	-	-	-
# Friends used cannabis	-	-	-	-	-1.47	-.20	1.19	10.75**
Amount cannabis used by friends	-	-	-	-	-.72	-.11	1.19	31.86**
n	80	202	79		29	296	36	

Notes: Means reported.

^aKruskal-Wallis test.

^bTreating each party as a separate case (n=775 parties across 411 individuals).

^cn=361. Includes only those who provided valid reports for two parties.

^dANOVA.

+ p<.1, * p<.05, ** p<.01

Further, the bottom section of table 4.2 shows how substance use changes across parties in accordance with changes in audience characteristics. What we see is that there appears to be little correspondence between changes to general audience characteristics and substance use. That is, when a person attends increasingly larger parties and with more close friends and opposite sex friends, their cannabis and alcohol use does not necessarily increase with it. However, when more of a person's close friends drink alcohol or use cannabis and in larger amounts from one party to the next, that person's substance use is also likely to increase. Therefore, it appears that the effect of general audience characteristics at parties takes a back seat to the actual *behaviors* of the audience in determining substance use in those situations.

Moving onto the multivariate analysis, table 4.3 displays the cross-sectional relationships between audience and delinquency support variables at parties and individual substance use at those parties. The main findings are that the delinquency support variables have a much stronger relationship with substance use than the general audience variables. This holds for both cannabis and alcohol use. From the general audience variables, parties with greater numbers of people in attendance ($b = -0.113$) and parties with greater numbers of close friends in attendance ($b = -0.396$) are both related to reduced alcohol use. The same dynamic holds for cannabis use regarding attending parties with greater numbers of close friends ($b = -0.271$). These negative relationships are unexpected but clearly indicate that there is something protective about larger gatherings. Though what may be happening is that by accounting for the number of friends in attendance who use cannabis and alcohol, the general audience variable measuring the number of close friends in attendance is actually indicating non-substance using friends at the party since substance using friends are partialled out in the delinquency support variables. If this is the case, then the negative relationship between close friends in attendance is not surprising since it tells us that when a person attends a party in which more friends are non-users, the amount of personal substance use decreases. However, the negative association between the total number of people at parties and alcohol use remains puzzling. At the very least, controlling for its effect ensures that the influence of the delinquency support variables cannot be attributed to simply having more friends attending the party. Being close friends with a greater

proportion of the people at the party and attending with opposite sex friends are unrelated to either form of substance use.

Table 4.3. Multilevel Poisson Models Predicting Alcohol and Cannabis Use – Cross-sectional Analysis

	Alcohol		Cannabis	
	b	SE	b	SE
Audience variables:				
Total in attendance at party ^a	-.113*	.053	-.016	.114
Close friends in attendance ^a	-.396**	.071	-.271+	.150
Ratio of close friends to total ^a	.047	.045	.018	.105
Opposite sex friends in attendance ^a	-.002	.047	-.139	.138
Delinquency support variables:				
# Friends used alcohol ^a	.424**	.056		
Amount alcohol used by friends ^a	.288**	.036		
# Friends used cannabis ^a			.258**	.091
Amount cannabis used by friends ^a			1.153**	.118
Controls:				
Age ^a	.143**	.052	.035	.117
Male	.342**	.106	.298	.211
Asian	-.053	.128	-.910**	.308
Other race	-.393**	.133	-.343	.243
SES ^a	.051	.052	.140	.100
Self-control ^a	-.123*	.054	-.090	.101
Unstructured socializing ^a	.121*	.056	.210+	.120
Intercept	.616**	.101	-2.173**	.253
Random intercepts – SD				
School level	.000	.074	.241	.148
Individual level	.871	.049	1.070	.128
BIC	3,445		1,114	

Notes: n=775.

^aStandardized score.

+ p<.1, * p<.05, ** p<.01

Table 4.3 shows strong support for the delinquency support variables for both alcohol and cannabis use. When a person attends a party with greater numbers of people who use alcohol ($b = 0.424$) and cannabis ($b = 0.258$) and use larger amounts of alcohol ($b = 0.288$) and cannabis ($b = 1.153$), the individual is much more likely to use

cannabis or alcohol themselves. This suggests that group supports directly related to a particular behavior in a specific criminogenic situation are more relevant than simply having people present in situations when that behavior is a possibility.

Table 4.4 displays the longitudinal analysis in which situational changes in the audience are used to predict changes in substance use. This provides a more robust test of the audience effects. These results again show greater support for the effect of the delinquency support measures over the general audience measures in their effect on adolescent substance use. Where attending larger parties and with more close friends was associated with reduced alcohol and cannabis use in the cross-sectional analysis, these dynamics were not found to be influential in the more stringent longitudinal change score analysis. What we see here is that regardless of the general audience, what matters is the extent to which friends support substance use. When more of a person's close friends drink alcohol ($b = 0.573$) and in greater amounts ($b = 0.611$), that person is more likely to perceive peer group support for alcohol use. This is seen in the fact that when more peers use alcohol from one party to the next, the amount of respondent alcohol use correspondingly increases from one party to the next. Further, when the amount that friends drink increases from one party to the next, so too does respondent alcohol consumption.

Table 4.4. Random Intercept Linear Models Predicting Alcohol and Cannabis use – Change Score Analysis

	Alcohol		Cannabis	
	<i>b</i>	SE	<i>b</i>	SE
Audience variables:				
Total in attendance at party	-.200	.180	.019	.048
Close friends in attendance	-.173	.344	-.055	.070
Ratio of close friends to total	-.008	.212	.078	.056
Opposite sex friends in attendance	-.093	.227	-.004	.060
Delinquency support variables:				
# Friends used alcohol	.573+	.304		
Amount alcohol used by friends	.611**	.173		
# Friends used cannabis			.085	.056
Amount cannabis used by friends			.332**	.052
Intercept	.036	.168	.056	.061
Random intercept – SD	.000	.000	.100	.078
BIC	1,919		982	

Notes: $n=361$. All independent and dependent variables are change scores (from second last party to last party – positive value indicates increase from second last party to last party). All independent variables are standardized scores.

+ $p < .1$, * $p < .05$, ** $p < .01$

The delinquency support dynamics differ slightly for cannabis use. The lack of significance of number of friends who use cannabis on personal use ($b = 0.085$) may be attributable to the low base rate of cannabis users in this sample (80+% non-users). Most adolescents in this sample probably only have a friend or two who use cannabis. Such small numbers may not result in the individual perceiving group support for cannabis use, particularly since most cannabis users only use small amounts. But having friends who increase the amount they use from one party to the next is associated with greater amounts of personal cannabis use ($b = 0.332$). This increasing trend may tell the individual that it is something valued by the group. Therefore, adolescents are likely to perceive stronger support for cannabis use when the average amount of cannabis use in the group is on an increasing trend. Conversely, when the average amount in the group decreases, adolescents are likely to perceive declining social value of cannabis use and are therefore less likely to engage in it.

Discussion

This study shows that taking a situational approach to the study of criminogenic group dynamics yields important insights into the peer group supports for delinquent behavior (particularly substance use) that adolescents must negotiate at specific times and places when delinquent behavior is likely. This goes beyond traditional social network and differential association findings that tend to show that higher levels of delinquency in the peer group lead to higher levels of personal delinquency but generally take a static approach to measuring peer influence. That is, by measuring a person's peer group characteristics in general, the fact that people do not always associate with their full peer group is ignored. The peer group that is present may differ across situations and therefore offer greater or lesser support for alcohol and/or cannabis use depending upon the characteristics of the group at that time and place. We find that having more close friends at a party who drink alcohol and drink it in higher amounts makes it increasingly likely that an adolescent will drink more heavily themselves.

Similarly, we also find that having friends who smoke greater amounts of cannabis increases individual cannabis use. These findings cannot simply be attributed to having a more delinquent global peer network since the outcome variables in the change score analysis were structured so that variability in changes in group support for substance use at specific situations would be detected regardless of the group's general support for substance use (i.e., both groups that offer high and low support for substance use in general can change in the amount of support for substance use in any particular situation and this is what we measured in this study). We found that such situational changes in support for substance use were key predictors of whether or not the individual would also alter their substance use in those situations in accordance with what the peer group supports.

At the most basic level, the support for delinquency (substance use) at specific criminogenic situations (parties) is found to affect the likelihood of individual delinquency at those situations. When peer group support for substance use increases, so does the likelihood of individual substance use; when support for substance use decreases, so does individual use. The results clearly show that situational delinquent support plays a more important role in determining substance use than non-delinquent-specific audience characteristics. While larger parties and attending parties with more close friends appears to protect against substance use, changes in these characteristics were unrelated to changes in substance use from one party to the next. The findings of this study are supportive of a situational version of differential association theory. The delinquency of the peer group at specific times and places indicates to the adolescent the situationally-specific definitions for or against delinquency at that time and in that place. These definitions of the situation appear to be internalized (at least momentarily) and result in substance use in amounts corresponding to the support for such behaviors. The findings appear to be highly robust, particularly for the amount of cannabis and alcohol consumed by peers at parties. Even in the analysis of change scores which are quite conservative (i.e., even heavy substance users can have scores of zero if they report equally high levels of substance use at both parties), the amount of peer substance use was highly significant with large effect sizes.

Beyond differential association, the results can also be interpreted from a symbolic interactionist perspective despite the fact that little evidence was found

suggesting that general audience variables played a significant role in predicting substance use at parties. Instead, the delinquency support of the network that is present at a given situation may act as a more localized version of the “generalized other” (Matsueda, 1992, p. 1581) than the full network. Having more friends using cannabis and alcohol and in greater amounts may help to shape an adolescent’s perception of the generalized other as being supportive of substance use. This may then lead to greater individual substance use as a way to engage in identity management based on perceptions of the normative orientation of the network. In other words, when friends are more involved in substance use, the individual may use more themselves since they feel that this course of action will be received most positively and therefore presents the best image to the network. Future work should continue to attempt to sort out distinctions between normative internalization (differential association) as compared to identity management/performative (symbolic interaction) aspects of peer influence in studies that take a more explicitly comparative approach. Ideally this would be done using sociometric data in which differential association is measured through the support for delinquency (values) and delinquent involvement (behaviors) of respondents’ networks (e.g., Haynie, 2001); symbolic interaction would ideally be assessed by measuring reflected appraisals of each respondent’s send-network. That is, by asking respondents to indicate the extent to they feel which their friends view the respondent as a delinquent.

This study is merely a first step in examining situational network effects on delinquent behavior. While we find robust relationships between the support for substance use offered by the peer group at specific times and places and individual involvement in substance use, whether or not these dynamics hold for other forms of delinquency is an open question. Where substance use is related to higher levels of social status among adolescents (e.g., Kreager, et al., 2011), violence tends to have the opposite effect (Kreager, 2007). With this being the case, adolescents who have friends who are increasingly violent in specific situations may witness the loss of status among these friends and this could act to reduce personal involvement in violent behavior. But at the same time, Kreager (2007) showed that some adolescents do gain social status through violent behavior (in that study, the least educationally successful males improved their popularity through violence). This means that the same act may have

differing social value depending upon the nature of the specific group. What is likely to happen is that behaviors that are not beneficial and result in a loss of social status tend to be abandoned quickly, but behaviors that generate respect/admiration/envy are likely to be picked up by others in the peer group. Therefore, examining situational changes in the peer group of any given behavior will act as an indicator of group support for that behavior even if support for it differs across groups. This approach then is useful for measuring peer influence among groups that value a certain behavior and groups that do not since they will simply be at different points on the continuum. This suggests that a general dynamic may operate for sexual behavior, school performance, fashion, violence, etc. as it does for substance use. Therefore, in groups that value violence, if friends are getting into more fights over time, this may spur personal involvement in violence among people seeking to enhance their own social status. But in groups that do not offer support for violence, a group member that engages in violence is likely to lose social status which then discourages others from committing similar acts. Research examining covariance between network changes in a variety of delinquent acts beyond substance use (including violence) and changes in personal involvement in those acts would be an important next step, particularly if it was combined with qualitative data examining how delinquency is *perceived* to be related to social status among adolescents.

The findings of this study should be interpreted within the context of a number of limitations. Where peer influence research is increasingly moving towards sociometric studies, the situational focus of this study precludes such an approach. It would be very difficult for researchers to get any sociometric data from adolescent parties, let alone relatively large scale and longitudinal data. But the result is that this study is potentially subject to the projection bias that sociometric studies often criticize (i.e., that having respondents report on the behavior of their peers is more reflective of their own behavior than that of their peers) (e.g., Haynie, 2001). While sociometric studies certainly sidestep projection bias, there is evidence that self-reports of peer behaviors do in fact reflect actual peer behavior, even if there is some tendency to overestimate similarities with personal behavior (Boman, et al., In press). Further, Boman et al. show that projection is less of a problem with alcohol and cannabis use than it is with rarer forms of substance use such as hard drug use. Also relevant is also the argument that *perceptions* of peer

behavior may be a more important behavioral determinant than actual peer behavior (Akers, 2009). This is a particularly compelling point in this study which examines pressures to engage in substance use stemming from perceptions of peer involvement in, and therefore support for, substance use. If adolescents believe that their peers are using cannabis or alcohol and in large amounts, that has important implications for their own substance use regardless of whether or not their peers are actually using to the extent that the respondent thinks they are.

Additionally, recall may have been an issue since we were asking respondents to remember party characteristics as well as their behavior and the behavior of friends at parties. At the very high end, this involved respondents thinking back four years. However, the average time between the survey and the party that respondents were asked to recall was less than four months with the median time being less than two months. We do not consider recall problems to be overly detrimental to the study since those who have only been to a small number of parties will likely recall the parties with good accuracy since they were probably memorable events while those who regularly attend parties will likely have done so recently and therefore probably do not have much problem remembering characteristics of the party. Even if respondents were intoxicated at the time they were asked to recall, they are likely to remember at least the initial stages of the party and who they attended with which is sufficient to derive the variables of interest in this study.

In summary, this study takes a different approach than most network analyses by examining characteristics of the network and support for delinquency at specific situations in which adolescent delinquency is common (parties). This is something that most network research and research from differential association and symbolic interactionist perspectives have not paid great attention to. What we find is that the network at a specific time and place has a strong influence on the extent to which adolescents engage in substance use in that situation. Particularly when greater numbers of friends drink alcohol and when peers consume greater average amounts of alcohol and cannabis at a party. In these situations, the likelihood of adolescents following the situational cues and using greater amounts of cannabis and alcohol increases.

Chapter 5.

Conclusion

This dissertation, using a broad approach to network analysis, presented three studies that examined the offending dynamics of adolescents as a product of peer relationships. Four main conclusions are drawn:

- 1) Adolescents often display a risk-taking image as a way to enhance their social status.
- 2) Social benefits derived from the peer group are key in determining delinquent constraints.
- 3) The delinquent support of the peer group at *specific situations* plays a strong role in determining individual actions at those situations.
- 4) Drawing from the three points above, delinquency among adolescents is symbolic as it is often used to send the message to the peer group that they feel is likely to enhance their social status.

Regarding the first point, the potential social status gains arising out of displaying a capacity for delinquency can act as a motivator for adolescents to engage in delinquent behaviour. Since peer groups are extremely important to adolescents (Brown, 2004; Warr, 2002), social status is one of the most highly valued resources. As such, anything that enhances it is likely to be acted upon, even if this includes delinquency. This supports previous work that suggests that delinquents are more attractive as friends (Rebellon, 2006), enjoy greater dating success (Rebellon & Manasse, 2004), are more popular (e.g., Allen, et al., 2005; Fallu, et al., 2011), and that alcohol using groups are more central in the broader network than other groups (Kreager, et al., 2011). However, concern surrounding the antecedents of network position has tended to take a back seat to research on its effects (Borgatti & Foster, 2003; Klein, et al., 2004). Therefore, there is not much previous research to go on when considering how displaying a delinquent image might be related to sociometric conceptions of adolescent social status. I show that minor forms of delinquent display

(i.e., cannabis and alcohol use), but not serious delinquency, is related to improvements in social status. Further, adolescents do not even have to be involved in delinquency to reap the status benefits of presenting a delinquent image. All adolescents have to do is to associate with delinquents and this is often enough to enhance their standing in the network. This speaks to the power of social status as a behavioural motivator for engaging in delinquent behaviour or at least displaying the capacity to do so.

The second conclusion is that benefiting from the social group can create psychological constraints towards delinquency. Therefore, it is not only the norms of the peer group that are important in producing individual delinquent behaviour, but also the context of peer relations. Once again, this dynamic is based on the importance that adolescents place on their friendship network. When adolescents feel they derive substantial benefits from their peers, they are likely to perceive constraints to conform to the normative orientation of their network. When this orientation is towards delinquency, the individual who derives a great deal of benefit from a delinquent peer group is most likely to be delinquent themselves so as not to lose access to these benefits. The benefits that most strongly produce these constraints are positional benefits - that is, social status indicators that take into account a person's location in the network as a way of measuring their visibility and power (e.g., centrality, popularity). This closely matches the results of Haynie (2001). Expanding on Haynie's work, I also found that benefits that relate to the experiences of adolescents (spending time and talking with friends) exerts little in the way of behavioural constraints towards delinquency.

The third main point is that the characteristics of any particular situation are likely to provide an indication of the optimal course of action for adolescents to pursue in that situation. This goes beyond most network studies that assume that a person's full network will influence their behaviour in all situations regardless of the fact that much of the group might not be present for a particular situation. Specifically, when more of a person's friends use cannabis/alcohol at a party and in higher amounts, the individual is more likely to perceive situational supports for doing so which leads to higher personal substance use at that party. This study not only shows that researchers of adolescent criminogenic dynamics should be attentive to situational attributes of the network, but it also shows that quality situational network data can be collected. Hopefully this spurs further research in this regard.

The cross-cutting dynamic of the three studies presented in this dissertation is the criminogenic importance of symbolism. This is the final main point. The implication of all three studies is that adolescents shape their behaviours to match what the peer group is likely to want to see out of them. Since delinquency is a way for adolescents to present highly desirable traits to their peers (e.g., bravery), it has strong symbolic value which is likely to motivate delinquent behaviour as a way to enhance social status. Furthermore, delinquency can be a symbolic attempt to show support for the norms of the peer group, particularly in contexts and situations where the peer group implicitly or explicitly pushes for delinquent behaviour – e.g., when the individual fears the loss of something valued (i.e., social status) by going against the norms of the peer group. The point is not that adolescents are overtly forced into behaviours that they are otherwise not inclined to do, but that these symbolic incentives increase the likelihood that adolescents will choose a delinquent behavioural option. For example, an adolescent may be inclined to get mildly intoxicated, but if they feel that their peer group wants to see them get very drunk, they may have more drinks than they would in the absence of these peer dynamics as a way to display the optimal message to the group.

These studies offer support for both differential association (Sutherland & Cressey, 1978) and symbolic interactionist perspectives on delinquency (e.g., Goffman, 1959; Matsueda, 1992). The behavioural norms of the peer group are found to result in individual delinquency in proportion to the delinquent involvement of the peer group, an effect that is at the core of differential association. From a symbolic interactionist angle, evidence is presented that adolescents will engage in delinquency when they perceive the “generalized other” (Matsueda, 1992, p. 1581) to support it. But more than offering support for differential association or symbolic interactionism in isolation, the results of the studies presented in this dissertation suggest a merging of the two perspectives. That is, the amount of delinquency that peers are engaged in (differential association) is likely to be important as it indicates to the individual the type of performance that is likely to result in social status improvements (symbolic interactionism). However, the etiological importance of these perspectives may not be uniform across the adolescent years. For this reason, integrating differential association and symbolic interactionism into a developmental perspective is likely to improve the theoretical coherence of peer

influence theories of delinquency and therefore enhance explanatory power. It is to this that I now turn.

Toward a Developmental Symbolism Theory

At this point, I will present a preliminary framework for a developmental symbolism theory (DST) of delinquency. This stems from more than just the findings of the studies presented in this dissertation, but from a recognition that integrating elements of symbolic interactionism, differential association, and Moffitt's developmental taxonomy (1993) is likely to provide a more complete explanatory framework for adolescent delinquency than these theories provide in isolation. Bernard and Snipes (1996) note that the explained variance of most major criminological theories is around 10-20% which leaves much that cannot be explained. They suggest that theoretical integration (when done properly) has the potential not only to increase explained variance (which should not be taken as the only measure of the value of a theory), but can also improve theoretical coherence. They argue that the sheer number of criminological theories has hindered the progression of the field and that a reduction would be scientifically desirable. Since theoretical falsification has proven to be extremely difficult, integration is a way to coherently reduce the number of theories by combining relevant aspects of various complementary perspectives.

It should be that the propositions of DST overlap substantially with Moffitt's (1993) theory, though DST makes the causal roles of differential association and symbolic interactionism more explicit than they are in Moffitt's work. As such, DST differs from the developmental taxonomy in its emphasis rather than being a true integration which combines previously distinct theories. The motivation for proposing DST is the recognition that the studies I have presented in this dissertation show that adolescents often engage in symbolic delinquent acts in an attempt to gain social status but there has been little attention paid to the issue of how these peer group and symbolic conditions arise that result in pressure to engage in delinquency. The theory that I propose is expected to explain a) why a small group of individuals are involved in high levels of delinquent behaviour from a young age and exhibit continuity throughout life; b) why delinquent behaviour becomes socially attractive in adolescence thereby motivating

dramatic increases in delinquent participation at this time; and c) why delinquency rates decline at the end of adolescence. It is not intended to explain late onset criminal behaviour and white collar crime by individuals who are not part of the LCP group. That is, LCP offenders are expected to continue to offend in adulthood (theft, drunk driving, fighting, etc.) but people who *start* their offending in the adult years and who engage in, for example, acts of corporate fraud will not be explained well by DST and should therefore not be considered as part of the etiological pathway described below.

Symbolic interactionism, differential association, and the developmental taxonomy complement each other in a theoretically coherent way that is likely to enhance explanatory power while leaving the basic tenets of the theories intact. I term this theoretical integration the developmental symbolism theory as I suggest that different etiological processes are relevant at different stages of adolescence while symbolism and differential association dynamics combine in such a way as to account for the spike in delinquent participation in the mid-teen years due to its relationship to social status. The basic hypotheses of DST are outlined in figure 5.1. Neuropsychological deficits in childhood are expected to lead to the formation of a group of LCP offenders. In adolescence, those who are highly susceptible to delinquency but who are not considered to be LCP offenders begin to mimic the behaviours of LCP offenders. This leads to an expansion in the size and influence of the group of delinquent adolescents which in turn leads to increased perceptions of peer support for delinquent behaviour. Increased support for delinquent behaviour leads to more adolescents engaging in delinquency for symbolic reasons; that is, to display the delinquent image that is valued by the peer group. This increase in delinquency leads to increased social status for adolescents who are involved in this sort of behaviour. These propositions are dealt with in more detail below.

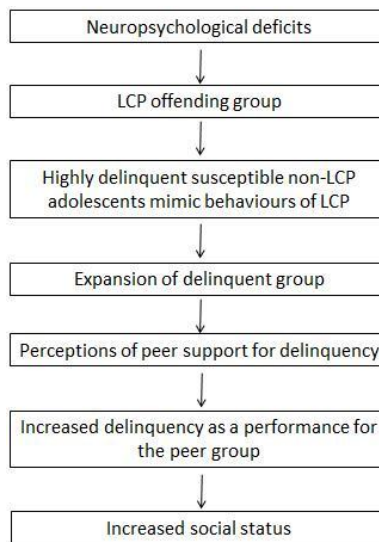


Figure 5.1. Proposed Causal Pathway of the Developmental Symbolism Theory

In keeping with Moffitt’s (1993) account of LCP offenders, the initial proposition of DST is that a small proportion of children suffer from “neuropsychological deficits” such that they are highly delinquent from an early age. These children are disproportionately subject to such conditions as poor nutrition, fetal alcohol syndrome, poor parenting practices, criminogenic neighbourhood conditions, etc. Upon reaching adolescence, the behaviours of LCP offenders may start to be envied by peers who see LCP offenders as more adult than others due to the fact that they often have more money (often obtained through delinquent pursuits such as theft and drug selling), tend to start sexual relationships earlier, and are more free from the controls of school and parents. For this reason, LCP offenders gain in social status relative to the rest of the peer group in the early adolescent years:

[LCP] children who were rejected and ignored by others should experience newfound “popularity” as teens, relative to their former rejected status. That is, life-course-persistent youth should encounter more contacts with peers during adolescence when other adolescents draw near so as to imitate their life style. (Moffitt, 1993, p. 688)

Up to here, this is all in keeping with Moffitt’s idea of the maturity gap. Where I diverge is in the suggestion that the maturity gap is one of a number of important dynamics that play a role in producing delinquent behaviour among non-chronic offending adolescents. From this perspective, susceptibility to delinquency should not be thought of in binary terms where some adolescents are chronically delinquent and all

others are essentially rule abiding except for a short time in adolescence. Rather, susceptibility to delinquent behaviour should be thought of as a continuum (see figure 5.2). Some people are highly internally motivated to commit criminal acts or are lacking in the ability to control their delinquency (due to what Moffitt calls neuropsychological deficits); others may be less susceptible to delinquency but are easily swayed by exogenous factors (peer pressure, potential for social status gains, situational characteristics such as a lack of supervision – e.g., Osgood, et al., 1996); others may only engage in delinquent behaviour rarely and only under strong social inducements; some may never engage in delinquency. This susceptibility is a product of varying levels of the same characteristics that result in the chronic offending behaviour of the LCP group. That is, people who are less susceptible to delinquency are those who have fewer neuropsychological deficits in combination with better parenting practices and a less criminogenic social environment.¹ In early adolescence, some of the people who are more susceptible to delinquency (those near, but not at the far left of figure 5.2) are likely to be easily swayed into delinquency by the perceived advantages that LCP offenders (far left of the continuum) accrue through delinquent acts. As more adolescents join the LCP group in engaging in delinquent behaviour, the audience that supports delinquency increases in size and influence.

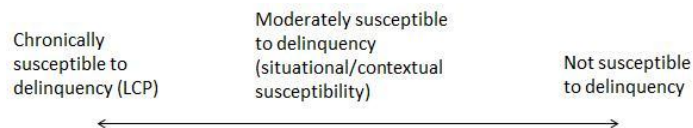


Figure 5.2. *Continuum of Susceptibility to Delinquent Involvement*

At this point, differential association and symbolic effects start to become evident. Differential association theory takes the position that adolescents internalise the norms

¹ A detailed discussion of the precise mechanisms relating to neuropsychological deficits and its conditioning factors leading to delinquent susceptibility is outside the scope of this section, but interested readers should consult Moffitt (1993) and work stemming from it. Additionally, it should be noted that complete delinquent abstinence might be considered aberrant as it is likely to indicate social isolation, early access to adult roles, and/or not experiencing the maturity gap (due, for example, to very late puberty) – all of these are considered rather unusual.

of their peer group to the extent that they have frequent, close, long-lasting, and early contact with peers (Sutherland & Cressey, 1978). Therefore, associating with delinquent peers causes individuals to engage in delinquency as they come to view the delinquent behaviour of their peers as an ideal behavioural option. The basic notion behind the behavioural effect of symbolism is that people attempt to choose their behaviours based around what they feel the relevant audience expects or desires from them (e.g., Blumer, 1969; Cooley, 1922; Goffman, 1959; Matsueda, 1992; Mead, 1934). Therefore, from this perspective, the peer group plays a key etiological role in generating delinquency when the individual perceives that the “generalized other” that they use to shape their behaviour supports delinquency (Matsueda, 1992, p. 1581).

These ideas can be integrated nicely with a developmental approach. Once adolescents who are susceptible to delinquency start to mimic the behaviour of LCP offenders, adolescents not previously involved in delinquent behaviour (further to the right on the continuum) are likely to perceive increasingly strong social incentives for doing so as the offending group grows in size. Therefore, group norms supportive of delinquent behaviour are likely to become more dominant as adolescence progresses. Adolescents are likely to find that their social status is increasingly dependent upon engaging in delinquent behaviour as to not do so means to go against the norms of the peer group. This points to a heightened social value of appearing to be tough or risk-taking or brave. This makes delinquency an increasingly important performance as the peer group becomes more and more delinquent and adolescents attempt to shape their behaviours to those supported by the peer group as a way to improve or maintain social status. For all but the LCP offending group, then, the symbolism of delinquency as a way to show support for the norms of the peer group becomes a more important motivator for delinquency that acts on an ever greater proportion of individuals as adolescence progresses.

What I am suggesting is that there is likely to be a cascade effect where adolescents increasingly to the right on the continuum begin to join adolescents to the left of them on the continuum in offending behaviour (figure 5.3). Adolescents further to the right need more incentive to engage in delinquent behaviour to get over their lack of susceptibility. This increased incentive comes as the size of the delinquent group increases. Those further to the right on the continuum are likely to join later and commit

less frequent delinquent acts and for a shorter period than those on the left of the continuum.

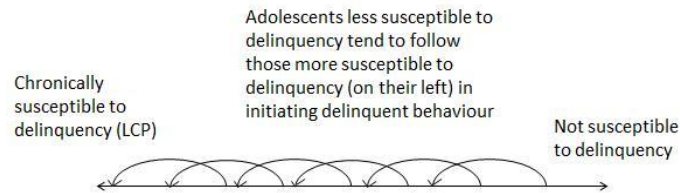


Figure 5.3. Cascading Effect of Delinquent Initiation

While I propose a more central role for differential association and symbolic dynamics, Moffitt (1993) did in fact include both in her developmental taxonomy. She noted that peers act as models that the individual can use to base behaviours on that deal with the maturity gap (p. 687). Therefore, peers are not so much a cause of delinquency as they are a source of examples of behavioural options (“After observing their antisocial peers’ effective solution to the modern dilemma of the maturity gap, youths mimic that delinquent solution” - p. 695). I suggest a more causal role for peer delinquency in that the greater the size and influence of a delinquent peer group, the greater the perceived social rewards for engaging in delinquency. The link to symbolic interactionism in the developmental taxonomy is implicit. Moffitt makes comments about “crimes that symbolize adult privilege” (p. 695); about how “labels accrued early in life can foreclose later opportunities” (p. 684); and that “homework does not make a statement about independence; it does not assert that a youth is entitled to be taken seriously. Crime does” (p. 693). I contend that the statement that delinquency makes is the key factor in generating delinquent behaviour for all non-LCP offenders. Where it appears that differential association and symbolic interactionism are relatively minor components of Moffitt’s developmental taxonomy, they are of central importance in DST.

DST is also useful in explaining desistance dynamics. Once again, this is likely to follow Moffitt’s (1993) ideas surrounding the maturity gap. As adolescents enter adulthood or at least see the prospects of entering social maturity approaching (as opposed to biological maturity which is attained years earlier in western society), prosocial means begin to replace delinquent means of displaying adult status. Autonomy from parents, committed relationships, and careers render the symbolism of delinquency less important than it had been previously when delinquency may have

been about the only way to achieve elements of adulthood. That means that individuals in the late adolescent years can begin to achieve social status by displaying adult status in non-delinquent ways which is likely to reduce delinquent involvement. Those further to the right of the continuum may see adulthood approaching at the same time as others but their lower susceptibility to delinquency may make substituting prosocial means of displaying adult status more palatable to them which results in their abandoning delinquent activity earlier. As prosocial forms of displaying adulthood become more widely available, those with higher and higher susceptibility to delinquency are more likely to desist until all but the LCP group has stopped offending. Thus, unlike delinquent initiation which is likely to move from left to right on the susceptibility continuum, the desistance cascade is likely to occur from right to left (less susceptible to delinquency desisting first, more susceptible to delinquency occurring later).

DST does not consider other criminological factors as inconsequential, but they are considered important mostly for their ability to moderate the dynamics discussed here. While factors such as poor parenting, low self-control, low SES, and aversive neighbourhood conditions are all discussed as contributing to the neuropsychological deficits leading to crime among LCP offenders (Moffitt, 1993), not all children from criminogenic areas and who are subject to aversive parenting will become LCP offenders. In fact, most children even in the worst criminogenic environments will not become LCP offenders. But there are likely to be more LCP offenders in these areas which is likely to set up the conditions that place non-LCP others at greater risk for delinquent involvement. With more LCP offenders (and near LCP adolescents) in an area, delinquent groups are likely to gain in size and influence earlier which is likely to establish stronger differential association and symbolism dynamics leading to crime. That is, with more socially powerful delinquent groups forming and gaining prominence in early adolescence in criminogenic neighbourhood conditions, previously non-delinquent adolescents are more likely to perceive delinquency as a way to gain/maintain social status and are therefore more prone to engaging in symbolic delinquency to show their support for group norms.

The proposed theory also overlaps substantially with Matsuueda's Differential Social Control theory (Heimer & Matsuueda, 1994; Matsuueda, 1992). Differential Social Control theory posits that sociodemographic factors influence the extent to which

adolescents are committed to conventional institutions (family, friends, school) and this has an effect on delinquent role-taking. Role-taking, in turn, has direct implications for delinquent involvement (see figure 5.4). Delinquent peer associations are also shown to mediate the relationship between role commitment and other forms of role-taking while also having a direct influence on personal delinquency. In proposing DST, I simplify the pathway considerably in a number of ways by suggesting that:

a) sociodemographic factors and role commitments are best conceived of as either contributing to neuropsychological deficits (or lack thereof) or as a moderating factor. As a moderating factor, criminogenic neighbourhoods and attachments and commitments to conventional influences are likely to influence the extent to which a person will react to the delinquent norms of an expanding delinquent peer group by being delinquent themselves.

b) there is only one key role-taking factor which measures the extent to which a person uses delinquent behaviour as a performance for the benefit of their peer group. This could be measured by asking respondents the following: “Do you think your peers would look down on you if you didn’t _____ [drink alcohol; use marijuana; paint graffiti; get into fights; steal; cheat on tests] if you had the chance to do it and your friends were also doing it? (1 = not at all to 5 = very much so). The wording of this question is such that it implies that the respondent has no great inclination either way regarding engaging in the behaviour. It essentially measures respondents’ sensitivity to the reactions of peers to their behavioural choices. Greater sensitivity to peer reactions is more likely to result in a behavioural performance to match peer expectations. This type of measure is likely to be more effective than directly asking respondents “Do you ever engage in delinquent behaviour as a performance for your peers in an attempt to improve your social status?” even though this is what we are really concerned with. Few adolescents are likely to respond affirmatively and most are unlikely to consciously recognise these motives even if they are the reason for behaving in a particular way. It also differs from reflected appraisals measures which ask for respondent agreement with statements such as “My _____ [friends, parents] think that I am a trouble maker.” These get at respondent perceptions of the views of people who are likely to mean something to them, but it does not tell us how likely they are to react to it in the way that the proposed ‘sensitivity to peer reactions’ measures do.

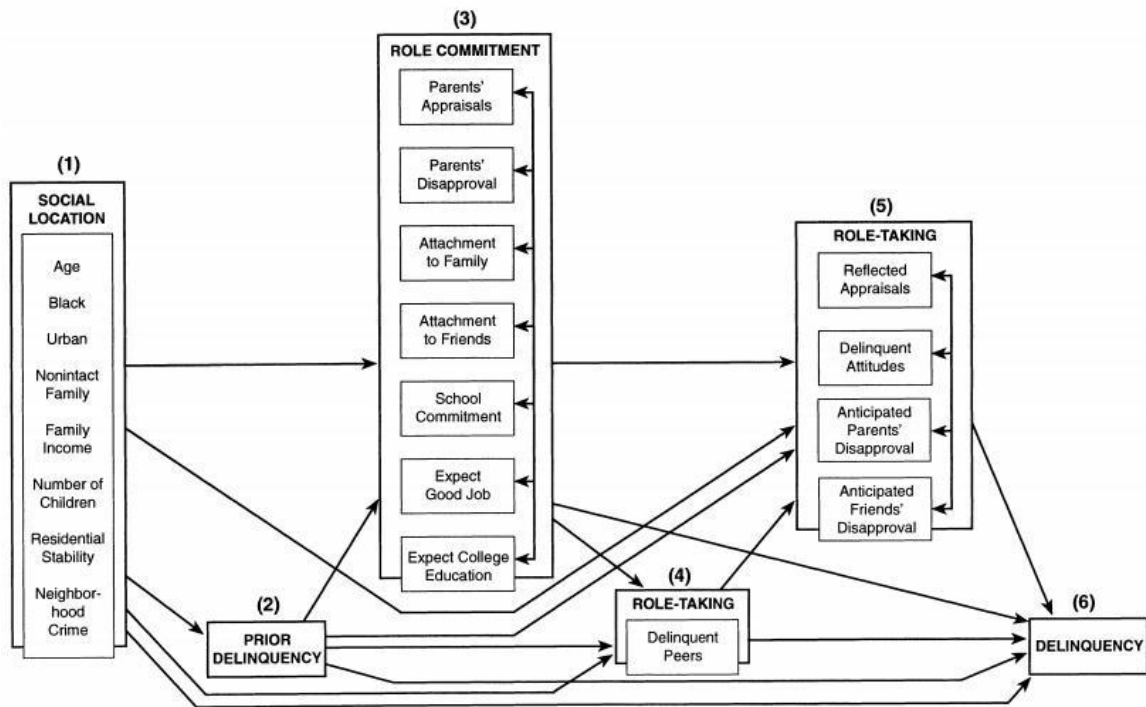


Figure 5.4. Matsueda's Differential Social Control Theory.

Source: Heimer and Matsueda, 1994, p. 374.

The value of this theory is that, if accurate, it can explain the origins of adolescent delinquency as well the increase in delinquent participation and frequency during adolescence and the decline in the late adolescent years. However, this is merely a first step in specifying the details of what appears to be a promising explanatory approach to delinquency. Researchers should continue to refine the theory as empirical and logical arguments dictate.

Limitations of the Dissertation Studies

Returning to the studies presented in this dissertation, the contributions should be interpreted within the context of a number of limitations. One of the key rationalisations for this dissertation is also a limitation in a way. I argued that using large general adolescent samples extends beyond much of the subcultural research relevant to the relationship between symbolism and delinquency. However, this means that the sample consists mostly of people who are minimally involved in delinquent behaviour.

There are theoretical arguments that much of the population does not even consider delinquency to be an option (e.g., Wikström, 2006). For many of the individuals in these general adolescent samples, then, symbolism may make little difference for their delinquency since they are not involved in any sort of delinquency and do not consider it to be within their realm of possible behavioural alternatives. But the majority of adolescents do at least try substance use at some point (Johnston, et al., 2010; Paglia-Boak, et al., 2009) and the symbolism of minor deviant acts such as substance use have been found to be influential even for non-delinquents (study #1). What the studies in this dissertation do not address is how the effect of symbolism on delinquency breaks down across various sociodemographic moderating factors (e.g., age, race, gender, SES, grades). The work of Kreager (2007) showed that certain higher risk groups within a generally conventional population (poor academically performing males in school) socially benefit from violence while members of other groups suffer. In this way, the findings of this dissertation that point to general effects may have specific subcultural exceptions.

Additionally, the fact that symbolism is a very broad concept opens up the possibility of theoretical confusion. Within criminology, symbolism encompasses symbolic interactionism, differential association, situational analysis, and even developmental, social capital, and rational choice perspectives.² An example of the uncertainty that could arise can be drawn from the third study presented. In that study, I showed that the behaviours of the peer group at parties can influence the behaviours of individuals in those situations. These effects are interpreted to indicate that both differential association and symbolic interactionist dynamics have an effect on adolescent delinquency. But how do we know that delinquency in these situations is not actually a product of the maturity gap? Are reactions to the behaviours of the peer group

² The link between the symbolic importance of delinquency and the developmental perspective was not addressed in this dissertation beyond the theoretical relevance of Moffitt's maturity gap (1993) that was outlined in the introductory chapter and in the previous section in which it was incorporated into DST. It was not examined in any of the three studies. The integration of social capital and rational choice perspectives relate to the work of Hechter (1987) that was addressed in the second study.

in a given situation really a performance to show the peer group what they want to see in an attempt to maintain or enhance their social status or is it because they know that this will make them look adult at a time when this is what they are seeking? The fact is that the theories listed above all relate to symbolism and are not competing. Support for one theoretical perspective on the criminogenic importance of symbolism does not rule out the possibility that other theories are accurate. In the situational networks study, just because adolescents are found to react to the behaviours of their peer group in specific situations does not mean that they do not also feel the strains of the maturity gap. What it means is that a direct test of the maturity gap was outside the focus of the studies presented in this dissertation even though it is relevant. The purpose of this dissertation was not to test one particular theory of symbolism. The purpose was to improve knowledge of under-researched effects of symbolism on delinquency. This meant looking for the most informative theoretical perspective for each particular study and drawing on whatever perspective provides the most sensible interpretations of the data.

One potential issue in this dissertation relates to the following questions: how do we know that adolescents do not simply associate with others who have similar levels of delinquency as a way to maintain/enhance social status (study #1)? How do we know that adolescents do not try to associate with various groups and then settle on the group that provides the most benefits rather than altering their behaviours to fit in with a group (study #2)? How do we know that adolescents do not choose to attend situations which they feel will support the behaviours that they are already inclined to engage in (study #3)? In short, it may be that selection effects are responsible for any association between peer and individual behaviour and that peer influence is simply a misinterpretation of selection dynamics. A body of literature examining peer influence versus selection from both social network and econometric modeling approaches have generally found that both are responsible for the relationship between peer and individual behaviour. While delinquents are often inclined to associate with other delinquents, there is also a tendency to match delinquency to peers over time (see Baerveldt, et al., 2008; Krauth, 2005, 2006, 2007; Light & Dishion, 2007; Snijders & Baerveldt, 2003; Snijders, et al., 2007; Weerman, 2011). However, Krauth (2005, 2006, 2007), using econometric methods not normally found in the criminological literature, has

suggested that the influence of peers is quite small compared to the peer effects that are normally found.

For the questions surrounding studies 2 and 3, selection effects are of little concern. Regardless of the reasons that an adolescent ends up associating with a particular peer group, they are more likely to be delinquent to the extent that they derive benefits from their (more heavily delinquent) network. Similarly, even if adolescents seek out situations in which to drink alcohol or use cannabis, variations across those situations in what is considered acceptable behaviour is likely to be reflected in the amount of cannabis and alcohol used by the individual. Therefore, regardless of whether or not selection effects are at play, the dynamics are unchanged.

It is in the first study presented in this dissertation that selection effects may be most problematic. If behavioural homophily is the key status attainment dynamic, then delinquents will associate predominantly with delinquents and non-delinquents will associate with non-delinquents since adolescents are most likely to be able to achieve status in groups of people with similar behavioural norms. However, what I found was that both delinquents and non-delinquents had very blended networks in terms of the proportion of members who were delinquent (56% of the networks of delinquents were also delinquent; 45% of non-delinquent's networks were delinquent). This indicates that there may have been some tendency towards delinquent homophily, but it is far from universal. Even if some selection into groups based on delinquent status does occur, adolescents within those groups must still negotiate group dynamics to become a high status member. Nonetheless, future criminological research would be well served by incorporating statistically sophisticated econometric approaches to addressing selection effects within a survey framework (e.g., the estimator developed by Krauth, 2006).

It is also potentially problematic that the dynamics examined in the three studies are assessed in isolation to each other. There were practical reasons for this, namely that no known data exists that can be used to measure all the components and dynamics necessary to combine everything into one analysis. But examining the influence of the full peer group without accounting for situational peer groups (and vice versa) may be misleading. It may be that one is the dominant effect and that the other is only influential in the absence of the dominant effect. Future research should attempt to

sort out the relative importance of global versus situational effects by including measures for each in the same analysis. I propose a study in the following section that addresses exactly this.

Future Research

While this dissertation contributes a number of findings to the research literature, the ideal study would encompass the interests of all three studies within a single structural equation model. To do this the right way would require situation-specific (party) sociometric data at time 1 and time 3, and global (full school) sociometric data at time 1 and time 2. Situation-specific sociometric data would allow for an examination of a person's status relative to the rest of the peer group present at that situation (party) as we could establish who the most and least popular and central party attendees are. This would tell us if a person is likely to be a focal point at the party or a nondescript partygoer. This would have implications for the constraints imposed on their behaviour in that situation. Situation-specific sociometric data would also allow us to determine the behaviours of a person's network in those situations by asking each respondent to self-report their own delinquent behaviours. These reports could then be linked back to each respondent to get measures of peer delinquency that avoid issues of projection bias. The time 1 global network would allow for baseline levels of overall peer delinquency (based on self-reports) and social status (popularity, centrality) to be controlled by assessing each respondent's status in the full school network as opposed to at a specific situation. The time 2 global network would make for an ideal set of dependent variables (popularity, centrality) since it is expected that situational delinquency is likely to improve social status at the global (school) level. That is, a person's reactions to situational cues are likely to have ramifications for their social status that goes beyond just the specific situation. A person who reacts to greater peer support for drinking at a party by drinking themselves is likely to experience increases in social status that goes beyond the party since information about their behaviour at the party is likely to spread quickly through the network. As illustrated in figure 5.5, the set of hypotheses is that people with higher levels of situational social status (higher popularity and centrality relative to others at the party) will be more likely to engage in delinquency (substance use) at that party to the extent that they associate with others who are delinquent. This is likely to enhance their

social status relative to the rest of the full network (many of whom would not have been in attendance at the party) due to the diffusion of information within the network. This improvement in global social status is likely to enhance their social standing at future parties.

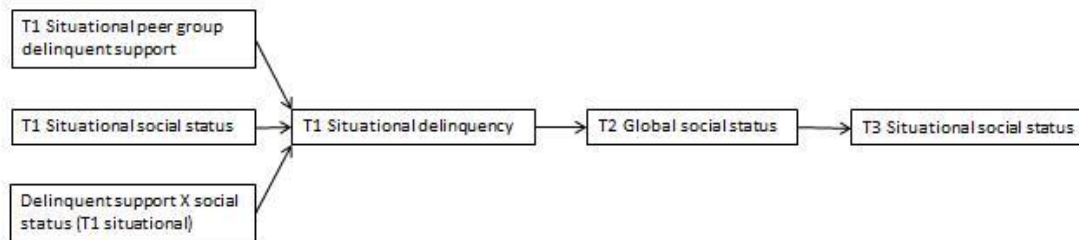


Figure 5.5. Proposed Path Model for Future Research.

Note: Controls would also be included for global social status (T1) and global peer delinquency (T1) as well as age, race, gender, and SES.

To obtain the data necessary to address these interests, the best approach would be to focus resources on one large high school. In that school, detailed sociometric data would be collected for the whole school by asking respondents to nominate up to five male and five female friends (following the Add Health lead) using a school roster. Respondents would also be asked to report on their delinquency over the past year (cannabis use, alcohol use, property crime, violent crime, drug selling). This would be used to create the T1 global social status and T1 global peer delinquency measures. Using that data, researchers would be able to identify the individuals with the highest social status in each grade. These individuals would be the starting point for the situational analysis. Since these individuals are most likely to have attended parties as a product of their social status, researchers would ask them to think about the last sizable party they attended with people from school where alcohol was consumed by people there and to report on their delinquent behaviours at that party. They would also be asked to list everybody from their school in attendance at that party. These co-attendees would then be surveyed and asked about their behaviours at that party. They would also be asked to list everyone from the school at the party. This process would continue until there was a consensus as to who attended the party. Once a full list of partygoers was obtained, attendees would be asked to indicate their friends at this party. This situational sociometric data set would allow for the creation of the situational social

status variables, and the situational delinquent support and situational personal delinquency variables. To minimise overlap among party attendees from the same starting point, a sociogram derived from the global network could be used to select people as starting points who are far apart in social space (i.e., if we start with person A and sample all the people who attended the same party as A and then repeat the process with person B, there is a strong possibility that some of the same people attended both parties). Robust statistics could be used to adjust for the lack of independence associated with anyone involved in more than one situational (party) network.

Shortly after the T1 party data is collected (within a couple months), T2 global social status would again be collected. T3 situational network data would then be collected again (within a couple months) using the same starting points. Only those individuals who participated at all waves would be included in the final analysis. This would only be feasible using a dedicated research team. Ideally, two researchers focused at each grade level would be employed. At an average of about 32 students attending a party (see study #3), using only the highest status individual in each of the four grades as the initial contact³ would yield a sample size of approximately 128. With cross-wave attrition, this would be insufficient. A research team that can spend a large amount of time in the school would be able to minimise attrition by conducting the survey at various times to ensure maximum participation, but we should still probably expect that 5% of those who participated in the T1 situational network wave will not participate in the T2 global network wave and 50% of those who participated in both the T1 situational network and T2 global network waves will not participate in the T3 situational network wave (i.e., half of the people who attended the first party will also attend the second party). A power analysis revealed that 609 party attendees would need to be

³ The initial contact is the person who identifies the party that receives the focus and is asked to provide the initial list of attendees at the party. High status individuals are likely to provide the best starting point as they are well known and visible in the peer group and the parties that they attend are therefore likely to be known by others. As such, the parties that they attend should be the largest on average which is likely to result in the greatest variability in between-individual situational network status.

surveyed at the first situational wave.⁴ At 32 attendees per party, 19 starting points would be required or 5 in each grade.

Summary

Symbolism plays a key role in determining delinquent outcomes. Adolescents, keenly aware of the dynamics of their social surroundings, see that delinquency sends a message to their peers that they are risk-takers and that this is likely to enhance their social status. This is often enough to motivate delinquent behaviour since at no point in a person's life is social status likely to be more important than in adolescence. I find that minorly deviant acts (substance use) do tend to result in increases in social status, though more serious acts (violence) have the opposite effect. Further, adolescents do not even have to engage in any sort of deviant behaviour to enhance their status; all they have to do is to *look* delinquent and that is often enough to boost social status. I also show that the symbolism of delinquency is not equally valued in all groups. Even if presenting the appearance of delinquency is valuable for both delinquents and non-delinquents (study 1), it is even more important for people who associate with a more highly beneficial but delinquent peer group (study 2). By showing that they support the delinquent norms of the peer group, adolescents minimise the risk of losing the benefits that are derived from the peer group. By receiving higher levels of benefits from the peer group, adolescents are more likely to be constrained to the delinquent behaviours of the peer group (when the group is more delinquent). Finally, it is not just the overall characteristics of the peer group that have important implications for the behaviours of the individual; it is also the behavioural supports of the peer group in specific situations

⁴ To detect an effect size 0.1 at a significance level of 0.05, a power level of 0.8, and with 18 observed variables and 3 latent variables (combining in-degree, Bonacich centrality, and betweenness centrality into latent variables at the T1 and T3 situational waves and the T2 global wave), we would need a minimum of 290 valid cases (using <http://www.danielsoper.com/statcalc3/calc.aspx?id=89> to do a sample size calculation for a structural equation model). With only half of the sample at the first party attending the second party, that means we need $290 \times 2 = 580$. With 5% of those who attended the first party missing out on the second global wave, that means we need $1.05 \times 580 = 609$.

that determine the action alternative that is chosen at that time and place (study 3). These situational characteristics cue the individual in to the particular course of action that is likely to receive the greatest levels of peer group support and which is therefore most likely to enhance the individual's social status.

Taken together, this dissertation contributes to our understanding of how presenting the “right” image to the peer group can lead to adolescent delinquency. The studies presented go beyond research that does not consider the context of the peer group or the dynamics of the immediate (potentially) criminogenic situation. In peer group contexts and situations that are more likely to reward delinquent behaviours, adolescents are more likely to engage in these behaviours. But the impetus for delinquent involvement is, for the most part, not just any kind of social reward; it is specifically related to a person’s position in the network. Optimal network structure such as having a greater number of people who view a particular adolescent as a friend (popularity) and being in the middle of the network (centrality) are the type of rewards that play a strong role in establishing the constraints that often lead to delinquent behaviour. Future research should test and refine the developmental symbolism theory that was outlined above as it provides a potentially powerful description of the etiology, expansion, and decline of adolescent delinquency.

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Appendices

Appendix 2.1. Spearman Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13
Popularity	1.00												
Age	-0.16**	1.00											
Male	0.00	0.07**	1.00										
White	0.25**	-0.24**	0.02	1.00									
SES	0.07**	-0.12**	0.01	0.03	1.00								
Prop Male	0.18**	-0.01	0.38**	0.11**	0.02	1.00							
Missing nom	0.17**	-0.07**	-0.00	0.23**	0.05*	0.15**	1.00						
Violence	-0.11**	0.02	0.25**	-0.11**	-0.04*	0.08**	-0.07**	1.00					
Delinquent	-0.02	0.02	0.17**	-0.07**	-0.02	0.05**	-0.01	0.70**	1.00				
Self-control	0.06**	-0.02	-0.09**	0.03	0.09**	0.01	0.06**	-0.17**	-0.12**	1.0			
Alcohol use	0.02	0.21**	0.05*	0.05**	-0.09**	0.02	-0.00	0.27**	0.30**	-0.13**	1.00		
Cannabis use	-0.01	0.13**	0.08**	-0.04*	-0.04+	0.01	-0.01	0.29**	0.25**	-0.12**	0.42**	1.00	
Prop delinquent	0.11**	0.06**	0.11**	-0.00	-0.02	0.39**	0.06**	0.10**	0.11**	0.00	0.10**	0.12**	1.00

Note: Missing nom = missing nominations (w2); Prop = proportion.

+ p<0.1, * p<0.05, ** p<0.01

Appendix 2.2. Supplementary Regression Models – b(SE)

DV:	Popularity	Centrality	W2 Delinquent Involvement	
Sample:	Del ^a	Del ^a	Full	Del ^b
Controls:				
Age	-0.096** (0.031)	-0.207** (0.038)	-0.223** (0.034)	-0.081** (0.025)
Male	-0.028 (0.053)	0.036 (0.073)	0.485** (0.061)	0.123* (0.049)
White	0.230** (0.079)	0.871** (0.077)	-0.316** (0.078)	-0.121** (0.045)
SES	0.077** (0.025)	0.039 (0.034)	-0.012 (0.028)	-0.003 (0.021)
Proportion male	0.136** (0.028)	0.157** (0.038)	-0.016 (0.033)	0.024 (0.025)
Missing nominations (w2) ^c	0.064** (0.022)	0.145** (0.028)	0.025 (0.028)	-0.007 (0.022)
Violence	-0.111** (0.025)	-0.155** (0.035)	- -	0.208** (0.019)
Minor deviance:				
Alcohol use	0.031 (0.025)	0.056+ (0.034)	0.333** (0.024)	0.081** (0.020)
Cannabis use	0.029* (0.012)	0.054** (0.017)	0.047** (0.012)	0.014 (0.011)
Propensity:				
Self-control	0.051* (0.024)	0.104** (0.034)	-0.111** (0.028)	-0.042* (0.021)
Delinquency balance:				
Proportion delinquent	0.086** (0.027)	0.115** (0.037)	0.131** (0.032)	0.023 (0.024)
W1 social status:				
Popularity	- -	- -	0.067* (0.031)	0.015 (0.022)
Centrality	- -	- -	-0.042 (0.033)	-0.021 (0.028)
Intercept	0.396** (0.091)	-2.783** (0.070)	-0.744** (0.073)	2.066** (0.183)
Chi ^d	32.59**	277.30**	0.00	0.00
n	1,775	1,775	2,537	949
BIC	6,698	16,500	7,674	3,936

Note: Full = full sample; Del = delinquent subsample.

^aLow threshold delinquent subsample (delinquent at either wave).

^bNormal delinquent subsample (delinquent at both waves).

^cFor the models predicting delinquent involvement, the missing nominations variable was created using the wave I friendship nomination data since the other sociometric measures are from wave I in these models.

^dLikelihood-ratio test of random intercept model vs. pooled model.

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$.

Appendix 3.1. Spearman Correlation Matrix

	1	2	3	4	5	6	7	8
Delinquency	1.00							
Spend time with friends	0.102*	1.00						
Talk with friends about problems	0.001	0.565**	1.00					
Talk with friends on the phone	0.053**	0.681**	0.629**	1.00				
Density	-0.020*	-0.138**	-0.166**	-0.134**	1.00			
Popularity	-0.024**	0.256**	0.261**	0.285**	-0.374**	1.00		
Bonacich centrality	-0.065**	0.306**	0.338**	0.314**	-0.383**	0.434**	1.00	
Reach in 3 steps	-0.071**	0.292**	0.335**	0.295**	-0.487**	0.382**	0.776**	1.00

** p<0.01, * p<0.05

Appendix 4.1.Situational Network Characteristic Questions^a

Audience Measures:

- 1) About how many people were there [at the party] in total?
- 2) How many of your close friends did you go to the party with?
- 3) Ratio of close friends at party to total number at party (item 2 divided by item 1)
- 4) Of the close friends you went to the party with, how many of them are members of the opposite sex?

Delinquency Support Measures:

- 1) How many of your close friends drank alcohol [at the party]?
 - 2) Of your close friends who drank alcohol, about how many drinks did they have on average [at the party]?
 - 3) How many of your close friends used cannabis [at the party]?
 - 4) Of your close friends who did use cannabis, how high did they get on average [at the party]?
-

^aAsked for last party and second last party.