

Moving Towards a Quantitative Understanding of
Thrasher's Threat-Cohesion Hypothesis

by

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A Thesis Presented in Partial Fulfillment
of the Requirements for the Degree
Master of Science

Approved June 2011 by the
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ARIZONA STATE UNIVERSITY

August 2011

ABSTRACT

Frederic Thrasher's early work with youth gangs in Chicago continues to influence contemporary gang research. Thrasher's basic premise, that conflict with outside groups facilitates strong interpersonal ties between adolescents, has yet to undergo quantitative analysis. Using data from Wave II of the National Longitudinal Study of Adolescent Health ("Add Health"), this conflict is measured by the aggregate number of juvenile arrests for property and violent crimes in a community. Multivariate regression is conducted to explore the impact of police threat on number of friendship nominations, while logistic regression is conducted to see if police threat is impacting relationship strength between respondent's first male and female friend. The results from both the multivariate and logistic regressions do not support Thrasher's hypothesis. Implications for future research are discussed.

ACKNOWLEDGMENTS

I am most grateful to my committee members, Charles Katz, Justin Ready, and Travis Pratt, for their time, efforts, and especially for their patience. Thank you as well to David Schaefer for helping me gain access to the Add Health data. Throughout my time in Arizona, I have had unconditional support from my friends and family. You are all a part of what I do. I love you all and cannot thank you enough.

This research used data from the National Longitudinal Study of Adolescent Health (Add Health), a program project designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris and funded by Grant P01-HD31921 from the Eunice Kennedy Shriver National Institute of Child Health and Human Development, with cooperative funding from 17 other agencies. Special acknowledgment is due Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Persons interested in obtaining data files from Add Health should contact Add Health, Carolina Population Center, 123 W. Franklin Street, Chapel Hill, NC 27516-2524; e-mail: addhealth@unc.edu. No direct support was received from Grant P01-HD31921 for this analysis.

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Chapter 1

INTRODUCTION AND BACKGROUND

Traditionally, criminology has explored the interactions within the criminal justice system, specifically incarceration and social ties, in terms of lost income, social isolation, and recidivism (e.g. Anderson, 1999; Granovetter, 1973; Hagan & Dinovitzer, 1999; Kling, 2006; Western, 2002). Others have delved into the impact that incarceration has on minority and disadvantaged communities (e.g. Anderson, 1999; Roberts, 2004). Implicitly, incarceration should have an impact on social ties, as it removes the offender from proximate and meaningful associations. However, this has also resulted in street and prison cultures becoming intimately woven together (Hunt, Reigel, Morales, & Waldorf, 1993). More recent criminological scholarship, on the other hand, has focused on the group mechanisms and social networks of criminals (see Chattoe & Hamill, 2005; Felson & Haynie, 2002; Haynie, 2001; Haynie & Payne, 2006). Deviant peer groups, including gangs, are a key component in understanding the drivers of crime. Insights gleaned from research into networks then form a building block in understanding the effects of peer groups. For gangs, there are stable and recognizable forms (Klein & Maxson, 2006), in spite of membership experiencing significant turnover (Thornberry, Krohn, Lizotte, Smith, & Tobin, 2003). The latter research highlights the importance of, but not any potential impact, that formal interventions may have on groups.

Over the life course, it seems commonplace that things change, whether it is favorite pastimes or people (Bidart & Lavenu, 2005). Such thinking is a key

premise of life course criminology, which seeks to understand how changes in social ties and control impacts crime (Laub & Sampson, 2003). As these social changes occur, the influences exerted on individuals ebb and flow. This is critical for adolescents, as parental ties wane and peer attachment becomes increasingly important. The peer groups an individual develops ties to assist in understanding the behaviors and attitudes of that individual. Abrupt changes in behavior are attributed to structural turning points, where certain social ties are severed, restricted, or changed (Laub & Sampson, 2003; Sampson & Laub, 1993; see also Abbott, 1997; Denzin, 1989). Concurrently, the influence that outside institutions play in the development of social ties must not be ignored. Family, school, and the police form an increasingly formal continuum that can impact social ties. The police, as the most formal mechanism in the continuum, are used when other institutions have failed, and have been used to disrupt, among other things, the social ties of gang members.

A key component of group cohesion, however, is outgroup threat (see Thrasher, 1927). Thrasher's (1927) seminal work *The Gang: A Study of 1,313 Gangs in Chicago* serves as a starting point for much of the gang research in the areas of formation and cohesion (Dimitriadis, 2006; see also Klein, 1971; Klein & Crawford, 1967; Yablonsky, 1962). Others, drawing on the work of Thrasher, have argued that gangs are not only created, but sustained by violence and the mythology thereof (Klein, 1971; see also Decker, 1996), in spite of violence being the leading cause of leaving a gang (Decker & Lauritsen, 2002).

Statement of the Problem

The potential theoretical inconsistency between Laub and Sampson's (2003) formulation of severed social ties via structural turning points, particularly interaction with the police (see Lilly, Cullen, & Ball, 2007), and Thrasher's (1927) position that outgroup threat solidifies group membership warrants investigation. If the criminal justice system can serve as a structural turning point, then police threat should cause individuals to end various relationships (e.g. Laub & Sampson, 2003). On the other hand, this threat has previously been attributed to creating and maintaining certain social relationships (Thrasher, 1927). Beyond this inconsistency lies the notion that older, qualitative works in criminology should be revisited and explored with more quantitative methods, given the availability of data. Recently collected data from the National Longitudinal Study of Adolescent Health, herein "Add Health", may prove apt for testing such a hypothesis. Add Health data has previously been used in criminology to study friendship networks and delinquency (Haynie & Payne, 2006), the relationship between peer delinquency and self-reported delinquency (Haynie, 2001), the relationship between pubertal development and delinquency among adolescent boys (Felson & Haynie, 2002), and low self-control as a homophilic tendency in relationships (Young, 2010). With gang questions added to the second wave of Add Health survey, exploring this inconsistency becomes possible. Therefore, the topic of this thesis is to explore the role that police threat, particularly arrest rate at the county level, has on the social ties of adolescent friendship groups.

Purposes and Objectives

It is the purpose of this study to understand the effect, if any, of police threat on interpersonal attachment. This is essentially testing the hypothesis long ago proposed by Thrasher (1927) and other qualitative researchers (Klein, 1971) who have held that threats against delinquent groups cause these groups to become more socially “tight” and cohesive. This stands in contrast to the modern work of life course criminologists such as Laub and Sampson (2003; see also Sampson & Laub, 1993), who claim that interaction with or threat from police may act as a structural turning point for individuals, causing them to sever disruptive or harmful social ties from those around them. Exploring the impact that arrest rates have on attachment can frame the debate for law enforcement practitioners, particularly in dealing with gang members.

Theoretical Framework

The theoretical framework for this study has two components: life course theory and Thrasher’s (1927) understanding of outgroup threat as applied to gangs. The life course as developmental theory focuses on transitions and trajectories of lives (Elder, 1995). Four common themes emerge when examining these lives: the impact of historical times on human lives, the timing of lives, the interdependence between lives, and human agency (Elder, 1995). Those born in sequential years may experience historical events differently. The meanings and responsibilities of events and roles over the life course also change. Lives are not devoid of human contact though; they are embedded within larger social structures, which provide social regulation and support. Humans also have the

ability to make decisions and live dynamically (Elder, 1995). Both large scale events (see Elder, 1998 for a discussion) and more mundane occurrences can change how an individual's life may play out. Life course criminology has focused primarily on the continuity between childhood and adult offending (Lilly, Cullen, & Ball, 2007) and how changes in relationship structures, with respect to marriage and occupation, aggravate or mitigate offending (Laub & Sampson, 1993, 2003; Sampson & Laub, 1993).

Laub and Sampson's (2003; see also Elder, 1995) age-graded theory of informal social control focused on social bonds and the presence of structural turning points. These turning points result from social relations and attachment to traditional social structures (i.e. work, marriage, military service) and spur behavioral changes (Laub & Sampson, 1993). Adults with these strong attachments will then be less likely to offend, regardless of childhood delinquency. Laub and Sampson (2003) identify incarceration as a potential turning point for behavior, given that it disrupts social bonds. Incarceration, understood as part of the criminal justice continuum, may only be one aspect of the legal system capable of acting as a structural turning point. This relates to Thrasher's (1927) conception of gangs. Childhood play groups come into contact and conflict with other social groups, who they perceive as threatening. For Thrasher, the police are the play group's natural enemy. Through these perceived threats, the play group crystallizes into a gang (see also Hagedorn, 1988; Klein, 1971, 1995; Loftin, 1984; Padilla, 1992), with subsequent cohesion serving to aggravate delinquency.

Hypotheses to Be Answered

Thrasher's (1927) conception of threat is substantively broad, though the examples he cites typically involve direct contact. Because of this, it becomes important to understand what level of aggregation (if any) becomes important for perceptions of threat and the impact of this threat on social ties. There are two hypotheses that must be tested to answer these questions.

Hypothesis 1: Police threat, measured as aggregate arrest rates, will have no impact on the size of adolescent friendship networks.

Hypothesis 1A: Police threat, measured as aggregate arrest rates, will be positively related to the size of adolescent friendship networks.

Hypothesis 1B: Police threat, measured as aggregate arrest rates, will be negatively related to the size of adolescent friendship networks.

Hypothesis 2: Police threat, measured as aggregate arrest rates, will have no impact on the relationship strength between first male and/or female friend and the respondent.

Hypothesis 2A: Police threat, measured as aggregate arrest rates, will be positively related to the relationship strength between first male and/or female friend and the respondent.

Hypothesis 2B: Police threat, measured as aggregate arrest rates, will be negatively related to the relationship strength between first male and/or female friend and the respondent.

Significance of the Study

Peers are a known, key factor in why individuals commit crime. This study will attempt to explore the various functions of social groups, particularly cohesion. The examination of cohesion has the potential to validate long held assumptions within the criminological community (cohesion increases in delinquent networks following interaction with outside groups, leads to gang formation, membership crystallization, etc.). Concurrently, the exploration of group functions should help to meld older qualitative delinquency work with more recent empirical work. Disentangling how individuals react to threats may assist practitioners dealing with potentially violent groups, such as gangs and terrorist organizations.

With respect to friendship maintenance and gang cohesion, there are two sides of the gang membership coin: interpersonal attachment to other members and to the group itself. Recent scholarship (Pyrooz, Decker, & Webb, 2010) has highlighted how separation from school can impact the social and emotional ties to the gang. Moving towards an understanding of how gang-related friendships are forming and ending may contribute to solution to local gang problems and improvement in intervention strategies for law enforcement and social service providers. In addition, it may spur advances into removing increasingly embedded individuals from gang networks and criminogenic environments (see McGloin, 2005).

Assumptions and Limitations

The Add Health data was not designed explicitly for use within criminological circles. The self-identification of gang membership in wave II (“Have you ever been initiated into a gang”) may be problematic, given the chronic flux of gang membership, though self-identification has been found to be a robust indicator of gang membership (Esbensen et al., 2001). Respondents are similarly near the prime age for gang membership and gang ties tend to be lasting, even for members who leave. Previous research has shown that those who identify themselves as gang members commit significantly more crime than non-gang members (Battin et al., 1998), and arrest rates are a measure of police resources and criminality in a jurisdiction. Higher arrest rates may indicate an environment where the threat of police contact is high due to successful apprehension of suspects and enough dedicated resources to continue such action. Given limitations in the data, actual gang attachment is not explored (i.e. feelings of belongingness, pride in gang membership, etc.).

The longitudinal nature of the data suffers from the limitation that interaction with the criminal justice system was not measured until Wave III (2001-2002), long after much of the relational data was collected. The retroactive nature of the questions related to the criminal justice system (“Have you ever been arrested,” “How many times were you arrested before the age of 18,” “How many times have you been arrested since you were 18”) would present a time-order validity threat when used in conjunction with relationship data collected before the age of 18. In place of these questions, number of juvenile arrests per

100,000 of the county population (drawn from Wave II) serves as a proxy for police contact. This is indeed a limited measure of police threat, and invites the potential for criticism in two ways. First, it is possible that respondents could be moving outside of the area they live in to offend, though it seems unlikely, especially for adolescents. Second, that even if the arrest rate in a given area is high, it does not indicate that respondents are being arrested. While this is true, broader criminological literature points to the positive relationship between youth and crime, thereby exposing adolescents to a greater likelihood of being arrested. In addition, the inclusion of risk taking as a measure of self control should also serve to alleviate some concern about the broadness of the threat measures, i.e. indicating who would be more likely to interact with the police. Put succinctly, arrests may not be visible in the same manner (and thereby less threatening), than other conflict areas such as minority threat. This is a considerable limitation, but it nonetheless serves to contribute to an empirical question on which future research can be based.

Organization the Study

The remainder of this thesis is organized as follows. Chapter Two will discuss the literature related to gangs, social cohesion, outgroup threat, and friendship maintenance. Chapter Three will describe the methodologies of regression analysis as applied to this problem. Chapter Four will present and analyze the data using multivariate and logistic regressions. Chapter Five will summarize the conclusions drawn from Chapter Four, as well as present public policy recommendations and recommended areas of future research.

Chapter 2

THE LITERATURE REVIEW

Peers, Attachment, and Delinquency

“There is scarcely a type of delinquent boy who is not associated with others in his wrong doing.” – Breckinridge and Abbott (1912, p. 35)

The requisite building blocks for any groups are two or more individuals. With this in mind, it is important to understand how attachment functions between individuals in cliques or peer groups. Following this, it is warranted to see how attachment functions between individuals and a group to which they claim membership. Such information must inform any discussion of offender networks, as it addresses the roots of how such groups form, interact, and reproduce. With the majority of offenders in the criminal justice system, as well as the majority of gang members being males, the focus of this area of research specifically tries to identify the factors impacting male relationships.

Giordano, Cernkovich, and Pugh (1986) point to the idea that friendships are complex social bonds, and definitions based on a singular attribute will be lacking. Adolescent relationships are entered voluntarily (Giordano et al., 1986). The salience of peers generally, but especially during adolescence, cannot be overstated (e.g. Laub and Sampson, 2003; Pipher, 1994). Intimate friendships originate in adolescence (Berndt, 1982). Dunphy (1963) found that adolescents belong to multiple, loosely knit friendship groups (see also Haynie, 2002). In dyadic friendships, research has found a number of important qualities that inform the strength of the friendship. These qualities include companionship, absence of

conflict, closeness, security, and support (Bukowski, Hoza, & Boivin, 1994; Furman & Buhrmester, 1985; Parker & Asher, 1993). Friends provide emotional support, as well as intimacy (Furman & Bierman, 1984; Hazan & Zeifman, 1994; Wilkinson, 2004). There are critical gender differences, though, in how relationship quality impacts delinquent peer behavior (Laird et al., 1999). Females report great intimacy and closeness in their relationships (Bukowski, Hoza, & Boivin, 1994; Parker & Asher, 1993) as well as value their relationships more than males (Hartup, 1993). Cross and Madson (1997) argue that men are independent and autonomous, while other researchers attribute group involvement among males to be the result of the socialization process – boys are more likely to be involved in group functions (Belle, 1989; Benenson, Apostoleris, & Parnass, 1997; Berndt & Hoyle, 1985; Maccoby, 1989, 1990). Simultaneously, boys tend to exist in larger social networks (Belle, 1989; Benenson, Apostoleris, & Parnass, 1998). Males also prefer group interaction when compared to females (Benenson, 1993). Seeley, Gardner, Pennington, and Gabriel (2003) found that common bonds between members of a group, and the attachment to the group itself, predicted how important male members believed the group to be.

An adolescent's behavior is often predicated on the behavior of friends (Laird, Pettit, Dodge, & Bates, 1999). This holds true for delinquent behaviors (Simons, Wu, Conger, & Lorenz, 1994; Warr & Stafford, 1991). Integration into a network can influence behavior, depending on the norms, values, and behaviors in the network (Elliot, Huizinga, & Ageton, 1985; Giordano et al., 1986; Krohn, 1986). Agnew's (1991) findings that strong peer attachment, friend contact, and

peer delinquency have the strongest effect on an individual's behavior echo this finding. Campbell, Sedikides, Reeder, and Elliot (2000) similarly found that friendships can serve to limit selfish behavior. Previous research has shown a positive relationship between peer drinking, drug use, and smoking, and adolescents' peer involvement (Ennett & Bauman, 1994; Tolson & Urberg, 1993). The friendships of adolescent delinquents, though, have been found to be of a lesser quality when compared to their non-delinquent counterparts (Dishion, Andrews, & Crosby, 1995). Greater attachment to peers who smoke, drink, and are otherwise delinquent has been found to be positively related to one's own smoking, drinking, and delinquency habits (Agnew, 1991; Wills & Vaughn, 1989). It has been suggested (Fisher & Bauman, 1988; Tremblay, Masse, Vitaro, & Dobkin, 1995) that adolescent delinquency reflects perceptions of relationships and that these relational experiences predict behavioral change. How an adolescent perceives a relationship with another person informs how that adolescent will interpret that friend's behavior (Laird et al., 1999). In at least one instance, smoking similarities between youths predicted friendship formation, but not the end of those friendships (Aloise-Young, Graham, & Hansen, 1994).

Friendship Maintenance and Ending

Friendship networks provide social acceptance, identity, and a sense of place in the chaotic hierarchy of adolescence (Haynie, 2002). Even so, adolescent friendships are as dynamic as the actors who share them, and may change. Schools serve as a boundary for many adolescent social networks (Haynie, 2002), and relationships in the school setting are known to be stable over a number of

years (see Busk, Ford, & Schulman, 1973; Tuma & Hallinan, 1979). Upon leaving high school or college, social networks begin to change. Relationships capable of being maintained by those in them share a number of common characteristics, including interaction, positivity, supportiveness, and self-disclosure (Oswald & Clark, 2003). Oswald and Clark (2003) surveyed 137 college freshmen about best friend relationships kept from high school, and found that all four of these characteristics significantly decreased over time. Proximity between friends did not significantly impact these characteristics, though this was attributed to advances in technology and communication. At the end of freshman year, roughly half of the best friend relationships had been reduced to close or casual relationships. Communication between friends, meanwhile, did impact how the relationship was perceived and valued (Oswald & Clark, 2003).

Maintenance behaviors vary by friendship type (Rose & Serafica, 1986). Casual relationships may involve occasional contact only, whereas close and best friendships required more frequent interaction. The termination of casual friendships is impacted by the proximity of individuals, while close and best friendships ended due to less interaction or are impacted by the presence of other relationships. Rose and Serafica (1986) note that the ending of close and best friendships is a “slow death,” composed of fraying emotional and social ties (see also Pyrooz et al., 2010). Bidart and Lavenu (2005) also provide insight into the problems that occur for individuals out of higher education. Sixty-six young people were interviewed in three-year waves, and their social networks were explored. Working-class individuals entered into the workforce or family life, and

quickly saw reductions in overall social network size. Middle and upper-class individuals were capable of retaining old social ties, while still forming new ones. Even still, these networks eventually lost members. Other individuals fell somewhere in between, some seeing a rise in social ties, while others losing ties, based on factors such as work, family, and travel. Leaving school, in and of itself, frequently severed many ties, due to participants' decreased level of contact (Bidart & Lavenu, 2005). This echoes much of the criminological literature, finding that the onset of work and romantic relationships can decrease the number of friendship ties (Laub & Sampson, 2003).

Gangs

Gangs have been a focal point of criminological research for the better part of the past century. By 2002, every state and major American city reported a gang presence (Egley, 2005). Youths self-reporting gang membership indicate higher rates of crime as well as a wide range of offenses (Battin, Hill, Abbot, Catalano, & Hawkins, 1998; Curry, Decker, & Egley, 2002; Esbensen & Huizinga, 1993; Esbensen, Winfree, He, & Taylor, 2001; Gordon et al., 2004; Maxson, Whitlock, & Klein, 1998). This finding is consistent even when compared to highly delinquent, nongang street offenders and nongang youths with delinquent friends (for the former, Esbensen & Huizinga, 1993 and the latter, respectively, Battin et al., 1998; Gatti, Tremblay, Vitaro, & McDuff, 2005; Gordon et al., 2004). Concurrently, gang members commit a disproportionate amount of crime, and are significantly more likely to commit both minor and serious acts of delinquency than their nongang counterparts (Esbensen &

Weerman, 2005). Research has also shown a link between gang membership and violent victimization (Curry et al., 2002; Peterson, Taylor, & Esbensen, 2004; Pyrooz et al., 2010). Violence is an ever-present, central part of gang life (Decker, 1996; Klein, 1971). At the same time, it impacts the community at large, in terms of violence and fear (Anderson, 1999; Lane, 2002; Maxson, Hennigan, & Sloane, 2005).

Recent scholarship has established a nexus between criminal onset, continuity, and desistance and gang membership (see Pyrooz, Decker, & Webb, 2010). At a basic level, gang membership is a social phenomenon, occurring for social reasons. Common reasons for gang joining include family or friend participation (Esbensen & Lynskey, 2001), residency or territory (Decker & Curry, 2000; Maxson & Whitlock, 2002), protection (Decker & Curry, 2000; Esbensen & Lynskey, 2001; Maxson & Whitlock, 2002), money (Esbensen & Lynskey, 2001), and respect (Esbensen & Lynskey, 2001). Particular motivations differ across locations (Klein & Maxson, 2006). Gang membership also provides opportunities for economic gain, relief from boredom, social status, family-like relations in the short term, and a means to acquire flashy, material goods (Scott, 2004; see also Anderson, 1999). Felson (2009) notes that co-offending, as a potential precursor to more organized forms of criminality, offers offenders possible protection, greater efficiency in offending, risk insulation, and greater opportunities to offend. Reasons not to co-offend relate to a loss of personal security and potential or realized wealth (Felson, 2009).

Desisting from the gang, on the other hand, has not received much attention. This is in spite of the fact that most gang members leaving the gang within one year of joining (Thornberry, Huizinga, & Loeber, 2004). Decker and Lauritsen (2002) interviewed 24 former gang members in St. Louis, and found that those who left the gang did so due to violence against friends. Familial concerns have also been found to be a cause for leaving the gang (Thrasher, 1927). Even when individuals left the gang, they still retained an assortment of ties to the gang, including hanging out with active members and committing crimes with active members (Decker & Lauritsen, 2002). Pyrooz et al.'s (2010) analysis of survey data from adolescent arrestees in a Phoenix area juvenile detention facility offers insight into former gang members' remaining ties. Living in an active gang neighborhood was found to increase gang ties, while desistance from the gang decreased the number of gang ties by three percent per month. Leaving school was found to be negatively related with gang ties, and was attributed to removal from peers. In a second analysis, with victimization as an outcome measure, being male, leaving school, gang organization, and gang ties were all positively related to victimization. Pyrooz et al. (2010) also highlight the importance of a gang to its members, in the form of social support. Desisting from the gang may yield fewer friends and a loss of identity, in addition to impacting the likelihood of victimization.

Cohesion, Outgroup Threat, and Gangs

Cohesive groups should enjoy benefits over less cohesive counterparts. Essentially, groups that are more cohesive should be more efficient in their use of resources and be more motivated to work together (Beal, Cohen, Burke, & McLendon, 2003). Past research has argued that high levels of group cohesion should allow for an easier promotion of collective good (Heckathorn, 1988; Horne, 2001), as well as increased productivity (Blau, 1963; Festinger, Schachter, and Back, 1950). Collective action depends on this cohesion as well as the presence of incentives (Kitt, 2006). Strong cohesion and/or incentives should yield increased group participation (Kitt, 2006). Status and reputation may serve as adequate incentives (Chong, 1991), although it seems logical that tangible resources, such as drugs, alcohol, women, or money, are likely to serve the same purpose. With respect to gangs, increased levels of cohesion may yield more violence, a quicker transfer of knowledge between members, and an increase in crime generally (i.e. Burgess & Akers, 1966).

Multifaceted in nature, cohesion can be understood in terms of interpersonal attraction, task commitment, and group pride (Beal et al., 2003; but see Mullen & Copper, 1994). Beal et al.'s (2003) meta-analysis of 64 studies examining the impact of cohesion on performance found that each facet had an independent effect on group performance. In addition, highly performing groups who engaged in intense workflow (high collaboration among members, compared greater independence between members) were most able to take advantage of cohesion (Beal et al., 2003). Stein (1976), in his review of the social science

literature (e.g. sociology, anthropology, and psychology) found a general consensus that external threat did yield within group cohesion, under certain conditions. Chief among these conditions was a common threat to all group members, the existence of group cohesion prior to the threat, and group leaders capable of enforcing cohesion. Riek, Mania, and Gaertner's (2006) meta-analysis of intergroup threat and outgroup attitudes found qualitative evidence of a positive relationship. Quantitative analysis of 95 samples found that four types of threats: realistic threat, symbolic threat, intergroup anxiety, and negative stereotypes were all positively related to negative outgroup attitudes. Two antecedents of intergroup threat, ingroup identification and negative stereotypes were also tested. High ingroup identification was related to experiences of higher intergroup threat (Riek et al., 2006). Negative stereotypes were also significantly related to outgroup attitudes. Realistic threat, intergroup anxiety, and negative stereotypes were found to be strong predictors of attitudes towards low-status outgroups. Pettigrew and Tropp's (2006) meta-analysis of 696 samples found that intergroup contact was negatively related to prejudices, though gangs and police were not explicitly examined.

Much of the gang literature draws attention to the theoretical relationship between violence and gang cohesion. Violence is a central part of gang life (Decker, 1996; Klein, 1971). It has been theorized that gangs come into fruition via conflict (Thrasher, 1927). External threats towards a group are believed to create and enhance group solidarity (Klein, 1971; 1995; Loftin, 1984). Similarly, recognition from non-threatening outside groups, such as gang workers, is also

believed to spur cohesion (Klein, 1971; 1995). Cohesion has been positively linked with delinquency, as well as crime and a resistance to social change (Klein & Maxson, 2006). Klein (1971) argued that violence takes on mythic proportions in the gang context, reinforcing membership ties and group solidarity. These threats are thought to provide gang members an identity and reputation (Carlsson & Decker, 2005; Klein, 1971), thus combining shared circumstances such as poverty and poor home conditions with a common enemy. The attention that law enforcement gives to gangs has been thought to be a catalyst for gang cohesion (McGloin, 2005)

Klein and Crawford's (1967) detail the varied definitions of cohesion used in the literature, including mutual like or acceptance, personal attraction to a group, shared norms, and resistance to disruptive forces. The authors note two key themes in the criminological literature. First, gang cohesiveness is a product of external mechanisms. Second, intragang mechanisms to promote cohesion are weak to nonexistent, aside from a shared belief in delinquent behavior. Through the use of detached case workers, and a sampling of 800 gang members in Los Angeles, it was found that 44% of gang members belonged to specific cliques. Klein and Crawford identify these cliques as friendship groups. Cohesion, as a function of contact between members, increased over three six-month periods for younger gang members, and decreased for older members. This was attributed to rates of offending, where younger members were essentially accomplishing more together (Klein & Crawford, 1967). Short and Strodbeck's (1963) use of case workers to observe gangs in Los Angeles found that those near the top of the gang

hierarchy had little formal authority, especially as gangs grew in size. To counteract status threats, gang leaders would instigate fights, lead packs of boys in criminal acts, and grow increasingly reckless around rival gangs. Leaders would only exercise aggression against their own members in rare circumstances (Short & Strodbeck, 1963). McGloin's (2005) networking of gang members of Newark relied on self-identified relationships, including the offenders as being co-defendants, relatives, and hanging out together. The relationships were reciprocal and often overlapping. The street gangs were found to be independent of one another, unconnected in the social sense. Intragang cliques were discovered. From a social network perspective, the clique is not merely a subgroup, but a group of people directly connected to one another. More connections mean greater cohesion. For the gangs of Newark, group level cohesion, based on a limited number of social ties, was minimal. Within-gang cliques, however, were much more cohesive (McGloin, 2005).

Gang Organization

Felson's (2009) exploration of co-offending offers an organic explanation of gang organization. Recognizing the disconnect between perceptions of highly organized criminal organizations and the potential for widespread cooperation of members, Felson argues for an evolution of criminal networks. In four stages, networks go from small and disorganized to larger systems of increasing complexity. The original stage is composed of disorganized individuals brought together by time and space, with high membership turnover and informal social controls. Following the emergence of charismatic leadership, organization

increases, as does criminal enterprise. The later stages of organization are deemed to be unlikely (Felson, 2009).

Both Short (1974) and Pfautz (1961) argue that gangs lack organizational hierarchy and structure. Similar conclusions have been reached among researchers doing qualitative gang work (see Decker, 1996; Weisel, Decker, & Bynum, 1997). Police data, on the other hand, paints a picture of gangs being rigidly structured and organized (Sanchez-Jankowski, 1991; Venkatesh, 1997). It has been argued (Lusher & Robins, 2009) that groups or networks that are dependent on violence to sustain themselves will contain hierarchies. Klein and Maxson (2006) argue for the existence of five major types of street gang structures: traditional, neotraditional, compressed, collective, and specialty. Traditional gangs are large, long-lived, territorial, and composed of various subgroups. Neotraditional gangs are similar to their traditional counterparts, but have not existed for as long, and do not exhibit the same trends in members' ages. Compressed gangs contain fifty or fewer members, have been around for less than ten years, and do not contain subgroups. Collective gangs are similar to compressed gangs, but are larger in size and duration. Specialty gangs are identified primarily by their criminal specialization. While the other gang types engage in cafeteria-style offending, specialty gangs do not. Gang members have previously acknowledged some degree of organization within their groups, such as specific colors to be worn, rules to be followed, and dues to be paid (see also Pyrooz et al., 2010).

Gangs are a function of the physical and social environment in which they exist, with membership being bound to specific territories and reflecting local

demographics. The social landscape must then also play a role for gangs. Because of the importance of peers for gang joining and desistance, adolescent social networks enable gang membership (Esbensen & Lynskey, 2001). The cohesive sub-groups of gang members (see McGloin, 2005), coupled with the disorganization of gangs themselves, point to personal ties as being important and possibly influential with respect to overall gang structure. In conjunction, network structure may influence the form and frequency of contact, as well as the ability for gangs to constrain member behavior. In turn, these structures may inhibit future gang joining, if it is cutting off members from outside social contact.

Intervention Strategies

Early intervention strategies, based on a combination of social support and police responses, in Boston, Chicago, and Los Angeles proved ineffective at best, or served to worsen the gang problem in each city (see Spergel & Grossman, 1998 for a summary). Following this, police responses took the form of suppression efforts, focusing on arrests, prosecutions, and longer sentences for gang members (Spergel & Grossman, 1998). With suppression still being the modern paradigm for combating gangs and the prevailing notion that recognizing or interacting with gangs increases the cohesion of its members (see Katz & Webb, 2006, Ch. 3), law enforcement and policymakers have been forced to broaden programs designed to counteract gangs. Two recent gang interventions, the Spergel model (Spergel & Grossman, 1998; Spergel, Wa, & Sosa, 2006) and the “pulling levers” strategy (Braga, 2008), illustrate this.

The Spergel model, predicated on involvement by various community stakeholders, combines social outreach and opportunity programs with social control and gang suppressive mechanisms (Spergel & Grossman, 1998). Targeting hardcore gang members with the intense services, it was found that the combined interventions reduced gang violence police arrests for violent crime over a three-year period. Specifically, job referral and placement reduced time spent with fellow gang members and increased time spent with significant others (Spergel et al., 2006). Collaborative efforts between agencies also helped gang youths form relationships with non-gang peers (Spergel et al., 2006). Attempts to reproduce results across six different sites found mixed results (Spergel et al., 2006). Implementation was difficult, due to political issues. Sites able to implement pieces of the overall intervention strategy, such as city commitment to the program, interagency collaboration, and the targeting of gang members, did see successful reductions in gang violence (Spergel et al., 2006).

“Pulling levers” strategies (see Braga, 2008; Kennedy, Piehl, & Braga, 1996) are based on problem-oriented policing, whereby problems are identified, analyzed, and responses are implemented and evaluated. In Boston, gangs, drug dealing, and serious offenders were contributing to gun violence (Kennedy et al., 1996). Similarly, reciprocated gang violence in Stockton, California was fuelling gun homicides (Braga, 2008). In both instances, law enforcement cracked down on active gang members, targeting them for things such as driving without a license and drinking in public (Braga, 2008). Other community stakeholders, social service agencies, and clergy were incorporated to provide legitimacy for the

program, as well as assist in providing job training and school programs to gang members. Both law enforcement and community stakeholders took a targeted approach, focusing only on those gangs who were perpetuating gun violence, and were effective in reducing that violence. Though cohesion in the gang field is only partially understood, it still serves a presupposition to intervention, with the focus on violence reduction. Given the important role that violence and threat are believed to play in the gang context, reductions in violence may yield reduced intragroup cohesion. Different threats may play different roles in this cohesion, meaning that even if intergang violence is reduced, continued recognition and interaction with police may still prove problematic.

Theoretical Underpinnings

Life course criminology is predicated on the notion of continuity between adolescent delinquency and adult offending (Lilly, Cullen, & Ball, 2007). Key to this continuity is the omnipresence of peers and the evolving nature of relationships. Indeed, informal social control is the consequence of developed relationships (Kornhauser, 1978). Moreover, Elder (1975, 1985) notes that the impact of informal and formal social controls ebbs and flows over time. The combining of Coleman's (1990) social capital theory, itself premised on the importance of social relationships, and social control theory, has yielded the age-graded theory of informal social control (see Laub & Sampson, 1993, 2003; Sampson & Laub, 1993). Within this framework, Laub and Sampson explore the role of relationships in patterns of criminal desistance between adolescence and adulthood and the importance of structural turning points. Originally conceived

by Elder (1985) as transitions, these turning points are a byproduct of interpersonal relationships and ties to traditional social institutions, and act as a locus for behavioral change (Laub & Sampson, 1993). The very nature of these turning points means that they operate within larger, dynamic trajectories (Elder, 1985). While Elder, Gimbel, and Ivie (1991) note that the changes brought on by structural turning points may be abrupt, Laub and Sampson (1993) construct these points as progressions of lasting change, woven into the fabric of social control. Adults, particularly those with strong attachments to traditional social structures, will be less likely to engage in antisocial behavior, regardless of childhood behavior. For delinquents, however, antisocial acts may generate negative opportunities and consequences (Moffitt, 1993; Sampson & Laub, 1993; Tittle, 1998), thereby inhibiting future ties.

Much of the work surrounding the age-graded theory of informal social control has focused on the areas of marriage, employment, and military service (e.g. Laub & Sampson, 2003; see also Laub, Nagin, and Sampson, 1998). Laub and Sampson (2003) explore the impact of incarceration on social bonds and find a negative effect (see also Lilly et al., 2007). Interacting with the criminal justice system then functions as a structural turning point. Incarceration, like marriage, employment, and military service, changes an individual's routine activities. For the age-graded theory of informal social control, the thrust of Laub and Sampson's argument is that severing the social ties between an individual and criminal associations will yield more pro-social relations due to relative proximity (see Warr, 1998). Incarceration, and potentially other interactions with the

criminal justice system, can effectively reduce future pro-social opportunities (Laub & Sampson, 1993). While incarceration may be viewed negatively in light of certain antisocial outcomes, it and other criminal justice interactions may still function as turning points. It is possible that criminal sanctions can backfire (Lilly et al., 2007), though the nuance of social landscapes and the relationships within them are not captured in this thought. If adolescents exist in a heterogeneous network of delinquents and non-delinquents (see Haynie, 2001), then social ties and behavioral decisions could be impacted differently by criminal justice contacts. The reasons for this, however, have been previously attributed to altered movement patterns and routine activities of actors, later yielding severed social ties (Laub & Sampson, 2003).

Thrasher (1927) explains that gangs come into fruition through two contiguous events: spontaneous formation via childhood play-groups, followed by conflict with those nearby. Common interests and proximities beget friendships, but also yield divergent, sometimes conflicting, social groups. Conflict is attributed to limited local resources such as space, opportunity structures, or tangible goods for similarly situated groups, and opposition to traditional social structures for those in positions of formal power. Thrasher (1927) specifically singles out the police as a natural gang enemy. External threats towards a group are believed to create group solidarity (Hagedorn, 1988; Klein, 1971, 1995; Loftin, 1984; Padilla, 1992). Threats to the increasing crystallization of the gang, however, are commonplace, specifically conflict and competition. Member movement in and out of the group threatens group existence, whether by arrest,

adopting some new hobby, or in the case of older members, marriage. For Thrasher, gangs are perpetuated by the problems of urban living – the inaccessibility of parents, politics, and education leave only peers with which to bond. In turn, gangs function as proxy families, providing comfort and release from urban decay. Contemporary research on the relation between violence and cohesion in other fields is, however, inconsistent (Brewer, 1999).

Justification of the Topic

Quantitatively exploring how police contact impacts gang cohesion is relevant for three key reasons: the impact it has on current intervention strategies; it will help disentangle the group mechanisms at play within gangs; and it will revisit older, qualitative criminological work. Current intervention strategies, such as Boston's Operation Ceasefire and the Spergel model, rely on the cohesiveness of gangs in order to combat them, yet this cohesion is a poorly understood phenomenon. Work done in the field of cohesion tends to focus on groups that may be similar (work groups, sports teams, etc.) to gangs, but lack the criminal element that is believed to make gangs unique. The literature in other fields (see Stein, 1976) has found a relationship between conflict and cohesion, but this thesis will explicitly integrate criminology into that fold. Similarly, disentangling group mechanisms will begin a process of refining intervention strategies and future research opportunities. Given the weight that peers carry with respect to crime and delinquency, this information may prove valuable. While the research on gang leaving is scant, what is known is that social ties to the gang wane over time, and that most individuals who join will leave within a short time. However,

those that leave will still often retain social relations with other gang members. Intervention strategies that focus more explicitly on ending friendships or introducing pro-social peers, rather than attempting to end gang ties, may then prove a worthy endeavor. Revisiting Thrasher's (1927) conception of gang formation and cohesion may provide empirical support for his theory, and validate what has been a common theme in gang research for nearly a century. Beyond that, it may serve as a call for re-examining the roots of criminology. Though time consuming and difficult, the advent of new data and methodologies means that exploring qualitative works is becoming increasingly possible.

Chapter 3

METHODOLOGY

Data for the present study were obtained from the National Longitudinal Study of Adolescent Health. This dataset has previously been used to explore issues such as the relationship between peer networks and delinquency (Haynie, 2002), self-control and network placement (McGloin & O’Neill Shermer, 2009), and gender and gang membership (Bell, 2009). Described below are the methodological design of the Add Health project and the sample, dependent and independent variables, and analytical strategy employed in the present study.

National Longitudinal Study of Adolescent Health

The National Longitudinal Study of Adolescent Health is a longitudinal study of adolescent health and behaviors, which originated in 1994. An unequal probability sampling of 132 US schools (80 high schools, 52 middle schools) was drawn from a larger Quality Education Database (Harris, 2007) list of over 26,000 schools sorted on enrollment size, school type, region, location, and percent white and then divided into groups for sampling (Chantala, 2006). Eighty high schools were selected with a probability proportional to enrollment size. More than 70 percent of the originally selected schools agreed to participate in the study (Harris, 2007). Replacement schools were selected within each stratum until an eligible school or school-pair was found (Harris, 2007). Seventy-nine percent of the contacted schools agreed to participate (Harris, 2007). A total of 80 communities are represented in the Add Health data, with school sizes ranging from less than 100 to greater than 3,000 students (Harris, 2007). Sixteen of the

schools participated in a saturated sample, where every student participated in in-home interviews during Wave 1. Two were large, with the remaining schools being smaller. The larger schools were selected purposely, in order to map the social networks of relations within them (Harris, 2007).

Wave I, conducted during the 1994-1995 school year, consisted of an in-school questionnaire administered to all students present at the selected schools on a particular day during one 45 to 60 minute period (Harris, 2007). A total of 90,118 adolescents participated in the Wave I in-school surveys. School administrators were also surveyed on school policies (Harris, 2007). Included in the school survey was ability to nominate friends, in order to map the social networks of students in schools. Respondents in saturated schools could nominate up to five male and five female friends, while others could nominate one male and one female friend.

Based on school rosters, a Wave I in-home sample was also selected. Students in each school were stratified by grade and sex, and randomly chosen from each strata, with students who did not participate in the in-school surveys still eligible for participation (Harris, 2007). Ninety minute questionnaires were administered to an equal probability core sample and an unequal-probability sample of subpopulations such as ethnic and racial minorities and disabled children. This in-home sample is a nationally representative sample of 12,105 adolescents in grades 7 to 12 (Harris, 2007). The response rate for Wave I in-home interviews was 78.9% (Harris, 2007). In addition to adolescent interviews in Wave I, a parent of the respondent was also asked to be surveyed. About 85% of

parents, predominantly mothers, agreed to this, and participated in 30 minute interviewer-assisted interviews (Harris, 2007).

Wave II consisted exclusively of an in-home survey administered between Spring and Fall of 1996. Participants were individuals enrolled in grades 7 through 11 during Wave I, as well as 12th graders participating in the genetic and adopted samples (see Chantala, 2006; Harris, 2007; see also Harris et al., 2009). A total of 14,738 respondents from Wave I participated in the Wave II in-home interviews. For these adolescent interviews, audio-CASI technology (audio-computer assisted self interview) was used (Harris, 2007). The response rate was 88.2% for Wave II (Harris, 2007; “Questions about Field Work,” n.d.).

Contextual variables describing the school and community characteristics of survey participants were also gathered through survey data. School characteristics and policies were gleaned from school administrators. During home interviews, data from global positioning systems and recorded home addresses were linked with sources such as the US Census, the Uniform Crime Report, and the Federal Bureau of Investigation to provide community level data on each respondent (Harris, 2007). The inclusion of this data helps to describe the neighborhood and community contexts in which adolescents are embedded (Harris, 2007).

Sample

The sample for the present study was comprised of students from one urban high school at Wave II. Three datasets were merged in SPSS prior to any analysis being run. These datasets included Wave II in-home interviews, Wave II

contextual variables, and Wave II in-home friendship nominations. Data were sorted by Community ID, descending, and then by School ID, descending. The school of choice was then isolated from the rest of the dataset. The school was chosen for its large size (n=1,199), as well as number of gang members (n=101).

Table 1 presents descriptive statistics for the sample.

Table 1.
Descriptive Statistics for Independent and Dependent Variables (N=848)

	Min	Max	Mean	Std. Dev.
Sex	0	1	.50	.500
Age	12	23	17.36	1.067
Number of friends asked to nominate	0	1	.03	.164
Urban	0	1	.98	.140
Juv Violent Crime Arrests Per 100,000	1.82	162.08	83.594	8.242
Juv Property Crime Arrests Per 100,000	102.33	637.17	225.348	45.602
GangXJuvViolentCrime ArrestRate ^a	-49.89	11.21	.002	2.091
GangXJuvPropertyCrime ArrestRate ^a	-22.91	235.46	-.259	8.031
Gang	.00	1.00	.084	.278
Attended school	.00	1.00	.805	.396
Attachment to mom	.00	5.00	3.874	1.526
Attachment to dad	.00	5.00	2.816	1.979
School attachment	.00	5.00	3.111	1.511
Risk taking	.00	5.00	3.581	1.015
Number of friends	.00	10.00	4.498	2.733
Male friend relationship strength binary	.00	1.00	.461	.499
Female friend relationship strength binary	.00	1.00	.484	.500

a. Mean centered

Dependent Variables

The first dependent variable examined is the number of respondents' outgoing friendship nominations, ranging from zero to ten (Numfriends). Police threat may inhibit the growth of social spheres by isolating individuals who, in this case, are gang members (see Hughes & Short, 2005). This seems logical if delinquency/crime can bring about formal sanctions, thus making an individual less desirable or accessible as a friend among both fellow delinquents and pro-social peers. Alternatively, the threat posed by the police may facilitate the growth of social spheres by increasing cohesion against a common foe.

The second and third dependent variables are dichotomous and describe the strength of the relationship as compared to the sample mean for both male (MF1RelationshipStrength2Binary) and female (FF1RelationshipStrength2Binary) friends. A 1 indicates a strength greater than the sample mean and 0 indicates a strength less than the sample mean. Each outcome was calculated by running a principle component analysis on five binary variables as a measure of relationship strength: “*Did you go to [friend’s] house during the past seven days?* (H2MF11A/ H2FF11A),” “*Did you meet [friend] after school to hang out or go somewhere during the past seven days?* (H2MF11B/H2FF11B),” “*Did you spend time with [friend] during the past weekend?* (H2MF11C/H2FF11C),” “*Did you talk to [friend] about a problem during the past seven days?* (H2MF11D/H2FF11D),” and “*Did you talk to [friend] on the telephone during the past seven days?* (H2MF11E/H2FF11E).” For each question, those who answered yes were coded as 1 and those who

answered no were coded as 0. Those who chose “legitimate skip” as an option were recoded as zeros. The Cronbach’s alpha for the male friend was .738, and for the female friend was .771. Values above .7 are considered statistically acceptable. The resulting relationship strength, ranging from zero to five, was made into an additive scale, conditional on a friend being nominated. Those who scored above the sample mean were coded as a 1, and those who scored below the mean were coded as 0.

Independent Variables

Gang membership (formerly H2DS14) (“*Are you now or have you ever been initiated into a gang?*”) is a transformed binary variable, where membership was coded as 1, and any answer other than yes as 0. While respondent’s gang membership cannot be independently verified in this dataset, self-nomination has been used previously (see Battin et al., 1998), and is considered a robust indicator of gang membership (Esbensen et al., 2001; see also Curry, 2000; Webb, Katz, & Decker, 2006).

Two parental attachment variables, MomAttach (formerly H2WP9) and DadAttach (formerly H2WP13) (“*How close do you feel to your [mom/dad]*”) are five point scales, with 1=not close at all, 3=somewhat close, and 5=extremely close. Respondents who selected “legitimate skip” as an option were recoded as zeros on each attachment scale. The school attachment variable, Feelpartofschool (formerly H2ED16) (“*You feel like you are part of your school/Last year, you felt like you were part of your school*”), was also a five point scale, where 1 means strong agreement with the statement, 3 means neither agreeing nor disagreeing

with the statement, and 5 means strong disagreement with the statement. The variable has been reverse coded, so that a 5 means strong agreement with the statement and 1 means strong disagreement. Respondents who selected “legitimate skip” as an option were recoded as zeros on this scale. Risk taking has also been included as a variable, Risk (formerly H2Pf28) (“*I like to take risks*”), and is measured on a five point scale. It has also been reverse coded, so 5 means strong agreement, 3 means neither agree nor disagree, and 1 means strong disagreement. Respondents who selected “legitimate skip” as an option were recoded as zeros.

The parental and school attachment variables have been included in the analysis as protective factors. Lieberman, Doyle, and Markiewicz (1999) note the importance of attachment to parents and positive friendship qualities among friends. Moreover, closeness between parents and children serve as a proxy for informal social control, specifically monitoring the adolescent’s peers. In conjunction, Thrasher (1927) notes the importance of family and schools with respect to gangs. Gangs form and function as surrogate support groups for children whose families have disintegrated and for whom school is unimportant. Gottfredson and Hirschi’s (1990) theory of low self-control posits that individuals with low self-control make poor friends, and propensity for risk is a key part of the theory. Given the empirical support enjoyed by self-control theory (Pratt & Cullen, 2000), the inclusion of such a variable is warranted.

Contextual Variables

Thrasher's (1927) conception of threat, similar to other literature in the areas of deterrence (e.g. Kohfeld & Sprague, 1990) and gangs (Hughes & Short, 2005), promotes the importance of both interpersonal and street-level interaction. Among peers, conflict is rooted in the competition for resources and space. More relevant to this research though is conflict with the "conventional social order" (Thrasher, 1927, p. 26). The police would break up congregating street groups of youth (p. 46) or chase them, and Thrasher puts forth the notion that gangs and the police are natural enemies. The minority-threat literature offers guidance in how to approach this: using aggregate-level measures and inferring individual perceptions or actions (see King and Wheelock, 2007 for a discussion). Under Thrasher's framework, it would be expected that aggregate police threat would be positively related to the friendship network size and friendship strength of gang members. Aggregate level arrest rates may also impact friendship strength.

These rates, county juvenile property crime arrest rate per 100,000 (CUC93994) and county juvenile violent crime arrest rate per 100,000 (CUC93991), act as a representation of police threat. To see specifically if these arrest rates are specifically impacting gang members, two interaction terms have been created. The first term interacts gang membership with the juvenile property crime arrest rate in the county. The second term interacts gang membership with the juvenile violent crime arrest rate in the county. The continuous variable in

each interaction term has been centered at the mean, to reduce multicollinearity¹. The use of juvenile arrests, as opposed to adult number of arrests, is done for two reasons. First, juvenile arrests may affect juveniles differently than adult arrests, in the sense that news about the arrest of a friend will spread quickly in adolescent social networks. This may not be the case with respect to adult arrests. Second, over half of the sample is under the age of 18, and over three-fifths of gang members in the sample are under 18.

There are limitations with this approach, namely that the data are readily available only at the county level. In addition, Liska (1997) describes the weakness of the minority-threat literature as assuming micro-level processes with respect to perceptions of threat. A key distinction must be drawn between racially motivated perceptions of threat and criminally motivated perceptions of threat. The police are natural enemies of the gang because of the resources which they bring to bear in competing with the gang. Gang members have little incentive to come into contact with the police, given that it may result in arrest, incarceration, inhibit drug dealing, etc.

Control Variables

Control variables include respondent's sex (BIO_SEX2) (recoded from (male=1, female=2) to (male=1, female=0)) and respondent's age in years (CALCAGE2), which ranges from 12 to 23. The number of friendship nominations able to be made, FR_Flag, is a binary variable where 0 means up to

¹ The interaction terms were originally run without having centered the continuous variables. This resulted in high correlations between the interaction terms and the juvenile arrests rates, likely biasing estimates in the model.

ten friends and 1 means up to two friends. This variable has been included because although the school used is a saturated school, some students were not asked to nominate up to ten friends. Another variable, *Inschool* (formerly *H2GI6*), (“*Are you presently in school?/ Were you in school during this past school year?*”) measuring whether or not the respondent attended school in the past year was also transformed, where any amount of time in school=1, and no time=0. School serves as the primary area where adolescents make friends (Haynie, 2002) and removal from or leaving school can impact social ties (Pyrooz et al., 2010). A binary variable, *Urban*, was used to capture whether the respondent lived in an urban block group, with urban=1, and partly rural=0.

Analytic Strategy

Bivariate relationships (*Pearson’s r*) between the theoretically relevant variables, gang membership, juvenile arrest rates, number of friends, and friendship strengths will be estimated. Three sequential models will be run, with all analyses conducted using SPSS. First, ordinary least squares (OLS) regression will be run with number of friends being the outcome measure. Next, both relationship strength dependent variables will both be analyzed using binary logistic regression. Significance levels of .05 are to be used in the analysis.

Bivariate Analysis

Table 2 presents the bivariate correlations for the variables used. Correlations between independent variables were run to check for multicollinearity using a threshold of .70. Gang membership is positively associated with number of friends (.012, $p > .05$), but is negatively associated

with both male ($-.008, p > .05$) and female ($-.005, p > .05$) relationship strengths. The interaction between gang membership and violent crime arrests per 100,000 is negatively associated with number of friends ($-.039, p > .05$) and female relationship strength ($-.032, p > .05$), but positively associated with male relationship strength ($.057, p > .05$). The interaction between gang membership and juvenile property crime arrests per 100,000 is positively associated with number of friends ($.062, p > .05$) and male relationship strength ($.016, p > .05$) while negatively associated with female relationship strength ($-.029, p > .05$). All of these associations, however, are weak and fail to achieve statistical significance. Urban and juvenile property crime arrests per 100,000 were high correlated ($-.764, p < .01$), leading to the removal of Urban from the model. No other correlations crossed the .70 threshold. With the removal of Urban from the model, tolerance estimates and variance inflation factors were used to rule out any remaining collinearity issues (see Appendix A). Tolerance factors in the regression model do not fall below the .65 threshold, and variance inflation factors do not exceed 1.3. Because these thresholds are not crossed, collinearity should not be an issue (Wooldridge, 2009). With this in mind, multivariate analysis is necessary to further explore the research hypothesis.

Table 2. Bivariate Correlations (N=848)

	Y1	Y2	Y3	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14
Y1 Number of friends	1																
Y2 Male friend relationship strength	-.001	1															
Y3 Female friend relationship strength	-.009	.144**	1														
X1 Sex	.003	.082*	-.197**	1													
X2 Age	-.013	.090*	.037	.061	1												
X3 Number asked to nominate	-.219**	-.097**	.024	-.033	-.295**	1											
X4 Urban	.013	-.004	-.016	-.071*	-.018	.023	1										
X5 Juv Violent Crime Arrests Per 100,000 ^a	.002	.012	-.001	-.040	-.042	.085*	.600**	1									
X6 Juv Property Crime Arrests Per 100,000 ^a	.025	.007	.012	.074*	.017	.011	-.764**	-.418**	1								
X7 GangXJuvViolentCrimeArrestRate	-.031	.049	-.010	.032	-.015	.007	.002	.208**	-.060	1							
X8 GangXJuvPropertyCrimeArrestRate	.064	.013	-.026	.001	.039	-.009	-.001	-.062	.201**	-.300**	1						
X9 Gang	.012	-.008	-.005	.150**	-.035	.000	.041	.007	-.006	.046	-.036	1					
X10 Attended school	.091**	-.007	.021	.013	-.099**	-.167**	.001	-.036	-.006	.022	.018	-.098**	1				
X11 Attachment to mom	.106**	-.037	-.007	.066	-.040	.012	.004	-.010	.039	-.034	.044	-.026	.097**	1			
X12 Attachment to dad	.110**	.033	-.058	.127**	.042	-.063	.013	-.037	.007	-.005	.026	-.037	.086*	.132**	1		
X13 School attachment	.100**	-.062	.037	-.052	-.060	-.004	-.013	.010	.014	.035	.008	-.096**	.144**	.084*	.096**	1	
X14 Risk taking	-.022	.109**	.011	.132**	-.031	-.011	-.047	.006	-.048	-.013	.001	.152**	-.001	-.027	-.014	-.003	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

a. Mean centered

Chapter 4
FINDINGS

Table 3. Multivariate Regression Predicting Number of Friends (N=1047)

	B	S.E.	Beta
(Constant)	5.595	2.009	
Sex	-.276	.170	-.050
Age	-.188	.088	-0.067*
Number of friends asked to nominate	-3.035	.552	-0.175***
Juv Violent Crime Arrests Per 100,000	.004	.011	.011
Juv Property Crime Arrests Per 100,000	.000	.002	.004
GangXJuvViolentCrimeArrestRate ^b	-.036	.039	-.029
GangXJuvPropertyCrimeArrestRate ^b	.016	.010	.050
Gang	.479	.311	.047
Attended school	.060	.218	.009
Attachment to mom	.215	.057	0.116***
Attachment to dad	.145	.043	0.103**
School attachment	.164	.082	0.061*
Risk taking	.042	.085	.015

b. Mean Centered

*p < .05, **p < .01, ***p < .001

R-Square = .073

Ordinary Least Squares Regression

The first hypothesis, that police threat has no effect on the size of gang member friendship networks, was tested by regressing number of friends on the independent variables in Table 3. Three of the theoretically relevant variables, gang ($p = .124$) and the gang/property crime interaction term ($p = .109$), and biological sex ($p = .106$) approach but do not cross standard significance thresholds. Five variables are significant in the model: age ($-.188$, $p = .033$), attachment to mom ($.215$, $p = .000$), attachment to dad ($.145$, $p = .001$), attachment to school ($.164$, $p = .045$), and the number of friends that the respondent was asked to nominate (-3.035 , $p = .000$). We fail to reject the null hypothesis that police threat impacts the size of gang member friendship

networks. It is important to note that the R-squared value for Table 3 is very low, only 7.3%. This means that other factors, unaccounted for in this model, are contributing greatly to the number of friends that someone has. This is likely due, in part, to the absence of demographic information in the second wave of data (notably respondent's race). Other potentially valuable characteristics include length of time attending school with one's classmates, socioeconomic status, and sociability.

Logistic Regression Models

Because the friendships strength dependent variables are dummy coded, logistic regression is used for data analysis. Male friendship strength is regressed on the independent variables in Table 4. The model has weak predictive power (Nagelkerke $R^2 = .057$). However, the statistical significance of the χ^2 illustrates that the model has better predictive power than a constant-only model. Consistent with the bivariate analysis, neither the interaction terms nor gang membership were significantly related to male friendship strength. In this case, we fail to reject the null hypothesis that there is no relationship between gang membership, police threat, and male relationship strength above the sample mean. With respect to the male relationship strength model, the significant variables are the number of friends asked to nominate ($p < .05$), and risk taking ($p < .001$). If the respondent was asked to nominate fewer friends, then the respondent has 72.5% reduction in odds of having a strong relationship with his or her first male friend.

Table 4. Logistic Regression Predicting Male Friend Relationship Strength (N=933)

Variable	B	S.E.	Wald	Exp(B)
Sex	.239	.139	2.971	1.270
Age	.121	.074	2.718	1.129
Number of friends asked to nominate	-1.290	.576	5.008*	.275
Juv Violent Crime Arrests per 100,000	.000	.009	.002	1.000
Juv Property Crime Arrests per 100,00	.000	.002	.030	1.000
GangXJuvViolentCrimeArrestRate ^a	.711	584.347	.000	2.036
GangXJuvPropertyCrimeArrestRate ^a	.056	112.129	.000	1.057
Gang	-.666	883.893	.000	.514
In school	-.038	.178	.046	.963
Attachment to Mom	-.073	.048	2.333	.930
Attachment to Dad	.018	.036	.249	1.018
Attachment to school	-.085	.066	1.670	.918
Risk taking	.250	.070	12.668***	1.284
Constant	-2.770	1.699	2.658	.063

a. Mean Centered

*p < .05, ** p < .01, ***p < .001

Model $\chi^2 = 40.867^{**}$

Nagelkerke $R^2 = .057$

A one-unit increase in risk taking (becoming more apt to take risks) increased the odds of having a relationship strength above the sample mean by 28%.

Female relationship strength was also regressed on the independent variables in Table 5. The predictive power of the female friend model is stronger than for male friends (Nagelkerke $R^2 = .068$), though this is modest at best. Even with this modest predictive power, the χ^2 significance indicates a stronger predictive power than a constant-only model. The results for female relationship strength echo the findings of the bivariate analysis. Neither gang membership nor the interaction terms are significantly related to female relationship strength.

Table 5. Logistic Regression Predicting Female Friend Relationship Strength (N=918)

Variable	B	S.E.	Wald	Exp(B)
Sex	-.841	.143	34.563***	.431
Age	.145	.072	3.999*	1.156
Number of friends asked to nominate	.575	.450	1.637	1.778
Juv Violent Crime Arrests per 100,000	.001	.009	.021	1.001
Juv Property Crime Arrests per 100,00	.001	.002	.917	1.001
GangXJuvViolentCrimeArrestRate ^a	-.347	377.475	.000	.707
GangXJuvPropertyCrimeArrestRate ^a	-.131	141.676	.000	.877
Gang	-.356	600.835	.000	.700
In school	.198	.180	1.199	1.218
Attachment to Mom	-.015	.048	.104	.985
Attachment to Dad	-.051	.036	2.035	.950
Attachment to school	.058	.068	.724	1.060
Risk taking	.119	.071	2.798	1.126
Constant	-3.273	1.655	3.909*	.038

a. Mean Centered

*p < .05, **p < .01, ***p < .001

Model $\chi^2 = 49.356^{**}$

Nagelkerke $R^2 = .070$

We thus fail to reject the null hypothesis that there is no relationship between gang membership, police threat, and female relationship strength above the sample mean. Significant variables in the model were age and sex. A one-unit increase in age was associated with a 156% increase in the odds of having a friendship strength above the sample mean. Being male was associated with a 56.9% reduction in odds of having a strong relationship strength².

² To address concerns of a “masking effect” by including both gang and non-gang adolescents in the analysis, a sub-sample comprised only of male gang members was also analyzed (N=76). Because of the smaller size in the sample, some variable were excluded. Variables in the model were attachment to mother, school attendance, school attachment, risk, and juvenile violent and property arrest rates. As with the larger sample, the aggregate arrest rates were not significant.

Chapter 5

DISCUSSION

Bursik (2008) notes that while the field of criminology is evolving and growing, it is a worthwhile endeavor to revisit the work of those who have come before us. Thrasher's (1927) *In the Gang* serves as a seminal piece of gang literature and as starting point for much modern gang research. As applicable data becomes more available, the ideas proposed long ago deserve quantitative exploration. At the core of Thrasher's (1927) work is the notion that conflict serves to solidify ties between youths, which in turn causes the formation and perpetuation of gangs. Alternatively, the work of life course theorists (Laub & Sampson, 2003) posits that criminal justice threats and sanctions will negatively impact social ties. While other peer groups and teachers offer some degree of threat, the police are the natural enemy of a gang. Only limited research has been conducted on the role that police threat plays in gang cohesion (see Klein, 1971; Spergel & Grossman, 1998). Even with this limited research, conflict still informs the intervention strategies currently in place by law enforcement (Braga, 2008; Kennedy, Piehl, & Braga, 1996; Spergel & Grossman, 1998; Spergel, Wa, & Sosa, 2006). These interventions typically require a combination of resources and interagency support, while attaining only mixed results. This may be due, in part, to the poorly understood phenomenon of social ties among adolescents. The purpose of this thesis has been to study whether police threat, in the form of aggregated juvenile arrest rates, impacts the social ties of gang and non-gang adolescents.

Using data from a large school in the National Longitudinal Study of Adolescent Health, the effect of police threat on social ties was measured in two ways. Using multivariate regression, the impact of aggregate juvenile arrest rates on the size of gang and non-gang adolescent's outgoing social networks was examined. In addition, using binary logistic regression, the impact of aggregate arrests on the strength of interpersonal ties among respondents' first male and female friend were examined. Two key findings emerge from this research. First, aggregate juvenile arrests rates were found to not be significantly related to the size of respondent's social networks, regardless of gang membership. Second, the threat from police for gang and non-gang adolescents was not a significant predictor of having a relationship strength above the sample mean. Both of these findings stand in contrast with the thoughts of Thrasher (1927) and other gang theorists who have focused on gang threat and cohesion.

In contrast with prior literature (Lieberman et al., 1999), it was found that individuals with greater parental and school attachment were expected to have more friends. Lieberman et al. (1999) do use incoming social nominations, rather than outgoing ties, which may explain the conflicting findings. However, the findings in this study still point (indirectly) to the importance of socialization practices in early childhood (e.g. Gottfredson & Hirschi, 1990; Hirschi, 1969). Good parenting practices can facilitate more pro-social attitudes and behaviors in children and adolescents. Individuals who are close to their parents may, for example, be less likely to miss school or to drop out, and thus be exposed more often to their peers than adolescents with lower levels of parental attachment. The

role of age on the size of one's outgoing social network has also received recent scholarship (Bidart & Lavenu, 2005). In this sample, older individuals reported fewer friends, after controlling for whether or not they attended school. This may be due to friends leaving school, especially if the respondent had many older friends.

Factors that promoted larger social networks (parental and school attachment) were not significantly related to having a relationship strength above the sample mean for male or female friends. Respondents who were more prone to risk taking were more likely to have stronger relationships with their male friend (c.f. Dishion et al., 1995; Gottfredson & Hirschi, 1990). This particular school was not risk-averse, thus giving many students opportunities to form ties with others most like themselves (but see Young, 2010). It may also be that inherent risk taking may be a necessary trait among adolescent males, lest they not make good friends. The number of friends a respondent was able to nominate decreased the odds of having a relationship strength with first male friend above the sample mean. Similarly, for female friendship strength, if the respondent was a male, then the odds of having a strong relationship decreased. Older individuals reported higher odds of having a strong relationship with their female friend. While sex was not a significant predictor of male friend relationship strength, because males typically operate in larger social spheres (Belle, 1989; Benenson, Apostoleris, & Parnass, 1998), and value their relationships less than females (Hartup, 1993), unexplored gender dynamics may be driving this finding.

Given the limited generalizability of the current study and the limitations discussed previously, specific policy recommendations based on these results seem premature. However, further research should focus on friendship patterns among adolescents and how threats from competing groups (peers, teachers, parents, and law enforcement) impact relations. Future research into gangs would be served well by considering how threats from law enforcement organizations and other gangs drive both group and interpersonal attachment. Attention in this area seems especially prudent as more interest in gang desistance is garnered. Four conceptual areas of improvement can be made with respect to the relationship between criminal justice interaction and social ties.

First, moving towards disaggregated levels of threat should improve the predictive power of models. With respect to the threat posed by police to adolescents, a better measure of that threat may be police per capita. Though not available in the Add Health data, police per capita acts as a more direct measure of threat than aggregated arrest rates. In addition to police per capita, prior police contacts will likely have a conditioning effect on both perceptions of threat as well as ties (e.g., Hagan & Dinovitzer, 1999). Concurrently, contact with different agencies (police, probation, and social services) may have differing consequences on the friendships of adolescents. Second, because of the complexity of adolescent friendships (Giordano et al., 1986), there may be similar conditioning effects for prior levels of attachment that are unaccounted for here. While friendships are traditionally stable (Busk, Ford, & Schulman, 1973; Tuma & Hallinan, 1979), there is likely short and long term variability in the strength of

those ties. This research has been conducted using only one wave of data from a longitudinal survey. Future research would do well in studying the long-term processes and mechanisms that competing threats may play in the formation, strengthening, and severing of social ties. Third, gender differences in attachment and similar friendship processes should continue to be examined, as all may be related to differences in threat responses. Fourth, the exclusion of criminal acts in this research has been a specific function of Thrasher's (1927) conception of the gang – criminality was neither necessary for one to be a gang member, nor for the police to act as natural enemies of the gang. In moving away from the gang context into a broader exploration of the impact of criminal justice processes on social ties, measures of offending warrant inclusion into future research models.

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APPENDIX A

VARIANCE INFLATION FACTORS AND TOLERANCE

Variables	Number of Friends	
	Tolerance	VIF
Sex (1=male)	.933	1.072
Age	.891	1.122
Number of friends asked to nominate (1=up to two)	.884	1.132
Juv Violent Crime Arrests Per 100,000	.799	1.252
Juv Property Crime Arrests Per 100,000	.832	1.202
Gang (1=yes)	.947	1.056
In school (1=yes)	.913	1.096
GangXJuvViolentCrimeArrestRate ^a	.887	1.127
GangXJuvPropertyCrimeArrestRate ^a	.929	1.076
Attachment to mom	.942	1.062
Attachment to dad	.933	1.072
Attachment to school	.947	1.056
Risk taking	.967	1.035

a. Mean centered

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