

**GANGS, GROUPS, AND DELINQUENCY: DOES  
MEMBERSHIP AND ORGANIZATIONAL LEVEL  
MATTER?**

by

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## **ABSTRACT**

A consistent finding in delinquency research is that gang membership is strongly associated with increased delinquency levels for its members. What is less known are the reasons explaining why and how “membership” affects delinquency. Examining the level of organization manifested by the gang may help in understanding how membership affects delinquency. Changing the focus from “membership” to “organizational level” allowed for the consideration of other delinquent associations, namely those offenders who claim membership to a delinquent group. The relationship between organization and delinquency is examined using a self-report delinquency survey administered to 1262 high school students in the province of Quebec, Canada. Results show a progression in delinquency from non-affiliated offenders to group members, with gang members reporting the highest levels of delinquency. Rather than simply emphasizing membership, the multivariate results suggest that much of this effect can be attributed to the level of organization found in the group, or gang.

**Keywords: Delinquent groups; Youth gangs; Group Offending; Organization; Delinquency**

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## **1: INTRODUCTION**

Much of the research examining delinquency has revealed that gang members show higher levels of delinquent behaviour than non-gang members (Battin, Hill, Abbott, Catalano, & Hawkins, 1998; Esbensen & Huizinga, 1993; Gordon, Lahey, Kawai, Stouthamer-Loeber, & Farrington, 2004; and Thornberry, Krohn, Lizotte, & Chard-Wierschem, 1993). A number of longitudinal studies examining delinquency over time have established that the period of gang membership facilitates higher delinquency rates compared to the periods before joining or leaving a gang (Gatti, Tremblay, Vitaro, & McDuff, 2005; Gordon et al., 2004; Esbensen & Huizinga, 1993; Thornberry et al., 1993). Less well researched are the reasons explaining why and how “membership” affects delinquency.

At the most basic level, gangs are a type of group, thus examining the group context of offending is an important starting point for the investigation into the possible reasons accounting for this membership effect (Short, 1998; Thornberry et al., 1993). Research on peer influence has consistently shown that having friends who are involved in delinquency intensifies delinquent and violent behaviour (Agnew, 1991; Haynie, 2001; McGloin and O’Neill Shermer, 2009; Thornberry & Krohn, 1997; Thornberry, Lizotte, Krohn, Farnworth, & Jang, 1994; Warr, 2002; Zhang & Messner, 2000). Gangs provide a setting where opportunities to associate with other delinquent peers is increased. If delinquent behaviour is related to delinquent peer associations then a higher number of delinquent friends should have a greater influence on offending behaviour. However,

tests of the peer influence hypothesis have failed to explain why gang members have higher rates of offending behaviour. Even after controlling for peer influence, gang membership remained an independent predictor of delinquency (Battin et al., 1998; Thornberry, Krohn, Lizotte, Smith, & Tobin, 2003). Obviously there is something else other than the number of delinquent peers associations that explains the effect of gang membership on delinquent behaviour.

An important difference between gangs and other delinquent associations are the organizational characteristics they exhibit. Gangs are more likely to have a more formal hierarchical structure, presence of leadership roles (Klein, 1995) and are often very territorial compared to non-gang peer groups (Klein, 1996). Ethnographic studies examining the presence of organization in gangs have provided evidence that organization may be related to how well the gang operates in committing criminal activities, especially in the role of drug sales (Sanchez-Jankowski, 1991; Padilla, 1992; Taylor, 1990). In this sense, gangs are better organized to commit crime than less formalized delinquent affiliations. This is not to suggest that gangs are or have to be well organized, simply that gangs as opposed to groups are better able to operate as 'organizations', albeit very loose ones. The higher levels of organization found within gangs may increase the capacity to produce and seize more crime opportunities. While research into the organizational structure of gangs is not new, investigation of the relationship between the level of organization and delinquency has received considerably less attention. Gangs are not the sole entities organizing themselves for criminal purposes. Co-offending literature suggests that delinquent groups also may exhibit organizational properties typically considered to represent gangs. Changing the focus

from “membership” to “organizational level” allows for the consideration of other delinquent associations outside of the gang, namely those offenders who claim membership to a delinquent group. If organization matters, then changes in the organizational level manifested should be related to variations in delinquency regardless of belonging to a gang or a group.

This thesis will attempt to answer a number of research questions. First, following other studies investigating the relationship between gang membership and delinquency, will respondents claiming gang membership have higher levels of delinquency compared to non-gang offenders? Instead of only examining the differences between gang and non-gang youth, co-offending literature suggests that finer distinctions may be warranted. The current paper adds a third and important group to the analysis, delinquent groups. Although research has found that gang members exhibit higher levels of delinquency than non-gang members do, an important question is whether gangs are fundamentally different from other violating youth groups. Secondly, since gang membership is a strong predictor of delinquency will *group* membership have the same effect when gang members are excluded from the analyses? If the addition of group processes from solo to group offending, and from group to gang offending facilitates an increase in delinquent behaviour then we should see a progression in the level of involvement in offending. Thirdly, if a relationship does exist between organization and delinquency, will organization have a similar effect on gangs and groups? Fourth, if gang members have higher levels of delinquency than group members, how much of that result is attributed to the organizational level present. Lastly, is the relationship between “membership”, “organization”, and delinquency similar across offence types?

This thesis will begin by briefly examining the historical context of gang and group research, with particular attention paid to how definitions have changed over the course of time. The purpose here is not to provide a definitive answer as to what a gang is or even propose a working definition but rather to touch on certain conceptual issues regarding gang definitions in addition to issues concerning measurement and validity. In order to understand how and why membership has an effect on delinquency, it is necessary to examine the context of group offending and how peers and peer networks influence offending behaviour. Of particular interest is whether gangs differ from other law-violating youth groups. Research concerning the potential 'gang effect' on offending behaviour will be reviewed in order to assess why gangs have such an effect on delinquent behaviour. Part of this reason may have to do with the organizational level present in gangs and as such, studies examining the relationship between organization and delinquency will be examined.

## **2: LITERATURE REVIEW**

### **2.1 Definitional Issues**

The group nature of delinquency has been at the forefront of criminological research for quite some time. Shaw and McKay's (1931) study of juvenile court records in Chicago, was one of the first to discover the important role that the peer group had on behaviour. Over 80% of juvenile delinquents brought before the court had accomplices. Pioneers such as Sutherland (1947) and Burgess and Akers (1966) highlight the importance of learning licit or illicit behaviour within primary groups. Values, attitudes, motivations, and techniques are all transferred between peers within an intimate group setting. It is here that we see how important the peer group is and how the peer group contains models for delinquent behaviour (Samecki, 2001). Evidence for the group nature of crime has consistently been replicated using a variety of sample sizes and methodologies. While more recent work has noted potential contingencies on this claim, such as offence-specific differences (see Erickson, 1971; Reiss & Ferrington, 1991; Warr, 1996), the group aspect of delinquent behaviour has been one of the most robust findings in criminological research.

If the nature of delinquency is largely a group phenomenon, then what are the characteristics of these delinquent groups? Delinquent groups are often smaller co-offending groups, averaging two to four members (Reiss, 1986; Warr, 1996), are characterized by a lack specific roles and definitions for these roles, and generally do not exhibit high levels of organization (Warr, 2002; Yablonsky, 1959). Delinquent acts

committed by small groups are often part of a larger clique or network, or in some cases a gang (Reiss, 1988; Warr, 2002). Cliques may independently operate with a specific operational goal such as robbery, theft, or drug trafficking but may affiliate themselves within a larger gang network for conflict and socialization purposes (Klein, 1971). Klein (1971) describes such groups as “specialty cliques” who may or may not be part of a larger gang structure but who exhibit and stimulate specific patterned behaviour, conflict activities resulting from riots or gang rivalry, and drug use.

Affiliation with these groups are often transitory and shifting which results in an unstable structure. The rather temporary life span of delinquent groups means offenders will rarely have the same opportunity to occupy the same role in the group, which inhibits the development of a defined set of structural properties (Warr, 2002). In this sense, delinquent groups resemble Yablonsky’s (1959) description of delinquent gangs as “near-groups”, where at one extreme there exists “a highly organized, cohesive, functioning collective of individuals, as members of a sociological group. At the other extreme, we have a mob of individuals characterized by anonymity, disturbed leadership, motivated by emotion, and in some cases representing a destructive collectivity within the inclusive social system” (pg. 108). Warr (1996) argues that “if a defining characteristic of a crowd is its impermanence or absence of history, then these data suggest that offending groups fall more toward the crowd end than the group end of the continuum” (pg. 34). It may seem as though it makes little sense then to attribute causal significance to groups when discussing its influence on delinquency because of the reported transitory nature of groups, however Warr (1996) highlights that this alone is not sufficient to disregard the notion of peer influence. Since not all members of a group are equally motivated to

commit crime, instigation (i.e. deliberately initiating a course of action) is a consequence that results from the interaction of both group and individual characteristics and therefore delinquency cannot be fully understood without referring to group traits (Warr, 1996).

Gangs can be likened to an extreme form of group criminality and have also occupied researchers for quite some time. Gangs have had a pervasive presence throughout historical and contemporary societies with the earliest accounts of gangs dating back to at least the fourteenth and fifteenth centuries in Europe (Sheldon, Tracy, & Brown, 2001). The term *gang* has had a long and varied history of use. The definitional issues surrounding gangs and groups have occupied researchers, law enforcement agencies, and policy makers for decades with no sign of abatement. Sanchez-Jankowski (1991) argues that the term gang was first used to apply to western outlaws in the beginning of the 19<sup>th</sup> century in North America. The earliest records of youth gangs, at least those resembling current definitions, have existed in the United States since at least the 1870s (Curry & Decker, 2003). By the 1920s and into the 1930s the term gang also started to become associated with notions of organized crime. It was during this time that an awareness emerged regarding the conceptual distinction between organized groups consisting of adults and those consisting primarily of adolescents (Sanchez-Jankowski, 1991). Frederic Thrasher (1927) was one of the first to argue for the necessity of gang classifications to be based on age. Contemporary definitions of gangs such as those by Decker and Van Winkle (1996) and Short (1996) have included the requirement of an age-graded peer group or 'non-adult-sponsored' as an essential feature. The notion of age-grade is important because the processes operating in youth gangs are different from those in adult organized crime groups (Thrasher, 1927).

Gangs have been defined classically by referring to group processes and urbanization. For instance, Albert Cohen (1955) defined gangs in terms of a collective solution to the problems of social status and Cloward and Ohlin (1960) focused on the degree of integration of legitimate and illegitimate opportunity structures. Thrasher's (1927) definition emphasizes the social dynamics leading to cohesion and the role of culture in understanding gangs. While process-based definitions still appear in the literature, Hagedorn (1988) notes that most gang research is concerned with understanding why gang members are delinquent rather than how gangs emerge within certain community contexts and the interaction of these gangs with the social environment. This shift in focus highlights the number of definitions requiring delinquent behaviour as a fundamental requirement, whereas for Thrasher this definitional aspect was an empirical question (Bursik & Grasmick, 1993).

There exists an abundance of delinquency-based definitions, even more so than process-based definitions. Many gang researchers stress the importance of illegal activities when defining gangs and when differentiating between gangs and other youth groups (Curry & Decker, 2003; Esbensen, Winfree, He, & Taylor, 2001; Klein & Maxson, 1989). Klein and Maxson (1989) argue that by ignoring the criminal involvement element in definitions, you ignore exactly what makes them qualitatively different. Without this defining property, many law-abiding groups such as church groups or sports teams would qualify for analysis. Others however, disagree with the inclusion of delinquency as a defining factor (Hagedorn, 1988; Moore, 1991; Morash, 1983). For instance, Short's (1996) definition of a gang deliberately avoids any connection to criminal behaviour:



Gangs are groups who members meet together with some regularity, over time, on the basis of group-defined criteria of membership and group-defined organizational characteristics; that is, gangs are non-adult-sponsored, self-determining groups that demonstrate continuity over time. (pg. 5)

Thrasher (1927) also did not explicitly use delinquent or criminal activities in his definition of gangs. Rather he viewed gangs as “an interstitial group originally formed spontaneously, and then integrated through conflict” (pg. 46). Morash (1983) argued including delinquency as a definitional requirement would be tautological and thus examined gang-like behaviour of groups without this requirement. Klein and Maxson (2006) counter this argument by stating that the variety of criminal orientations and criminal involvement by gangs avoid this circular notion because studies can examine the levels, types, and circumstances surrounding criminal involvement. Also, studies can focus on non-criminal aspects such as organizational characteristics, leadership, size, cohesiveness, amongst many others. Despite the argument held by Klein and Maxson (1989, 2006), Bursik and Grasmick (1993) are more cautious in their conclusions and leave the reader with the following thought: “we are uncomfortable with the delinquent behavior criterion, for it makes a possible outcome of gang activity one of the defining characteristics” (pg. 123). Statements such as these leave the reader with the sense that it has to be an all or nothing requirement to study gang crime. There exists a great deal of variation in the level and type of offences committed and by studying these variations does not interfere with definitions that include illegal behaviour and one of the requirements for gangs (Klein, 1995).

It is apparent that the ambiguities concerning gang definitions have yet to be resolved. The conceptual issues regarding what constitute a gang are not trivial and as a result, a definition has yet to be universally accepted among not only gang experts but also by law enforcement personnel. Researchers using official or police data must rely on law enforcement definitions of gangs and gang crime. As there is no consensus among law enforcement agencies or the government, definitions will often differ from one jurisdiction to another. Without a standard accepted definition, comparisons and gang estimates are often rendered meaningless. For instance, in the *Canadian Police Survey on Youth Gangs* (Chettleburgh, 2002), 264 police agencies were surveyed regarding their opinion on the characteristics of youth gang problems in urban, suburban, and rural cities across Canada. They found a number of different opinions among police agencies regarding what is and what is not important for determining classification criteria for youth gangs. Seven of the 59 police agencies who responded to this section indicated that wearing or displaying “common colours or other insignia” was the most important feature for defining a gang whereas eight agencies indicated this was the least important (p. 23). This may lead to definitions that are either too broad, erroneously including groups of delinquents or other law-violating youth groups, or too narrow restricting potential groups from being included (Esbensen et al., 2001).

One way to overcome this problem is to refrain from imposing gang status. Self-identification methods for determining gang membership are often employed in gang research and have been used since the beginning of the 20<sup>th</sup> century in gang research (Decker & VanWinkle, 1994; Esbesen & Huizinga, 1993). An important question however, is whether this is a valid method of accurately capturing who is or who is not a

gang member. From a research perspective, Esbensen et al. (2001) found self-nomination techniques to be a relatively robust measure of gang membership capable of differentiating between youth gang members and non-gang youth. On the other hand, from a theoretical perspective there could be possible conceptual differences between those gang members who have certain organizational components and those who do not. Theoretically-based predictors, such as those from a social learning perspective, become more important as the definition for gangs becomes more restrictive (Esbensen et al., 2001). In addition, some youth groups may wish to imitate actual gangs by wearing gang colours or spraying graffiti (Howell & Egley, 2005). This type of behaviour operating in isolation is not indicative of a 'gang' problem and thus to characterize this adolescent's behaviour as gang behaviour is somewhat problematic.

What complicates this issue further is that these types of definitional issues do not solely exist among academics and criminal justice personnel, gang members themselves often have different conceptions as to what constitutes a gang. In Decker and Van Winkle's (1996) ethnographic study on gangs in St. Louis, they found considerable variation when gang members were asked the question "What is a gang?" (pg. 62). Some gang members' characterization of gangs highlighted the role of threat, the need for protection, or defined a gang in terms of criminal activities, especially violence. The most common property given by 92% of gang members interviewed was the collective nature of gangs, highlighting the important role the group plays for the gang. Other problems originate with the fact that gang members may not actually refer to themselves as such. Designations such as "membership", "member", or "gang" may not have the same connotations as a gang researcher would expect. For instance, Fleisher's

(1998) ethnographic study of a street gang in Kansas, the Fremont Hustlers, illustrates the fluid notion of what it means to be a 'member' of a 'gang' and found these words to be "static notions which fit neither the natural flow of Fremont social life nor the perceptions of Fremont kids" (pg. 130). Rather, the symbolic representation of gang membership is what was important, not necessarily the words normally used to describe gangs and their characteristics. Decker and Van Winkle's (1996) definition of a gang also mentions the importance of symbolic representation of membership. Their working definition of a gang is "an age-graded peer group that exhibits some permanence, engages in criminal activity, and has some symbolic representation of membership" (pg. 31).

Also problematic is the use of the word *gang* or its synonyms in countries outside of North America to study gangs. The word *gang* is familiar in North America but less so in other regions such as Europe (Weerman, 2005). This issue has been addressed by using a funneling procedure in survey research. Respondents proceed through a number of questions regarding formal and informal peer groups, the characteristics of these groups, criminal activities, and finally whether they would call their group a gang (or some similar term depending on the language). Then researchers can determine if the respondent meets the requirements of a gang or group under the Eurogang definition. This allows for both the objective and subjective assessment of gang membership (Weerman, 2005).

This brings us to the issue of groups and gangs. Very few would dispute the fact that gangs are a more extreme type of group. However, are delinquent groups or other law-violating youth groups qualitatively different from *gangs*? The point at which a group becomes a gang is heavily debated amongst gang researchers (Ball & Curry, 1995).

Sherif and Sherif (1964) argue that there should not be a differentiation between gangs and groups because to varying degrees, they both have the same organizational properties and normative group processes that influence and regulate behaviour. Accordingly, descriptive labels such as 'gangs', 'cliques' or 'clubs' are not important as the focus should instead be focused on groups and their structural and normative components (e.g. stability, solidarity, strength of roles, cohesion) (Sherif & Sherif, 1964, pg. 58). A number of gang researchers would contest this assertion and claim that gangs are indeed qualitatively different from delinquent peer groups (Klein, 1995; Klein & Maxson, 1989; Moore, 1991). Gangs are often different from peer groups in terms of territoriality (Klein, 1996), structure, and powerful group processes (Decker, 1996; Short & Strodbeck, 1965). Gang researchers have proposed that group and socialization processes unique to gangs have an effect on delinquency. The status, solidarity and cohesion between members provide an atmosphere that facilitates and encourages delinquency (Klein, 1995; Short & Strodbeck, 1965; Thornberry et al., 1993). Klein (1995) concludes that "street gangs are something special, something qualitatively different from other groups and from other categories of law breakers" (pg. 197).

If groups are indeed qualitatively different from other delinquent peer groups, does this then indicate that groups do not share any of the characteristics seen in gangs? Evidence suggest not necessarily. Gordon's (2000) "wannabe-groups", for example, share similar characteristics to gangs, such as a gathering location, name, and specific identifying colours. While Moore's (1991) observational research has led her to conclude that "gangs are not longer just at the rowdy end of the continuum of local adolescent groups-they are now really outside that continuum" (pg. 132), researchers might find it

useful to consider affiliation under a continuum of organization which can be more (gang) or less formal (group). Differences in the degree of affiliation, or in the level of organization of the gang/group, may be a key factor in understanding the association between groups, gangs, and delinquency. Using the self-identification method of gang membership, the offending behaviour of a sample of not only gangs but also delinquent groups are compared. To explain the potential differences between these two groups, a continuum of organization is used to assess its relative association with delinquency. What matters for the purpose of this study is whether gangs or groups have a different influence on delinquency and whether this difference can be explained using a continuum of organization. The next three sections will examine the role of co-offender in delinquency and the influence of the peer group, followed by a review of the findings on gang membership and delinquency. Lastly, the role of organization and its influence on delinquency will be discussed.

## **2.2 Peer Influence on Delinquent Behaviour**

Most research comparing “solo” and “group” offenders have found that the latter exhibit higher levels of delinquency and have longer criminal careers (e.g. Carrington, 2002; Erickson, 1971; Piquero, Farrington, & Blumstein., 2007; Reiss, 1988). Erickson’s (1971) study comparing incarcerated offenders, persistent community offenders, and non-delinquents was one of the first to find that solo offenders were less likely than group offenders to engage in frequent delinquency and to be involved in more serious forms of delinquency. These findings were substantiated in more recent analyses. Carrington (2002) found indictable offences to be more common in group offending compared to solo-offending. However, he cautioned against assuming a linear relationship between

offence seriousness and the prevalence of co-offending since many non-serious offences, such as mischief, are most often committed in groups.

Belonging to a group significantly increases exposure to criminal opportunities as each individual in the group or gang provides their own set of skills and human capital (Hindelang, 1976; Hochstetler, 2001; McCarthy, Hagan, & Cohen, 1998). For instance, McCarthy and Hagan's (1995) study examining Toronto street youth highlighted the importance of criminal contacts in peer networks. They found that adolescents had a higher likelihood of committing crime depending on whether they hung around other street accomplices where skills conducive to committing crimes could be learned. It is useful then to view co-offending in terms of social exchange. Offenders have different skill and experience levels, and to be successful one requires the necessary human capital (knowledge, smartness, and criminal insight) or social capital (knowing other useful people). Co-offending is beneficial because it allows for the exchange of material and immaterial rewards, which then increases the likelihood of an offence occurring and how successful an offender will be (Weerman, 2003).

In terms of success or criminal achievement, the level of success a criminal attains can be dependent a number of factors related to offending with others. A relationship with a criminal mentor (Morselli, Tremblay, & McCarthy, 2006) or non-redundant contacts can increase the accessibility to potential new relationships located in a new network (Morselli & Tremblay, 2004), or knowing those who were successful in avoiding incarceration can increase your criminal earnings (Tremblay & Morselli, 2000). These are all factors that lead to the development of social capital. When discussing how networks increase opportunities for crime, Warr (2002) states that "opportunities known

to or available to one individual (e.g., access to drugs, knowledge about case deliveries at a bank chain) become available to others” (pg. 86). In this sense, Warr (2002) views opportunity as being “not only temporally and spatially structured, but *socially* structured as well, and opportunities for crime have as much to do with relations among offenders as those between offenders and victims” (italics in original, pg. 86). Tremblay (1993) highlights this notion by suggesting that the search for suitable co-offenders has as much to do with availability of co-offenders as it does with the *suitability* of co-offenders. Not only do offenders often search out relations with whom they have the strongest ties (minimize betrayal) but also those with weak but useful ties (increase the number and value of opportunities).

What these studies all suggest is that peers and the group environment offer access to opportunities, contacts, and skills that are simply just not available when offending alone. Numerous studies highlight the important role peers play in the development of delinquent behaviour. Research has consistently shown that having friends who are involved in delinquency intensifies delinquent and violent behaviour (Agnew, 1991; Haynie, 2001; McGloin and O’Neill Shermer, 2009; Thornberry & Krohn, 1997; Thornberry et al., 1994; Warr, 2002; Zhang & Messner, 2000). However, the association between peers and delinquency is more complex than a simple linear relationship between the number of delinquent friends and increased delinquency rates. Many offences depend on the availability of other offenders not only in the immediate stages of offending but intervening at all stages of offending (i.e. prior, during, and after) (Tremblay, 1993).



An important argument made in the research on peer influence is the need to examine the dimensions of peer interaction. Not all peers influence one another in the same capacity. For instance, Agnew (1991) found that peer influence on delinquency is strongest when the number of contacts with peers increases, when peers are involved in serious delinquency, and when peer attachment is strong. More recently, Haynie (2001) argues certain friendship networks are able to constrain and control the behaviour of its members because of the structural characteristics of the network. In this case, greater network density emerged as an important dimension of peer influence. A higher degree of density means greater network cohesion, which in turn allows for greater control over the enforcement of norms and behavioural dispositions of the group (Haynie, 2001).

Studying the group nature of crime has highlighted the important role of peers, and how relationships established in a group setting benefit offenders by increasing their levels of criminal success. It is apparent that the reinforcing environment of the peer network constrains and influences the behaviour of those within the network, which then can lead to increased delinquency levels (Thornberry et al., 1994). In addition, offending in groups allows for access to certain opportunities and skill sets otherwise not available in non-group settings. If groups have a significant effect on offending and have higher levels of delinquency than non-groups, would we see similar results if more formal affiliations such as gangs are examined? In other words, since gangs are a form of group, albeit a more extreme form, one might expect similar levels of involvement in delinquent behaviour. The next section tackles this issue explicitly by examining the potential influence of a “gang effect” and its relationship with delinquency.

## 2.3 Gangs and Delinquency

As gangs can be seen as a sophisticated form of a peer network, it is not surprising that one of the strongest predictors of gang membership is the association with delinquent peers (Battin et al., 1998). The gang acts as a powerful social network that has an important effect on group and individual behaviour. It not only constrain the behaviour of its members, it also severely limits the access to pro-social networks which then has the effect of increasing the “criminal embeddedness” of its members and impedes the prosocial transition into adulthood (Thornberry et al., 2003, pg. 179). From this perspective, it is plausible that the increase in delinquency seen for gang members is not simply the result of a “peer effect” but rather as a result of something qualitatively different, also known as the “gang effect”.

Much of the literature to date has indicated that youth who are active in gangs have higher rates of delinquency, drug dealing, and drug use when compared to non-gang members (Battin et al., 1998; Esbensen & Huizinga, 1993; Gatti et al., 2005; Gordon et al., 2004; Thornberry et al., 1993). Three hypotheses have been developed in order to assess the criminogenic nature of gangs and to explain why gang members have higher rates of criminality: the *social selection* model, the *social facilitation* model, and the *enhancement* model. The *social selection* model illustrates how gangs attract individuals who have high propensities for delinquency. With selection, the gang does not facilitate delinquent behaviour, but rather the gang recruit individuals who are already involved in delinquency or have a high likelihood of behaving in a delinquent manner. Gang members should have higher rates of delinquency before, during, and after membership in a gang (Thornberry et al., 2003). The *social facilitation* model on the other hand

attributes the presence of delinquent behaviour to the normative structure inherent to gangs. According to this model, an individual's level of delinquency should be comparable to those who are non-gang members prior to and after gang membership. However, while active in a gang, delinquency levels should be higher than non-gang members. Finally, the enhancement model integrates both of the previous models and indicates that both processes are at work: the *selection* of those with delinquent propensities and the gang *facilitation* of delinquency (Thornberry et al., 2003).

Overall, the social selection model has received the least amount of empirical support. The phrase *birds of a feather flock together* does not necessarily explain the pattern of delinquency seen among gang members. Longitudinal studies have found that delinquency levels increase during periods of gang membership and drop off once gang members leave the gang (Battin et al., 1998; Esbensen & Huizinga, 1993; Gatti et al., 2005; Thornberry et al., 1993). The facilitation and enhancement model seem to have had the most empirical success. A number of longitudinal studies have highlighted the important role of juvenile gangs in facilitating delinquent behaviour. Using data from the Rochester Youth Development study, gang members reported higher rates of violent crimes, drug sales, and to a lesser extent drug use when compared to a sample of non-gang members (Thornberry et al., 1993; Thornberry et al., 2003). With the exception of drug sales, these levels decreased once they left the gang. Gang membership appears to have a very strong facilitating effect on committing violent crime. This relationship did not hold when property offences were examined. This may indicate that gang membership is unrelated or only marginally related to the frequency of property crime. Both Esbensen and Huizinga (1993) and Gordon et al. (2004) report similar findings in

their longitudinal analyses examining the criminal careers of youth gang members and non-gang members (Denver Youth Study and Pittsburg Youth Study respectively). They found gang membership to intensify delinquency while active in a gang. These results have also been replicated in other countries, including Canada. Separate studies conducted in Toronto and Montreal, Canada, found gang members to report higher levels of criminal activity compared to those who did not report belonging to a gang (Gatti et al., 2005; Wortley & Tanner, 2004).

Sarnecki's (1990) empirical study of Swedish delinquent networks supports the enhancement model. Sarnecki found that the most delinquent members of a network were recruited to delinquent gangs and once in the gang exhibited higher levels of delinquency. In addition, Esbensen and Huizinga's (1993) longitudinal comparison of gang members and non-gang members found that gang members' level of delinquency in street crime and other serious offences was higher prior to joining the gang when compared to non-gang members. Consistent with the enhancement model, delinquency rates were also significantly much higher during the time of gang membership.

These results highlight the robust finding that gangs have a criminogenic influence on delinquency when compared to non-gang youth. This comparison group (i.e. non-gang youth) however, can often encompass a wide range of offenders. Examination into the finer distinctions that exist between offenders may be warranted. Furthermore, the leap from gang to non-gang may be conceptually too large. Groups are an important distinction when considering the gang, non-gang dichotomy. In this sense, offending should be seen as existing along a continuum, where gang and non-gang youth occupy opposite ends of the spectrum with groups existing somewhere along the middle. This

notion is not novel as both the early works of Thrasher (1927) and Yablonsky (1959) have made reference to the existence of a continuum when examining gangs. Thrasher (1927) viewed groups and gangs along a continuum of evolution where “the gang tends to undergo a sort of natural evolution from a diffuse and loosely organization group into the solidified unit which represents the matured gang” (p. 47). Similarly, Yabolonsky’s (1959) theory of gangs as near-groups, views social structures as existing along a continuum of organizational characteristics. A cohesive well-organized group appears at one extreme and at the other, a disorganized mob/crowd. True groups “never fully become a *group* or a *mob*” (pg. 109).

Although gangs are a form a group, issues relative to “gangs” and those relative to “groups” (or co-offenders) typically have been analyzed in separate research traditions. Interestingly, both research traditions have found similar general findings in regards to participation in delinquency. Whether you examine delinquent peer associations or serious non-gang offenders, the results are the same, gang members still report higher levels of delinquent behaviour. For instance, Esbensen, Huizinga, and Weiher (1993) included a third category of offenders: non-gang serious street offenders. As with other studies comparing gang and non-gang youth, the rate of offending for gang members was three times as high as the rate for non-gang members but only twice as high when compared to the non-gang street offenders.

Other researchers expand on the gang non-gang dichotomy by examining the intensity of delinquent peer association. Longitudinal analyses conducted by Thornberry et al. (2003) found the impact of gang membership on general delinquency and violence to be stronger than the influence of peer associations even when compared to those with

the highest delinquent peer associations. This finding was the strongest for violent behaviour and for drug sales. Similarly, Huizinga, Weiher, Espiritu, & Esbensen (2003) used data from the DYS to compare increasing levels of delinquent peer associations (low, medium, and high) and gang members in order to examine the prevalence of serious assaults committed. They found higher prevalence rates for gang members compared to all three levels of delinquent peer association, even those who had a high level of involvement with delinquent peers.

Very few researchers have examined the independent contribution of gang membership above and beyond associations with delinquent peers. A notable exception is a study conducted by Battin et al. (1998) who used longitudinal data compiled by the Seattle Social Development Project to examine the unique influence of gang membership to delinquency. First, they found gang members to have significantly higher rates of violent offending, drug sales, general delinquency, and substance use compared to youths having other types of associations with delinquent peers. Second, gang membership was shown to have separate and independent effect on delinquent behaviour that could not be explained through associations with delinquent peers or prior delinquency.

Some argue that a gang is simply one type or manifestation of a delinquent peer group. However, research seems to suggest otherwise and many gang researchers argue gangs are qualitatively different from other delinquent groups (Klein, 1995; Moore, 1991; Thornberry et al., 2003). Huff (1996) found the collective criminal behaviour of gangs to be significantly more involved in serious violent and major property offences than the collective behaviour reported by non-gang peer groups. Others have found weaker support for gangs having a stronger impact on delinquency than groups. In Morash's

(1983) study, for example, the peer groups of 521 young offenders were scored on a continuum of gang characteristics that were thought to represent the typified image of gangs. While “gang-likeness” was found to have a statistically significant impact on delinquent behaviour, this relationship was nevertheless quite weak and inconclusive.

Research suggests that it is conceptually important to distinguish between gangs and non-gang youth, but at the same time, it is equally as important to distinguish between different types of non-gang offenders, such as delinquent groups. While empirical evidence shows there may be a qualitative difference between gangs and other delinquent groups, reasons as to why this is the case are less clear. Why do we see such a strong “gang effect” when examining delinquent behaviour? Thornberry and colleagues (2003) suggest gang delinquency is much more complex than simply providing a setting to associate with delinquent peers. Some argue that it has to do with the impact of group processes and structural properties of gangs (Klein, 1971, 1995; Short & Strodtbeck, 1965). Gangs provide a setting where norms, values, and delinquent behaviours can be reinforced, an argument similar to the research on peer influence and network structure. If we see a continuum of offending, then perhaps what is an important factor in understanding the relationship between gangs, groups, and delinquent behaviour is not the intensity of delinquent peer associations or membership per se but rather the *level* of organization the gang or group exhibits.

## **2.4 Organization and Delinquency**

How well a gang functions has been linked to particular organizational structures with the premise that organization is related to success in a number of criminal endeavours, most often framed in the context of drug sales. Ethnographic research has

focused on identifying and examining particular organizational structures. For instance, Sanchez-Jankowski's (1991) ten-year examination of 37 gangs in Los Angeles, New York, and Boston, identified three types of gang organization: vertical/hierarchical, horizontal/commission, and influential. Much of the research on gang structure or organization has been concerned with identifying the structural components of gangs, such as sub-group organization, size, age range, duration, territoriality, and versatility in offending (Maxson & Klein, 1995). Taylor's (1990) study of inner city gangs in Detroit, for example, found evidence of the 'corporatization' of street gangs where high levels of organization were found and were accompanied by a strong leadership foundation which allowed these gang members to operate successfully in the drug distribution trade. Another example is Sanchez-Jankowski's (1991) description of gangs as highly rational organizations with leadership structures, defined and legitimized roles for its members, specific duties, codes of conduct, and desires to pursue collective goals regardless of the legality of such actions.

Other research has focused on the normative influences, group processes, and in particular, the cohesion found in gangs (Decker & VanWinkle, 1996; Decker, 1996; Klein & Maxson, 2006; Klein, 1991). Short and Strodtbeck (1965) was one of the first studies linking group processes to the production of delinquency. The interplay between leadership and threats to one's status highlighted the important role the group had on influencing aggressive behaviour. Higher levels of cohesion and organization found within gangs may increase the capacity to produce and seize more crime opportunities (Warr, 2002). While evidence does suggest that there is a relationship between gang cohesiveness and delinquency (Klein, 1971; Klein & Maxson, 2006), a detailed



examination of the impact a continuum of organizational features on delinquent behaviour has been a neglected field in gang and group research.

While the studies on organization range from viewing gangs as highly structured rational organizations with well defined leadership structures (e.g. Sanchez-Jankowski, 1991; Padilla, 1992; Skolnick, 1990; Taylor, 1990) to diffuse organizations with a lack of common goals (Decker & Van Winkle, 1996; Fagan, 1989; Hagedorn, 1988), the underlying premise of these studies is that organization may have an effect on delinquency. However, the empirical investigation into the organizational and structural components of gangs and its relationship to behaviour has received considerably less attention. Moreover, virtually no study has examined the association between organization and delinquency with respect to delinquent groups. Delinquent groups are typically thought to either not possess organizational features such as a name, hierarchy, rules, or meeting location, or that these features are much less pronounced (Warr, 2002). Affiliation with these groups is often transitory and shifting which often contributes to the unstable structure. As a result, some argue that it makes very little sense to discuss organization and delinquent groups (Warr, 1996). However, as noted earlier, groups do share similar properties with youth gangs and do last long enough to allow for the empirical investigation of the role of organization.

Most studies that do examine organizational level have not linked different levels of organization to levels of delinquency. A notable exception is Sheley, Zhang, Brody, & Wright's (1995) study of 373 male juveniles incarcerated in maximum security facilities, which examined how "gang structure" may have an impact on delinquency. To be considered as "structured", a gang required three properties: number of members

exceeded 50, members referred to the gang as “organized”, and members indicated that their gang had at least three organizational characteristics such as name, established leader, meetings, specific clothing, and a specified territory. They found that gang structure significantly predicted involvement in drug sales, burglary, robbery and gun carrying but failed to achieve significance for drug use. Though useful, this finding may be limited in generalizability to other samples as juveniles held in maximum security facilities are more likely to represent a more serious segment of youth gang members (Shelden et al., 2001).

More recently, Decker, Katz, & Webb (2008) examined the organizational and structural characteristics of gangs and how these influence criminal involvement and victimization of their members. Interestingly, the level of gang organization was significantly and positively associated with the number of different violent crimes and drug crimes the gang was engaged in. The strongest correlation was between the level of organization and violent victimization. Although the organizational level for gang members was relatively low in their sample of juveniles, the level of organization present was enough to influence gang member’s involvement in drug sales, violent offending, and violent victimization (Decker et al., 2008). It is unclear however if this relationship would hold after controlling for other factors such as involvement in other criminal activities since analyses were limited to the bivariate level.

Though few in numbers, these past studies suggest that the level of organization a gang exhibits may have an influence on the delinquency of its members. The reasons as to why this is the case are less clear, and the reasons may differ when considering different types of crimes. For example, some researchers have found that the

organization seen in some gangs is solely for the purpose of selling drugs (e.g. Skolnick, 1990; Taylor, 1990). Drug sales are argued to be organized for profit making. The evolution from a disorganized state to a highly structured organization is argued to be necessary in order to operate competitively and effectively especially in the drug distribution trade (Taylor, 1990). In terms of economic success, Sanchez-Jankowski (1991) argues more vertical/hierarchical organized gangs influence the ability of the gang to accumulate capital as the gang has less difficulty coordinating its members and assigning specific tasks.

However, not all drug sales have been linked to organized gangs. In Fagan's (1989) examination of inner city youth gangs located in Los Angeles, San Diego, and Chicago a relationship was found between gang organization and involvement in drug sales, drug use, and violent offences. However, these associations were not constant across groups. Specifically, while 'party' gangs showed significant involvement in drug sales, the majority of these members failed to report formal organization or social processes. Overall, Fagan argues gang organization and social cohesion processes can only partially explain differences across gangs in terms of delinquent activities, such as involvement in drug sales and violence.

A specific drug supply offence, cannabis cultivation, has received very little attention with respect to the impact of organization. The studies that have examined cannabis cultivation do so within a network perspective. For instance, Bouchard & Nguyen (2009) examined the impact different grower networks had on avoiding arrest or detection. They found adolescents who were embedded in adult networks to be significantly less likely to be arrested for cannabis cultivation. Rubin (1973) indicates the

barriers to entry in the cultivation market by noting the need for specialized skills, start-up capital, and specialized equipment. This can create the opportunity for the need for greater organization. The benefits of belonging to gang can extend from the protection of the cultivation site to the removal of rival competitors (Wilkins & Casswell, 2003). As cannabis cultivation is labour-intensive and is invariably a social process (Potter, 2006), group processes may have an influential impact on involvement in this specialized activity. Since gangs are typically more highly organized than other groups, they often have greater resources and information networks they can rely on and also have the reputation for the use of violence which allows them to operate more effectively economically in this market (Wilkins & Casswell, 2003).

Gang violence is often viewed from the perspective of collective behaviour and the role of group processes and cohesion. The level of organization will have an influence on members especially when members are needed to take risks in the presence of threats from either law enforcement or rival gangs in order to maintain the group's existence. Gangs often lack effective leadership and have lower levels of cohesion or ties to the larger group. According to Decker (1996) when the group collectively identifies the existence of a threat against the gang, this process "unites the gang and overcomes the general lack of unity by increasing cohesion" (p.261). Sanchez-Jankowski's (1991) assessment of whether the organizational structure of a gang would influence the level and type of violence the gang is involved in, found more hierarchically organized gangs to be involved in more acts of organizational violence than acts of individual violence. This type of gang has a greater ability to control and discipline its members, which then increases the group's tendency to participate in collective activities.

The examination of the influence of organization on the involvement in property type crime is virtually absent from analysis. Most studies examining property crime do so by comparing gang and non-gang involvement and results have been somewhat mixed. Gang members do not necessarily have significantly higher rates of violent offending in comparison to property offending in samples of gang and non-gang youth. For instance, longitudinal results from 756 gang and non-gang juveniles in Montreal, Canada found substantially higher proportions of property crimes, in particular theft, versus person-related crimes to be reported by gang members (Gatti et al., 2005). On the other hand, most other studies, including two large scale longitudinal projects (Rochester Youth Development Study & Seattle Social Development Project) have found higher frequencies of violent offending among gang members than property offending (see Battin et al., 1998; & Thornberry et al., 1993). It should be noted that one study by Sheley et al. (1995) did examine the impact of gang structure on property offending. In particular, Sheley et al. (1995) also reported that “structured” gangs were not more likely to be involved in property-type crime and in fact were significantly less likely to be involved in burglary. It appears that these types of offences are neglected by groups and gangs, especially as they become more organized. Nevertheless, this study used a dichotomy of organization as structured or unstructured whereas this study will assess the impact a continuum of organization has on property offending.

In sum, it appears as though with higher levels of organization the more likely the organization will be able to influence the behaviour of its members, including individual and collective goals of the group (Decker et al., 2008). While the contribution of gang membership and gang organization has been found to influence behaviour, it is unclear

the effect a continuum of organization will have on the involvement of delinquent activities by delinquent groups and gangs.

## **2.5 Current Study**

This thesis will explore the association between organization and delinquency using a self-report survey administered to 1262 adolescents aged from 13-17 years attending four secondary schools in a rural region in Quebec, Canada. This survey was undertaken to investigate the suspicion that many adolescents were participating in large scale cannabis cultivation in this region and to explore the potential factors leading to this activity. This survey also allowed for the examination of gang membership in a rural region. Much of the research concerning crime and delinquency is conducted through an urban lens. Gang theory, gang etiology, and gang behaviour has followed suit and has been overwhelmingly concerned with gangs as an urban, inner-city phenomenon. However, gang activity is not solely restricted to the urban backdrop and has been reported in suburban and rural areas (Evans, Fitzgerald, Weigel, & Chvilicke, 1999; Weisheit, Falcone, & Wells, 2006; Zevitz & Takata, 1992).

A well-known finding of delinquency research is that gang membership is associated to increased delinquency levels for its members. Not only did this study identify gang members, it also provided an opportunity to examine those who reported belonging to a less formal group. This will allow for a comparison of gang and group members on a variety of delinquent measures. This sample consisted of a total of 44 self-identified gang members and 171 delinquent group members. Less well researched are the reasons explaining why and how “membership” affects delinquency. Part of this reason may lie in the organizational characteristics manifested by gangs or groups.

Eleven important indicators of organization were also included in the survey. Evidence suggests that a continuum of organization may have influence on the level of delinquency (Decker et al., 2008). Instead of simply examining organization in terms of a dichotomy (organized or not organized), nine organizational features were used to develop a scale or index of organization. A total of 34 gang members and 89 delinquent group members reported at least one organizational feature. In addition to the focus on cannabis cultivation, the survey asked questions regarding the types offences committed, including the type of drug sold and consumed.

The premise of this study is best summarized in a series of research questions. First, following other studies examining gangs and delinquency in urban settings, is the membership effect on delinquency replicated using data from a rural area. Secondly, this study expands on the traditional comparison of delinquency levels between gang and non-gang members and includes a third group for analysis: delinquent groups. This allows us to consider if there is evidence of a “group membership effect” on delinquency when gang members are excluded from the analysis. This will also determine whether we see a progression in offending from non-groups to groups, and then from groups to gangs. Third, while the contribution of gang membership and gang organization has been found to influence delinquent behaviour, it is unclear the effect a continuum of organization will have on the involvement of delinquent activities. By using “organization” as the focus instead of “membership”, the finer distinctions in organizational and delinquent behaviour can be examined more thoroughly. Not all groups or gangs are as organized as the other. If *organization* also facilitates crime, then higher scores on an organizational scale should be associated to more serious delinquency. If a relationship does exist

between organization level and delinquency, will this organization have a similar effect on gangs and groups? Fourth, if gang members show higher delinquency levels than group members, how much of that result can be attributed to the organizational level present in the gang/group? And lastly, are the patterns found similar across different offence types?



## **3: METHODS**

### **3.1 Data and Variables**

In November 2006, 1262 questionnaires were distributed and self-administered throughout four secondary schools in two Regional County Municipalities (RCM), Nicolet-Yamaska and Bécancour, in the province of Quebec, Canada. This represents the quasi-population of high school students in these regions, as only one very small private school could not be reached for the purpose of this study. The populations of the two RCMs are 18,000 and 23,000, respectively. A significant proportion of both RCMs are economically dependent on agriculture and two major industrial plants. The per capita income for this region (\$27,000) was comparable with the rest of the province (\$29,000).<sup>1</sup> The schools were relatively small, so a single trained research assistant was able to cover all the classes in one school in a day. The research ethics board at the Université du Québec à Trois-Rivières had previously authorised the research, and students were guaranteed anonymity and confidentiality of their responses<sup>2</sup>. Before the start of the study, a pre-test was conducted in one of the schools. This resulted in a reduction in the number of questions and an improvement in their clarity. Due to the limited period to conduct the study, the survey focused on criminal activity over other aspects outside of

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<sup>1</sup> Indicators are based on 2006 census figures from Institut de la Statistique du Québec (<http://www.stat.gouv.qc.ca>).

<sup>2</sup> Each participant was provided a letter to be given to their parents, informing them about the ongoing research effort, its purposes and, the confidentiality of responses. Quebec's laws state that for adolescents aged 13 or more and for purposes of research surveys where strict confidentiality have been clearly demonstrated and signified, a parents' permission is not required.

crime such as family dynamics or psychological attributes. Questionnaires were completed using scantron forms. Almost every student present participated in the survey; however, 7.6 percent of the participants did not have valid questionnaires (i.e. a majority of missing variables) and were removed from analysis<sup>3</sup>. Therefore, a total of 1166 participants are included in the final sample. The questionnaire administered contained 54 multiple-choice questions concerning criminal activity, gang membership, organizational features, victimization, drug use, and cannabis cultivation. A combination of the Jesness (1988) inventory and MASPAQ comprised the self-delinquency section of the questionnaire, and DEP-ADO instrument 3.1 was used to measure drug and alcohol use (Germain et al., 2005). Simon Fraser University assistant professor, Martin Bouchard, developed the cultivation section of the survey. Of those 1166 participants, only those who reported at least one type of delinquent activity were included for analysis (N=523).

### **3.1.1 Dependent Variables**

#### *General Delinquency*

A general delinquency index was created by summing positive responses for the following ten delinquent activities: mischief, theft, fraud, assault, sex-related offences, illegal gun use or possession, cannabis cultivation, cannabis dealing, hard drug dealing, and a residual 'other' category. Because participation in at least one type of crime was the selection criteria for inclusion in this sample, scores on the scale are from 1 to a

maximum of 10 offences. The mean number of offences reported for the full sample was

2.2. In general, participation in a number of different crimes indicates a greater diversity

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<sup>3</sup> A missing value analysis was run to determine the patterns of missing values. Little's MCAR test revealed that the data was missing completely at random ( $p > 0.05$ ). Because missing values were few and randomly distributed, the modal response (for dichotomous variables) was used to impute the missing values.

of offending. In addition, the scores on the delinquency scale are strongly correlated to the most serious crimes, drug supply crimes ( $\rho=0.59, p<0.001$ ) and violent crimes ( $\rho=0.48, p<0.001$ ), indicating the suitability of this scale to reflect offending seriousness. While it would have been ideal to have a measure of frequency, this information was not contained in the questionnaire. However, past research suggests that frequency alone is not necessarily an ideal measure of offending seriousness as studies have found crime seriousness and frequency to be inversely related (Clarke & Weisburd, 1990, Erickson & Gibbs, 1979; Tremblay, Cusson, & Morselli, 1998). In addition, similar delinquency scales have been used and validated in past studies on peer delinquency (see Haynie, 2001; McGloin & O'Neill Shermer, 2009) and gang membership (Battin et al., 1998; Thornberry et al., 1993; Wortely & Tanner, 2004).

### *Drug Supply Offences*

Because past studies on gangs suggest that “organization” may help for some types of crimes but not others, its association to different categories of offences is examined separately. Three items were used to measure drug supply offences: cannabis dealing, hard drug dealing, and cannabis cultivation. One survey question asked respondents whether they had sold cannabis in the past 12 months. A total of 148 (28%) respondent indicated they sold cannabis and 78 (15%) sold hard drugs (cocaine/crack, heroin, ecstasy, amphetamines, crystal methamphetamines, or hallucinogens). The percentage of respondents involved in drug sales<sup>4</sup> (31.4%) is slightly higher than the prevalence rates found in the Denver Youth Survey (29% in Esbensen & Huizinga, 1993) but lower than Fagan’s results in his study on 151 youth gang members (Fagan, 1989).

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<sup>4</sup> This includes both cannabis and hard drug dealing.

Participation in cannabis cultivation ranged from a number of roles, from maintenance to harvesting. A total of 140 participants (27%) reported involvement in the cultivation industry in the past 12 months, and are referred to as “growers” in the remainder of this paper. This prevalence rate is very high, but is consistent with the region’s extensive cultivation industry (Bouchard, Alain & Nguyen, 2009). The mean score on the drug supply index was 0.70 for the full sample. Approximately 7% of respondents indicated participating in all three drug supply offences.

Since the relationship between organization and the three drug supply offences may not be the same, drug dealing and cannabis cultivation will be also examined separately. An insufficient number of participants indicated selling only hard drugs, thus cannabis and hard drug dealing could not be examined separately. Both drug dealing and cannabis cultivation were dichotomized in order to run logistic regression models on these variables.

### *Violence and Property Offences*

Involvement in violent crimes was measured as a positive answer to involvement in a general category of either assault or illegal gun use or possession<sup>5</sup>. At least 75 (14.3%) of the total sample (N=523) reported at least one type of violent offence and 22 (4.2%) reported involvement in both. Similarly, involvement in property crimes was measured using two items, involvement in theft (of any kind) and fraud<sup>6</sup>. At least 137 (26.2%) reported involvement in one type of property crime and 27 (5.2%) indicated involvement in both. Due to the limited range of our scales and for the purpose of the

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<sup>5</sup> Sex-related offences was removed from the category of violent crime as this offence type measured crimes ranging from sexual assault to prostitution and as a result did not seem to accurately measure violent crime.

<sup>6</sup> The category of property crime attempts to measure income-generating activities, therefore, the activity of mischief was removed from this category.

multivariate analyses, these two scales were dichotomized in order to run logistic regression models.

### **3.1.2 Independent Variables**

#### *Socio-demographics*

The questionnaire only provided a limited amount of variables unrelated to delinquency or substance use. Three demographic variables examined in this study: age, gender, and low socio-economic status (SES). The mean age of the sample is 15.6 years old, and ranges from 13 years of age to 18 years. A little over one-third of the delinquent respondents are female (34.6%). An overwhelming majority of youth who indicated gang membership in this study are males (82% versus 18% for female). A similar ratio was also found for delinquent groups (72.5% vs 27.5% for females). Other studies examining gang membership within middle school and high school populations have found similar results with male gang membership ranging from 63-73% and 27-37% for females (Curry, Decker, & Egley, 2002; Dukes & Stein, 2003; Hill, Howell, Hawkings, & Battin-Pearson, 1999).

The *Bulletin des écoles secondaires du Québec* (Marceau, Cowley, & Bernier, 2004) was used to calculate neighbourhood income in order to create a dichotomous measure of families with lower than average incomes. This publically available document provided performances measures, including average parental income for all secondary schools in the province of Quebec. However, information on average parental income was missing for one out of the four secondary schools included for analysis. The school with missing information was the only private school of the group. The parental income for one of the schools was determined to be lower than the others (\$38,700 combined

parental income). The two other schools with information had a much higher average parental income of \$51,500 and \$52,200. By calculating the average parental income for all private schools in the province (\$72,305) and all public schools in the region (\$47,740), it was determined that the private school which had missing data had a low likelihood of residing in a low income neighbourhood. Almost 1/4 (23.5%) of the respondents in the sample were found to reside in a low-income neighbourhood. Low-SES has been found to be an important predictor of offending, both in gang and non-gang contexts. Studies examining neighbourhood context have found a negative association between parental income (SES) and aggressive behaviour (Kupersmidt, Griesler, DeRosier, Patterson, & Davis, 1995), and in particular for violent offending (Farrington, 1989; Hill et al., 1999). In addition, boys living in lower SES neighbourhoods are more likely to be recruited to gangs than those from a middle class SES area (Johnstone, 1983).

### *Drug Use*

The association between drugs and crime is a well-known finding in the literature (Anglin & Speckart, 1988; Dawkins, 1997), thus drug use is an important control for this study. The influence of cannabis and hard drug use on the prevalence and nature of participation in delinquent activities are examined separately. Cannabis use was measured using a frequency index ranging from 0-3 (0=never, 1=occasional use: once a year to once a month, 2=regular use: weekly, and 3= frequent use: daily). This variable was originally coded in a scale ranging from 0-5, with a higher number of respondents indicating lower frequencies of use (positive skewness). The categories of once a year and once a month were combined, in addition to the categories of once or twice a week, and three times a week. While not perfect, this resulted in an approximate normal

distribution, much better than the original scale<sup>7</sup>. It was not feasible to create a frequency index for hard drug use as this variable was extremely positively skewed with too few participants indicating higher rates of use. Hard drug users were categorized as such if they reported using either/or cocaine, hallucinogens, heroin or amphetamines at least once a week. This allowed for the isolation of those individuals who used these drugs in a regular manner from who only experimented with hard drugs. It was found that 21% of the respondents used cannabis at least once in the past 12 months and 9% regularly used hard drugs.

#### *Gang and Delinquent Group Membership*

Gang membership was determined through self-nomination. This method of identifying gang members has received validation in previous literature (Curry, Decker, & Egley, 2002; Esbensen & Huizinga, 1993; Esbensen & Winfree, 1998; Esbensen et al., 2001). It is important to not impose or assume gang status. A study conducted by Gordon (2000) found certain groups to be referred to as gangs by the media however, these groups did not see themselves as such. Our study allows the respondents to choose. If they were not comfortable indicating they belonged to a 'gang, they had the option of indicating they belonged to a delinquent group. Following previous studies, gang members or delinquent group members also had to report involvement in at least one type of delinquent activity in addition to self-nomination. A total of 44 (8.4%) respondents reported being "gang members" within the past twelve months and reported involvement in at least one type of delinquent behaviour. If the answer was negative, respondents were then asked whether they were part of an identifiable group of delinquents, getting

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<sup>7</sup> All analyses were run using the original 0-5 cannabis use scale and the 0-3 scale. There were no significant changes in the bivariate or multivariate results.

together to commit illegal acts. One hundred and seventy one (32.7%) respondents reported being members of such groups<sup>8</sup>. Other samples measuring gang membership found rates much more comparable to the delinquent groups in this sample. Using a sample of highschool students, Gatti et al. (2005) found 37% of respondents to report belonging to a gang for at least one year. Data from the Rochester Youth Development Survey revealed 26% of the sample to belong to a gang. On the other hand, data from the Denver Youth Study revealed much lower gang membership rates, ranging from as low as 2.7% to 6.7% (Esbensen & Huizinga, 1993). There were 308 (58.9%) respondents who did not identify as belonging to a gang or a delinquent group but who reported involvement in at least one type of delinquent activity, and are referred to as non-group offenders for the remainder of this paper.

### *Organization*

All gang and delinquent group respondents (N=215) were then asked about the organizational features of their gang, or group. Typical measures of organization often focus on role differentiation, leadership, meetings, and enforcement of rules and norms (Decker, 2001; Decker & VanWinkle, 1996). Role differentiation is an important indicator of increasing formalization, especially when an identifiable leader is present (Decker & VanWinkle, 1996). According to Decker (2001), an absence of roles between levels of membership indicates a lack of organizational development. This has the effect

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<sup>8</sup> To deal with missing values for gang and delinquent group members each case was systematically examined to determine appropriate values. For instance, if a respondent did not fill in the gang variable (i.e. system missing) but indicated belonging to a delinquent group (and vice versa), then the variable with the missing value would be coded as zero. Three respondents did not want to respond to either belonging to a gang or group and were coded as belonging to neither. There was also the problem where 33 respondents indicated they were both part of a gang and a delinquent group. These respondents were coded as gang members. The rationale for this decision was based on the ordering of the questions in the survey (question concerning gang membership was prior to the question for delinquent group status). If a respondent was confident enough to affirmatively indicate they belonged to a gang first then for the purpose of this thesis they were considered as gang members.



of limiting the generation of common goals and collective behaviour. Meetings aid in the establishment and maintenance of group cohesion, and in the process of communicating information to members. Even informal meetings (e.g. hanging out) fulfil this purpose by strengthening the solidarity and bond between members (Decker & VanWinkle, 1996). While most gangs are generally characterized as relatively unorganized, especially when it relates to regulating the behaviour of its members (Decker & Curry, 2000; Klein, 1971; Vigil, 1988), rules allow for the establishment of group values and place boundaries on acceptable and unacceptable conduct (Decker, 2001).

For this study, nine items were used to measure organizational level<sup>9</sup>. A count index was derived by summing positive responses to dichotomous measures such as the presence of a group name, group leader, hierarchy, meeting location, distinctive signs or codes, rules, initiation, specific territory, defence of honour/reputation, with the maximum scoring being nine. A reliability analysis using all nine item yielded a high Cronbach's alpha score (0.89). These measures have been previously substantiated in past literature (Decker et al., 2008; Decker & Curry, 2000; Fagan, 1989; Peterson, Miller, & Esbensen, 2001; Sheley et al., 1995). For instance, Decker et al.'s (2008) study of gang organization used to follow seven features to measure organization: presence of leaders, regular meetings, rules, punishments if rules broken, symbols, responsibilities to the gang, and giving money to the gang. Some of the gang and group members did not report any organizational features. A total of 34 out of 44 gang members reported this information, and 89 out of 176 group offenders did the same.

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<sup>9</sup> The survey originally included 11 organizational features. Two items were removed from this scale (use of weapons and attempts to make money). These two items posed possible confounding problems in the analyses. For instance, it is potentially confounding to include 'use of weapons' as an organizational feature to determine if it is correlated with violent crime. Similarly, 'attempts to make money' may show a similar confounding pattern when correlated with drug supply offences.

Table 1  
 Characteristics of the Delinquent High-School Sample (N=523)

	%	N		
<i>Control Variables</i>			<i>Offence Scales</i>	
Age			General Delinquency (1-10)	2.28
13	0.4	2	<i>SD</i>	(1.73)
14	15.3	80	Drug Supply (0-3)	0.70
15	27.9	146	<i>SD</i>	(0.94)
16	41.7	218	Violence (0-2)	0.23
17	13.8	72	<i>SD</i>	(0.51)
18	1.0	5	Property (0-2)	0.37
Gender			<i>SD</i>	(0.58)
Male	65.4	342		
Female	34.6	181		
Low SES	23.5	123		
<i>Drug Use</i>				
Cannabis Use (0-3)				
Never	38.2	200		
Once/month-year	31.2	163		
1-3x/week	21.4	112		
Daily	9.2	48		
Hard Drug Use (0-1)	23.5	47		
<i>Offences</i>				
Drug Dealing	31.4	164		
Cannabis Cultivation	26.8	140		
Assault	13.8	72		
Use/Possession Gun	9.0	47		
Theft	28.1	147		
Fraud	8.4	44		
Mischief	45.7	239		
Sexual Assault	4.0	21		
Other	44.6	233		
Gang Members	8.4	44		
Delinquent Groups	32.7	171		

### **3.2 Analytical Strategy**

In order to determine whether a continuum of offending exists and whether “organization” has an influence over and above membership on delinquent activities a number of analyses are performed. First, bivariate analyses are used to compare non-group, group, and gang members on a set of delinquency and drug use variables. At this stage, it is important to determine whether all three groups significantly differ from one another. If this is the case, then an increase in delinquency may be associated with the addition of group or organizational structure. Second, to determine the relative level of organization, groups and gangs are selected and compared on a number of organizational measures. While it is expected that gang members will report higher levels of organization than group members will, examining the extent to which group members also have these features and which features they display is of interest. Third, due to the lack of normality in the distribution of certain variables (i.e. cannabis use, general delinquency, drug supply offences, organization) and the dichotomous nature of other variables (i.e. SES, hard drug use, drug dealing, cannabis cultivation, violence and property crimes) spearman’s rho, as opposed to pearson correlation, was used to examine the associations between organization and delinquency for gangs and groups.

The relationship between organization and delinquency is also examined at the multivariate level controlling for membership. The nature of the dependent variables for analysis requires different specifications of the generalized linear model. The values of the main dependent variables (general delinquency) were non-negative integers that measured a count of the number of types of crimes committed. A common property of count data is that the distribution is often positively skewed with a large number of zero

counts. This is a frequent occurrence with many delinquency-type variables as most cases fall at the lower end of the distribution with fewer cases reporting a high number of occurrences. A frequency distribution indicated that the general delinquency variable was positively skewed (mean=2.3 offences, N=523) and violated the normal distribution assumption required to use ordinary least-squares (OLS) regression. Although there is no explicit assumption about the distribution of dependent variables in OLS (Tabachnick & Fidell, 2007), it is important that the residuals are normally distributed in order to provide accurate inferences (Atkins & Gallop, 2007). While it may have been possible to rescale the counts to a set of categories resembling a normal distribution curve, reducing counts to categories masks important information contained in the data, and the choice of cutting points may drastically affect the results (Gardner, Mulvey, & Shaw, 1995). Often square-root transformations are recommended for count data (Johnson & Wichern, 1998), however this strategy is less than ideal for a number of reasons. First, transforming the variable does not overcome the problem of excess zeros (Karazsia & van Dulman, 2008). Secondly, transformed variables are often more difficult to interpret than non-transformed ones (Tabachnick & Fidell, 2007). One strategy to overcome these difficulties is to employ Poisson regression models. Poisson regression is a type of generalized linear model that allows for the use of non-normally distributed variables and excess zeros with count data (Long, 1997), assuming that the occurrence of the events are random and independent (Osgood, 2000).

The use of Poisson regression models have increased in the past three decades and often have been used in psychological, sociological, and biological studies (Land, McCall, & Nagin, 1996). Application of Poisson regression models has been an

important approach to the study of delinquent and criminal careers (D'Unger, Land, McCall, & Nagin, 1998; Land, 1992; Nagin & Land, 1993). The Poisson distribution has also been useful in estimating criminal populations (see Bouchard, 2007; Bouchard & Tremblay, 2005). Using a variant of the Poisson regression model -negative binomial regression- Osgood (2000), found this method to be particularly useful in analyzing aggregate crime rates as the error distributions are consistent with the nature of event counts (pg 21).

Since our sample was limited to individuals who committed at least one type of delinquent activity (a count of 1-10), zero-truncated negative binomial regression (ZTNB) was used to examine general delinquency. ZTNB is appropriate when the dependent count variable has an absence of zeros and is overdispersed (Gurmu & Trivedi, 1992; Long, 1997). While Poisson regression is a useful technique for analyzing count (discrete) data, there are two restrictive assumptions that must be met. Failure to meet any one of the assumptions will produce inaccurate estimates of its variance terms leading to false inferences of the model (Gardner et al., 1995). First, the variance must be equal to the mean, a condition also known as equi-dispersion (Long, 1997). When the variance exceeds the mean (i.e. the data is overdispersed), problems with estimating standard errors and indicators in the model occur (Cameron & Trivedi, 1998). With truncated models, it is especially important to test for this as the presence of overdispersion in this case can spuriously produce small estimated standard errors of the estimated regression coefficient vector. This has the effect of inflating *t*-ratio tests of significance, leading to potential type I errors (Land et al., 1996). To determine if overdispersion was a problem in this dependent variable, a likelihood ratio chi-square test for ZTNB was estimated.

This test revealed the presence of overdispersion in two (gang vs. non-gang,  $N=523$ ; group vs. non-group,  $N=479$ ) out of the three samples and the null hypothesis of  $\alpha=0$  could be rejected ( $N=523$ : 22.64,  $p<0.001$ ;  $N=479$ : 11.35,  $p<0.001$ ). In the third sample (gang vs. group,  $n=215$ ) the test did not reveal the condition of overdispersion (0.67,  $p>0.001$ ). A zero-truncated poisson model was run for the third sample and produced similar results to the ZTNB. For consistency purposes, ZTNB was used to estimate the models for all three samples.

Multivariate analyses were also run on separate types of crimes: drug supply (including drug dealing and cannabis cultivation analyzed separately), violent, and property crimes. The drug supply variable could also be considered as count-type data (participation in 0-3 drug supply offences); therefore, standard Poisson regression was suitable for analyzing this dependent variable. To test for overdispersion negative binomial (NB) regression was run, a technique that does not assume that the mean and the variance are equal. The negative binomial models did not provide a better fit with the data. While NB can be helpful in overcoming the problem of overdispersion, it is sometimes the case that overdispersion has been caused by an excess of zeros (Long, 1997). In this case, there may have been an abundance of respondents not participating in any drug supply offences (hence the excess zeros). Zero-inflated poisson (ZIP) was used to test for this possibility. Zero-inflated techniques allow for the prediction of two types of outcomes: 1) presence or absence of the outcome; and 2) when the outcome is non-zero (Atkins & Gallop, 2007). In the zero group, there may be different processes explaining why a respondent is a zero (i.e. did not engage in a particular activity). For instance, one group will never go beyond zero because they have no chance to do so (e.g.

a scientist who has no chance of publishing because his field does not allow publishing), whereas the other zero group has the probability of having a positive non-zero outcome (e.g. a scientist who tries to publish but is unsuccessful for whatever reason) (Long, 1997). ZIP models did not consistently provide a better fit than the standard Poisson regression models, but most importantly, some of the models did not converge, an important condition for the use of ZIP. There were also problems estimating certain coefficients in the inflated models, especially with dichotomous variables (i.e. hard drug use). As a result, it was determined that overdispersion was not a problem here and the issue of excess zeros was not a problematic condition for this variable. To be sure, results from ZIP models and standard Poisson regression were compared and revealed similar results.

Due to the limited range of the violence and property scales (each containing only two items) these variables were dichotomized and logistic regression was used. In addition, types of drug supply offences were dichotomized and examined separately (drug dealing and cannabis cultivation). Logistic regression predicts the likelihood of an event occurring. An odds ratio is a probability coefficient that is defined by dividing the probability (the odds) of an outcome occurring by the probability of the event not occurring (Tabachnick & Fidell, 2007). The benefit of using an odds ratio<sup>10</sup> is that it is “independent of the marginal distributions (e.g. prevalence) of explanatory and outcome variables and [is] unaffected by the study design” (Farrington & Loeber, 2000, pg. 104).

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<sup>10</sup> Odds ratios and correlations will often produce different conclusions about the strength of associations between variables. Using the example of the Pittsburgh Youth Study (PYS), relationships amongst the explanatory variables and delinquency were quite weak according to the phi values. On the other hand values of the odds ratio found much stronger associations (ex. OR for lack of guilt was three times higher than the phi value). While the strength of associations is different in this case, the interpretation of the order of important explanatory variables was almost identical (Farrington & Loeber, 2000) indicating that information is not necessarily lost through dichotomizing.

In this study, logistic regression will be used to predict the likelihood of involvement in each delinquent activity. One of the main advantages in using logistic regression is the relative simplicity in the presentation and understanding of results<sup>11</sup>.

The strength of using logistic regression is that the assumptions required for OLS are relaxed. Logistic regression does not require variables to be normally distributed, does not assume linearity of the relationship between the dependent and independent variables, does not assume homoscedasticity, and also has the capacity to analyze all types of predictors (discrete, continuous, and dichotomous) (Tabachnick & Fidell, 2007). The problem with using linear regression to analyze dichotomous dependent variables is that the probability range of an event occurring ranges from 0 (not occurring) to 1 (occurring) (Pampel, 2000). Linear regression lines, however, have no upward positive or downward negative limits; therefore, it makes little sense to predict values of the dependent variable above one and below zero (Pampel, 2000). Also, rather than viewing the probability distribution as a truncated linear relationship with a floor and a ceiling, an S-shaped curve is a more theoretically appropriate distribution. As the values approach zero or one, a greater change in the independent variable is required than when the values approximate the middle of the curve (Pampel, 2000). This nonlinear curve may approximate linearity, but instead of continuing indefinitely upwards or downwards, the curve bends slowly and smoothly as it approaches zero and one. A linear regression line will actually underestimate the relationships in the middle of the line and overstate the relationships at

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<sup>11</sup> While it has been suggested that dichotomizing variables leads to decreases in the strength of associations amongst variables and the loss of important information, Farrington & Loeber (2000) argue that the use of odds ratio is actually a better measure of the strength of association between dichotomous variables than product-moment correlations using continuous level data. For example, instead of creating scales for the approximately 40 explanatory variables used in the PYS, researchers created delinquency categories to examine relationships between variables. Using a 25:75 split allowed researchers to examine the 'worst' quarter of the sample (Farrington & Loeber, 2000).



the extremes<sup>12</sup> (Pampel, 2000). The important point is that the effect of the independent variable on the dependent variable is stronger in the middle than at the lower and upper limits (Pampel, 2000).

Analyses were conducted in SPSS version 17.0 when possible, however certain types of analyses could not be conducted with this program (ZTNB and ZIP). When this was the case, analyses were conducted in STATA IC 10.0.

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<sup>12</sup> To illustrate the nonlinear relationship of dichotomous variables, a useful example is the relationship between the number of delinquent peers and committing a serious offence. For instance, if the number of delinquent peer contacts increases the likelihood of committing a crime, an increase in the number of delinquent friends from three to four delinquents would increase the likelihood of a serious offence occurring more so than an increase from no delinquent friends to only one or from ten delinquent friends to 11.

## **4: RESULTS**

### **4.1 Bivariate Analyses**

Table 2 compares involvement in delinquent activities and drug use among non-group offenders (N=308), those who identified as belonging to a group of delinquents (N=171), and those who identified as gang members within the past 12 months (N=44). This allows for a direct comparison of offending along a continuum that not only examines the potential differences between gang and non-gang youth but also includes comparisons of non-group offenders and delinquent group members. As expected, we see an increase in offending from non-group to group members, and from group to gang members. In fact, gang members report higher prevalence and mean rates compared to non-group offenders and groups of delinquents in all of the delinquent activities. For example, there are significant increases in the mean number of offences reported by each group when examining the general delinquency scale. Gang members report almost five types (4.8) of offences, groups of delinquents reporting approximately two to three offences (2.5), and non-group offenders reporting almost two offences (1.8) on average.

When examining specific types of crimes composing the delinquency scale, we see that involvement in drug supply offences (drug dealing and cannabis cultivation) is quite high. Almost 60% of gang members report participating in these activities. Involvement in drug dealing is also quite high for group members, with approximately 40% of members report engaging in this type of money-generating activity. A significantly higher number of groups than non-groups report being involved in drug

dealing, with only 23% of non-group offenders reporting involvement. The most drastic difference between gangs and groups is seen for violent offending ( $\chi^2=22.98, p<0.001$ ). Over 50% of gang members indicate participating in violent offences, with significantly fewer groups (20.5%) and non-groups (12.0%) engaging in this type of activity.

Table 2  
Comparison of Non-Group, Group, and Gang Members on the  
Participation in Delinquent Activities and Drug Use

	Non- Group (308)	Group (171)	Gang (44)	Group vs. Non- Group	Gang vs. Non- Gang	Group vs. Gang
<i>Control Variables</i>						
Age	15.6	15.5	15.6	n.s	n.s	n.s
Gender	%	%	%			
Male	59.1	72.5	81.8	**	*	n.s
Female	40.9	27.5	18.2			
Low SES	21.1	24.6	36.4	n.s	*	n.s
<i>Drug Use</i>						
Cannabis Use (0-3)	0.85	1.16	1.64	***	***	**
Hard Drug Use (0-1)	0.04	0.13	0.30	**	***	**
<i>Offences</i>						
	%	%	%			
Drug Dealing	22.7	39.8	59.1	***	***	*
Cannabis Cultivation	21.8	27.5	59.1	n.s	***	***
Violence	12.0	20.5	56.8	*	***	***
Property	29.5	29.8	50.0	n.s	**	*
<i>Offence Scales</i>						
General Delinquency (1-10)	1.77	2.54	4.78	***	***	***
SD	(1.25)	(1.57)	(2.66)			
Drug Supply (0-3)	0.50	0.85	1.50	***	***	***
SD	(0.78)	(1.03)	(1.05)			
Violent Offences (0-2)	0.12	0.20	0.89	n.s	***	***
SD	(0.33)	(0.40)	(0.87)			
Property Offences (0-2)	0.30	0.30	0.77	n.s	***	***
SD	(0.46)	(0.46)	(0.86)			

Note: \* $p<0.05$ , \*\*  $p<0.01$ , \*\*\* $p<0.001$

Examination of drug use variables reveals that the consumption of cannabis or hard drugs is significantly more frequent from non-group to gang members. Almost 1/3 (30%) of gang members reported consumption of hard drugs at least once a week compared to significantly less prevalence rates for group and non-group offenders (13% and 4% respectively). Gang members also report using cannabis one to two times per week on average.

Group offenders also report higher prevalence rates than non-group offenders. However, not all of these differences were statistically significant. Of interest is the lack of significant difference for cannabis cultivation, and violent (scale) and property offences between non-group and groups of delinquents. The fact that groups are involved in cannabis cultivation just the same as non-group offenders reflects the potential diverse nature of this offence. While gang members are involved in this activity at significantly higher rates and perhaps at a larger scale than group and non-gang youth offenders, cannabis cultivation can occur on a relatively smaller scale with individuals or a few friends growing for personal use. Similarities are also found in the socio-demographic characteristics between groups. For instance, gang and group members appear to be similar with respect to age, gender, and SES. When gang and non-gang youth compared however, results show that gang members are more likely to be male and to come from a low-income family than non-gang members.

Overall, these results show that gang members are more likely to be involved in more types of crimes and at a much higher prevalence rate compared to those respondents who do not belong to a gang, and even to those who belong to an identifiable delinquent group. However, what is unclear is why there is a progression of increased offending.

The organizational level of a group or gang may provide some answers to help understand this finding. In order to examine this issue further, respondents were compared on the types and number of organizational features of their group/gang (Table 3). Since non-group members by their very definition would not have organizational properties, they were dropped from the analysis. Table 3 shows that a substantial portion of gang members report at least one organizational feature (34 out of 44). At the same time however, this finding also reveals that not all gang members reported organizational features. Although groups scored significantly lower on the organizational scale (4.0 vs. 1.3), and a smaller proportion of group members reported organizational features (88/171), a majority (51.5%) of these groups do show some features that usually are attributed to gangs only<sup>13</sup>.

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<sup>13</sup>Comparisons were made between those respondents not reporting any organizational feature and those who indicated at least one feature. The use of a dichotomous measure of organization revealed no significant differences for gang members on any of the delinquent activities examined. For delinquent group members however, significant differences were found for the general delinquency scale, drug supply offences (including drug dealing and cannabis cultivation separately), and cannabis and hard drug use. For group members, this indicates that going from no organizational features to at least one has a significant association with higher delinquency. For gang members on the other hand, going from none to at least one organizational feature is not associated with higher levels of delinquency. Gang members already have higher rates of delinquency, thus a dichotomous measure of organization does not have an effect on offending. It may be that a continuum of organization (i.e. number of organizational features present) is associated with delinquency more so than simply going from none to at least one.

Table 3  
Comparison of Gang and Group Members on  
Organizational Features

	<b>Gang Members (N=44)</b>	<b>Group Members (N=171)</b>	<b>Phi</b>
<i>Organization Scale</i>	%	%	
Group Name	40.9	9.4	0.35***
Group Leader	43.2	9.9	0.36***
Hierarchy	43.2	11.7	0.33***
Meeting Location	40.9	22.8	0.17*
Distinctive Signs/Codes	38.6	13.5	0.26***
Rules	47.7	13.5	0.34***
Initiation	34.1	11.7	0.25***
Protect Territory	50.0	11.1	0.40***
Defend Honour/Reputation	61.4	29.2	0.27***
<b>Organization Scale</b>	<b>0-9</b>	<b>0-9</b>	
<b>Mean</b>	<b>4.0</b>	<b>1.3</b>	<b>***</b>
<b>Median</b>	<b>4.0</b>	<b>1.0</b>	
<b>SD</b>	<b>3.3</b>	<b>1.9</b>	

Note: \* $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\* $p < 0.001$

The highest reported organizational measure indicated by group members is defence of honour/reputation (29.2%), followed by presence of a meeting location (22.8%), rules (13.5%) and display of distinctive signs or codes (13.5%). Here we see some similarities between gangs and delinquent groups in terms of the types of organizational features most reported. Gang members' highest reported organizational feature is also defence of honour/reputation albeit at a much higher prevalence rate (61.4%). Defending of one's honour or reputation is often a quality linked to gang members and usually results in violence, but here we see almost a third of group members reporting this feature as well. The next highest organizational feature reported is the protection of a specific territory (50.0%), or turf, a typical feature for gangs, especially for those involved in drug dealing. Very few delinquent group members report

this organizational characteristic (11.1%). A significant number of gang members also report having rules (47.7%), a group leader (43.2%) and presence of a hierarchical structure (43.2%), with much fewer group members reporting these features. While delinquent groups do report organizational features typically thought to reflect gangs, gang members still report a higher prevalence on all nine measures (4.0 vs 1.3).

Since gang and group members report organization features, correlations between organization and delinquency among the three sub-samples of gang or group respondents (Table 4) are also considered. First, the association between organizational level and delinquency is examined for gang members ( $N = 44$ ). A moderate, positive correlation is seen for organization and general delinquency ( $0.39, p < 0.05$ ) where higher levels of organization reflect an increase in delinquency. Examination of the types of crimes composing the general delinquency scale reveals some interesting differences. The correlation between violent offences and organization is the only significant correlation ( $0.36, p < 0.05$ ). This is similar to Decker et al. (2008), who also found a strong, positive correlation between gang organizational level and involvement in violent offences. Our findings differ from this study in that no other correlation was found to be significant, including drug supply offences, which includes both drug dealing and cannabis cultivation, an activity that is frequently carried out by gang members.

Table 4  
Spearman's correlation of Organization with Different Types of Crimes and  
Drug Use for Gang Members and Group Members

	Gang Members (N=44)	Group Members (N=171)	Gangs and Group Members (N=215)
General Delinquency	0.39*	0.31***	0.41***
Drug Supply Offences	0.17	0.25**	0.31***
Drug Dealing	-0.03	0.21**	0.21**
Cannabis Cultivation	0.24	0.13	0.23**
Violent Offences	0.36*	0.05	0.22**
Property Offences	0.15	0.04	0.13
Cannabis Use	-0.01	0.27***	0.24***
Hard Drug Use	0.16	0.18*	0.20**

Note: \* $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\* $p < 0.001$

Second, only respondents who reported being “group offenders” (N=171) were selected to examine the relationship between organization, delinquency, and different types of crimes. Similar to gangs, a moderate correlation is seen between organizational level and general delinquency (0.31,  $p < 0.001$ ). Again, this positive relationship with organization does not hold for all types of crimes. The level of organization is not significantly related to involvement in violent or property offending, but was positively related to involvement in drug supply offences (0.25,  $p < 0.001$ ). When drug supply offences are examine separately, organization is significant for drug dealing (0.21,  $p < 0.01$ ), but not for cannabis cultivation. Unlike gang members, the frequency of cannabis use and involvement in hard drug use is positively and significantly related to the level of group organization. Ignoring the potential qualitative differences between



gangs and groups, gang and group members are combined (N=215) to assess the role of organization. Significant correlations are seen between organization and all delinquent activities, with the exception of property crimes. Unknown is whether this is an effect of gang membership (gang members score higher on both the delinquency scale and the organization scale), or if this is an effect of organization over and above gang membership.

In order to compare gangs and groups that are more highly organized to those that are lesser organized (a similar design to Sheley et al., 1995), gang and group members are split into two categories: “organized” (reported three or more organizational features<sup>14</sup>) and “disorganized” (reported fewer than three organizational features). Beginning with general delinquency, we see that organized gang members score significantly higher on the delinquency scale (5.42) than organized group members (3.43). Also, those gangs and groups considered organized significantly differ from their disorganized counterparts as organized gangs/groups report a significantly higher number of offences. This indicates that both gang membership and organization matter when considering general delinquency. A slightly different result emerges when drug supply offences are considered. We find scores of 1.29 (organized group), 1.39 (disorganized gang), and 1.58 (organized gang) on the drug supply scale. What this shows is that those involved in drug supply offences are just as organized whether they come from a group, or a gang. Examining dealing and cultivation separately reveals some interesting differences between these types of drug supply offences. Similar to drug supply offences, those

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<sup>14</sup> The cut-off point of three or more organizational features was used since approximately one quarter (28.5%) of the sample (n=215) fell into this category. This allowed for a comparison of the quarter most ‘organized’ gangs or groups. To ensure the 3+ cut-off point was an appropriate estimation of the most organized gangs/groups, a cut-off point of four or more organizational features was also tried. Results were similar and there were no differences in significance values with the 4+ cut-off.

involved in dealing are just as organized regardless if they belong to a group or a gang. On the other hand, those involved in cannabis cultivation are significantly more likely to belong to an organized gang than an organized group. While not statistically significant, 50% of disorganized gang members reported involvement in cultivation versus only 37% of *organized* group members. This highlights the role of gang membership and organization in the cannabis cultivation industry. Next, organized and disorganized gangs/groups are compared on their involvement in violent offending. We see a very large difference in the proportion of organized gangs members as opposed to organized group members participating in violent crime (73% vs. 26% respectively). In addition to a gang effect, it is clear that organization also has an effect, especially for gang members as 73% of organized gang member report involvement in violent offences compared to only 33% of disorganized gang members. Lastly, for property offences we failed to find significant differences between organized gangs and organized groups.

Table 5  
Comparison of “Organized” versus “Disorganized”  
Gangs and Groups by Offence Type

Table 5a. General Delinquency

GANG \ GROUP	Organized	Disorganized
Organized	5.42	3.83
Disorganized	5.42	3.83

Table 5b. Drug Supply Offences

GANG \ GROUP	Organized	Disorganized
Organized	1.58	1.39
Disorganized	1.58	1.39

Table 5c. Drug Dealer

GANG \ GROUP	Organized	Disorganized
Organized	57.7% 54.3%	61.1% 54.3%
Disorganized	57.7% 36.0%	61.1% 36.0%

Table 5d. Grower

GANG \ GROUP	Organized	Disorganized
Organized	65.4% 37.1%	50.0% 37.1%
Disorganized	65.4% 25.0%	50.0% 25.0%

Table 5e. Violent Offences

GANG \ GROUP	Organized	Disorganized
Organized	73.1% 25.7%	33.3% 25.7%
Disorganized	73.1% 19.1%	33.3% 19.1%

Table 5f. Property Offences

GANG \ GROUP	Organized	Disorganized
Organized	57.7% 34.3%	38.9% 34.3%
Disorganized	57.7% 28.7%	38.9% 28.7%

\*Light grey indicates  $p < 0.05$ ; dark grey indicates  $p < 0.01$ .

The bivariate results have revealed some interesting findings. First, we see a progression in offending where there is a significant increase in the prevalence of offending from non-groups to groups, and finally to gangs. This highlights the possibility that there is a gang or group effect on offending. Second, we find a general association between organizational features and delinquency. However, this relationship may not hold for both gangs and groups for all types of crimes. Lastly, we see that organizational level appears to influence gangs and groups differently. Still unknown is whether these differences in offending between these three groups hold when examined independently.

Is it membership to a group or gang that matters, or is it how organized that gang or group is that has an influence on delinquency?

## **4.2 Multivariate Analyses**

Analyses at the multivariate level were run to determine both the independent influence of group or gang membership but also to examine the effect of a continuum of organization might have on offending behaviour. First, we start with examining the general delinquency scale (1-10), using zero truncated negative binomial (ZTNB) regression (Table 6). First, by excluding gang members from the analysis, group and non-group offenders are selected (N=479) in order to examine the influence of group membership. Next, gang members are compared to the full sample of non-gang youth (N=523) to examine the influence of gang membership on offending. Finally, only group and gang members are selected (N=215) to assess the independent influence of gang membership (model 1). Organizational level is added to the second model to determine its association with delinquency but also to compare the strength of association with the effects of membership.

Table 6  
 Estimated Parameters in Zero Truncated Negative Binomial for General Delinquency

	Group vs. Non-Group (N=479)		Gang vs. Non-Gang (N=523)		Group vs. Gang (N=215) Model 1		Group vs. Gang (N=215) Model 2	
Control Variables	<i>b</i> (SE <sup>15</sup> )	<i>z</i>	<i>b</i> (SE)	<i>z</i>	<i>b</i> (SE)	<i>z</i>	<i>b</i> (SE)	<i>z</i>
Age	0.063 (0.058)	1.09	0.024 (0.050)	0.48	0.030 (0.051)	0.59	0.000 (0.049)	0.00
Gender	0.369 (0.118)	3.12**	0.421 (0.108)	3.89***	0.365 (0.133)	2.74**	0.372 (0.138)	2.69**
SES	0.108 (0.113)	0.96	0.138 (0.106)	1.30	0.199 (0.117)	1.71 <sup>†</sup>	0.239 (0.114)	2.10*
Cannabis Use	0.302 (0.054)	5.62***	0.277 (0.049)	5.61***	0.254 (0.058)	4.34***	0.246 (0.051)	4.82***
Hard Drug Use	0.416 (0.117)	3.56***	0.465 (0.108)	4.32***	0.338 (0.121)	2.79**	0.274 (0.097)	2.83**
Group Membership	0.420 (0.104)	4.05***	--	--	--	--	--	--
Gang Membership	--	--	0.785 (0.130)	6.04***	0.492 (0.123)	3.99***	0.266 (0.123)	2.17*
Organization Scale	--	--	--	--	--	--	0.079 (0.017)	4.74***
<b><math>\chi^2</math></b>	<b>162.190</b>		<b>200.340</b>		<b>121.830</b>		<b>170.180</b>	
<b>Log Likelihood</b>	<b>-635.930</b>		<b>-747.667</b>		<b>-361.450</b>		<b>-350.392</b>	
<b>McFadden's Adjusted R<sup>2</sup></b>	<b>0.054</b>		<b>0.075</b>		<b>0.093</b>		<b>0.117</b>	
<b>Cox &amp; Snell R<sup>2</sup></b>	<b>0.169</b>		<b>0.231</b>		<b>0.347</b>		<b>0.411</b>	
<b>BIC</b>	<b>1321.233</b>		<b>1545.409</b>		<b>765.865</b>		<b>718.784</b>	

Note: \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ , <sup>†</sup> marginal  $p < 0.10$ .

<sup>15</sup> Robust standard errors reported. Robust standard errors attempt to adjust for heterogeneity in the model

The left hand side of the table compares group members (excluding gang members) and non-group offenders (N=479). Here we see that belonging to a delinquent group has a significant and independent association with delinquency. Group membership is related to involvement in a higher number of delinquent activities. The frequency of drug use, both cannabis and hard drug use, are also an important significant predictors. Higher levels of drug use are associated with greater delinquency. Of the socio-demographic predictors, gender plays a role in how many offences are committed, where males unsurprisingly report a higher number of offences than females. The middle part of table 6 examines the influence of gang membership on the sample of gang and non-gang youth (N=523). Results are similar to those found for groups: all else constant, gang membership is also an important predictor of delinquency involvement. Gang members engage in a significantly higher number of offences compared to those who do not belong to a gang. Not only is belonging to a gang a significant predictor, it has the strongest association with delinquency ( $z=6.04, p<0.001$ ). Cannabis use is a significant but not as important as belonging to a gang ( $z=5.61, p<0.001$ ).

Selecting gang and group members (N=215), the right hand side of table 6 examines the independent influence of organizational level above and beyond gang membership. Starting with model 1, we see again that gang membership is strongly associated to the number of offences committed. Cannabis, hard drug use, and gender are also significant predictors. When the organizational level is added to model 2, not only do we see that organization matters, but we also find that it is a stronger predictor of delinquency ( $z=4.74$ ) than gang membership ( $z=2.17$ ). A likelihood ratio test is significant ( $p<0.001$ ) indicating model 2 provides a better fit with the data. Also,

comparing the difference in BIC values (16.745) between the two models provides very strong support for the second model. Much the same as before, frequency of drug use and gender also significantly predict delinquency, however when only gangs and groups are considered, low SES becomes important. Gang and group members who come from families with lower incomes report a greater number of offences.

What happens when we break down the general delinquency scale and examine specific types of offences? Table 7 looks at a count of drug supply offences (0-3) using standard Poisson regression. Following the same format as for the general delinquency scale, we start with the left side of the table. Comparing group and non-group offenders (N=479), belonging to a delinquent group is a significant predictor for the number of drug supply offences reported. The frequency of drug use, especially cannabis use has a very strong positive effect on participating in drug supply offences. Gender (being male) and low SES has an effect on how many drug supply offences are committed. We find similar results when comparing gang and non-gang youth (N=523, middle part of table 7). Gang membership significantly predicts a greater a level of involvement in drug supply offences. Similar to groups, we see the strong influence of cannabis use on drug supply offending, in addition to the significant impact of low SES.

Table 7  
Estimated Parameters in Standard Poisson Regression for Drug Supply Offences

	Group vs. Non-Group (N=479)		Gang vs. Non-Gang (N=523)		Group vs. Gang (N=215) Model 1		Group vs. Gang (N=215) Model 2	
Control Variables	<i>b(SE)</i>	<i>z</i>	<i>b(SE)</i>	<i>z</i>	<i>b(SE)</i>	<i>z</i>	<i>b(SE)</i>	<i>z</i>
Age	0.113 (0.059)	1.90 <sup>†</sup>	0.044 (0.048)	0.92	0.011 (0.058)	0.18	-0.009 (0.057)	-0.15
Gender	0.119 (0.120)	0.99	0.200 (0.114)	1.75 <sup>†</sup>	0.182 (0.152)	1.20	0.191 (0.155)	1.23
SES	0.289 (0.129)	2.24*	0.223 (0.119)	1.87 <sup>†</sup>	0.200 (0.157)	1.27	0.241 (0.158)	1.53
Cannabis Use	0.648 (0.063)	10.25***	0.626 (0.055)	11.33***	0.615 (0.069)	8.90***	0.602 (0.066)	9.17***
Hard Drug Use	0.384 (0.163)	2.35*	0.341 (0.140)	2.44*	0.305 (0.145)	2.10*	0.292 (0.139)	2.10*
Group Membership	0.276 (0.115)	2.39*	--	--	--	--	--	--
Gang Membership	--	--	0.218 (0.116)	1.87 <sup>†</sup>	0.096 (0.121)	0.79	-0.038 (0.129)	-0.30
Organization Scale	--	--	--	--	--	--	0.055 (0.021)	2.61**
$\chi^2$	<b>259.430***</b>		<b>325.700***</b>		<b>180.420***</b>		<b>186.840***</b>	
Log Likelihood	<b>-436.886</b>		<b>-499.613</b>		<b>-236.377</b>		<b>-234.297</b>	
McFadden's Adjusted <sup>16</sup> R <sup>2</sup>	<b>0.156</b>		<b>0.166</b>		<b>0.161</b>		<b>0.165</b>	
Cox & Snell R <sup>2</sup>	<b>0.311</b>		<b>0.338</b>		<b>0.393</b>		<b>0.405</b>	
BIC	<b>--</b>		<b>--</b>		<b>510.347</b>		<b>511.559</b>	

<sup>16</sup> McFadden's adjusted R<sup>2</sup> is similar to the adjusted R<sup>2</sup> in OLS since it penalizes models that have too many predictors. If predictors are effective then the penalty to the R<sup>2</sup> value will be small relative to the added information of the predictors. However, if the added predictors do not contribute sufficiently to the model, then the penalty to the R<sup>2</sup> value will be noticeable. Cox & Snell R<sup>2</sup> is calculated using the ratio of likelihoods of the null model and the full model (the smaller the ratio, the greater the improvement). Cox & Snell R<sup>2</sup> also takes into account sample size and has a maximum value less than one.



The independent effect of gang membership disappears however when only gang or group members are considered (N=215, right hand side of table 7). When compared to groups, gang membership is not a significant predictor for involvement in drug supply offences. In this case, groups are just as likely as gangs are to commit drug supply offences. If “membership” per se does not matter for drug supply offending, does the level of organization matter? Model 2 shows that organizational level does matter and is in fact an important and significant predictor for the commission of drug supply offences. The likelihood ratio test indicates the addition of organization significantly improves the model fit ( $p < 0.05$ ). Difference in BIC values (1.212) provides only weak support for model 1. For drug supply offenders, it is not membership to a gang that matters, but rather how organized the gang or group is. This is different from results seen for general delinquency. Here both gang and group members are similarly involved in this type of activity, what differentiates how involved a group or gang member is in drug supply offending is how organized they are. This has interesting implications as previous research has suggested that involvement in drug sales is often a disorganized and individually focused activity (Decker, Bynum, Weisel, 1998; Decker & Van Winkle, 1995). Recall that young offenders of this region have the option of being involved in cannabis cultivation as opposed to just drug dealing, which may have had an effect on the findings. There may be different processes operating that explain the involvement in these two types of drug supply offences.

Additional analyses tackle this issue explicitly. What happens when we consider specific types of drug supply offences, drug dealing and cannabis cultivation, separately? Tables 8 and 9 looks at the involvement in drug dealing and cannabis cultivation using

logistic regression. Examining non-group and group members (N=479, left hand side of tables 8 & 9), similar to the bivariate results, group membership is found to be significantly related to involvement in drug dealing but not for cannabis cultivation. Those offenders not affiliated with any group are just as likely as those belonging to a delinquent group to engage in growing cannabis. It appears that those involved in drug dealing as opposed to cannabis cultivation influence the significant effect of group membership for drug supply offences. The drug supply scale measures not only involvement but also how many supply offences committed. In that case, group members are more likely to be involved in multiple supply jobs simultaneously reflecting a greater level of commitment to drug supply offending. When we examine the influence of gang membership in the full sample (N=523, middle of tables 8 & 9), we fail to find a membership effect on drug dealing. Gang members are not significantly more likely to be involved in drug sales. The bivariate results indicated that gang membership would be significantly related to drug dealing, however when other factors are controlled for in the multivariate model, especially the influence of cannabis use, the effects of gang membership are reduced. On the other hand, for cannabis cultivation, belonging to a gang is a significant predictor for involvement in cannabis cultivation. Cannabis cultivation in this case appears to be influencing the marginal gang effect seen in the results for the drug supply scale.

Table 8  
Estimated Parameters in Logistic Regression for Drug Dealing

	Group vs. Non-Group (N=479)		Gang vs. Non-Gang (N=523)		Group vs. Gang (N=215) Model 1		Group vs. Gang (N=215) Model 2	
Control Variables	<i>b</i> ( <i>SE</i> )	<i>z</i>	<i>b</i> ( <i>SE</i> )	<i>z</i>	<i>b</i> ( <i>SE</i> )	<i>z</i>	<i>b</i> ( <i>SE</i> )	<i>z</i>
Age	0.103 (0.144)	0.72	-0.002 (0.134)	-0.02	-0.169 (0.210)	-0.80	-0.197 (0.209)	-0.94
Gender	0.513 (0.255)	2.02*	0.688 (0.244)	2.82**	0.831 (0.424)	1.96 <sup>†</sup>	0.856 (0.418)	2.05*
SES	0.205 (0.271)	0.76	0.123 (0.263)	0.47	0.046 (0.390)	0.12	0.061 (0.386)	0.16
Cannabis Use	1.240 (0.148)	8.39***	1.207 (0.135)	8.93***	1.372 (0.205)	6.70***	1.376 (0.205)	6.72***
Hard Drug Use	0.710 (0.521)	1.36	0.818 (0.476)	1.72 <sup>†</sup>	0.733 (0.604)	1.21	0.642 (0.584)	1.10
Group Membership	0.507 (0.246)	2.06*	--	--	--	--	--	--
Gang Membership	--	--	0.578 (0.440)	1.31	0.326 (0.486)	0.67	0.097 (0.530)	0.18
Organization Scale	--	--	--	--	--	--	0.095 (0.079)	1.20
$\chi^2$	<b>97.730***</b>		<b>102.500***</b>		<b>53.240***</b>		<b>54.750***</b>	
Log Likelihood	<b>-220.420</b>		<b>-247.140</b>		<b>-106.461</b>		<b>-105.735</b>	
McFadden's Adjusted R <sup>2</sup>	<b>0.209</b>		<b>0.219</b>		<b>0.230</b>		<b>0.228</b>	
Cox & Snell R <sup>2</sup>	<b>0.245</b>		<b>0.258</b>		<b>0.316</b>		<b>0.321</b>	
BIC <sup>17</sup>	<b>--</b>		<b>--</b>		<b>250.516</b>		<b>254.435</b>	

Note: \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ , <sup>†</sup> marginal; robust standard errors reported

<sup>17</sup> BIC compares maximum likelihood models and is a measure that combines fit and complexity of two models on the same data

Table 9  
 Estimated Parameters in Logistic Regression for Cannabis Cultivation

	Group vs. Non-Group (N=479)		Gang vs. Non-Gang (N=523)		Group vs. Gang (N=215) Model 1		Group vs. Gang (N=215) Model 2	
Control Variables	<i>b</i> (SE)	<i>z</i>	<i>b</i> (SE)	<i>z</i>	<i>b</i> (SE)	<i>z</i>	<i>b</i> (SE)	<i>z</i>
Age	0.363 (0.127)	2.87**	0.290 (0.118)	2.47*	0.170 (0.193)	0.88	0.143 (0.197)	0.73
Gender	0.094 (0.254)	0.37	0.040 (0.238)	0.17	-0.057 (0.393)	-0.15	-0.047 (0.393)	-0.12
SES	0.363 (0.260)	1.40	0.329 (0.245)	1.34	0.549 (0.361)	1.52	0.590 (0.369)	1.60
Cannabis Use	0.885 (0.139)	6.39***	0.905 (0.125)	7.22***	1.027 (0.193)	5.33***	1.024 (0.195)	5.24***
Hard Drug Use	0.318 (0.447)	0.71	0.245 (0.393)	0.62	0.480 (0.443)	1.08	0.421 (0.447)	0.94
Group Membership	0.067 (0.248)	0.27	--	--	--	--	--	--
Gang Membership	--	--	1.110 (0.388)	2.86**	1.066 (0.434)	2.46*	0.823 (0.453)	1.82 <sup>†</sup>
Organization Scale	--	--	--	--	--	--	0.105 (0.071)	1.49
<b><math>\chi^2</math></b>	<b>66.400***</b>		<b>79.560***</b>		<b>40.430***</b>		<b>42.430***</b>	
<b>Log Likelihood</b>	<b>-225.670</b>		<b>-251.014</b>		<b>-107.043</b>		<b>-106.015</b>	
<b>McFadden's Adjusted R<sup>2</sup></b>	<b>0.115</b>		<b>0.151</b>		<b>0.172</b>		<b>0.172</b>	
<b>Cox &amp; Snell R<sup>2</sup></b>	<b>0.144</b>		<b>0.183</b>		<b>0.249</b>		<b>0.256</b>	
<b>BIC</b>	<b>--</b>		<b>--</b>		<b>251.680</b>		<b>254.995</b>	

Note: \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ , <sup>†</sup> marginal; robust standard errors reported

When gang and group members are selected (model 1, right hand side of tables 8 & 9), we find similar results: membership to a gang does not significantly increase the likelihood of involvement in drug dealing but does for involvement in cannabis cultivation. Membership matters when it comes to involvement in cultivation but not for drug dealing. The lack of a gang effect for dealing appears to have influenced the non-significant effect of gang membership seen for the drug supply scale. These results indicate that membership affects involvement in dealing and cannabis cultivation differently. Will a similar pattern of results emerge for organization? Model 2 suggests that it does not. A higher number of organizational features reported is not associated with a higher likelihood of involvement in drug dealing or cannabis cultivation. Interestingly, gang membership becomes only marginally significant ( $p=0.072$ ) once organizational level is added for drug dealing. While models 1 and 2 models are significant for both type of drug supply offences, the likelihood ratio test comparing model 1 and model 2 is not significant indicating the addition of organization does not provide a better model fit. The difference in BIC values (3.919 and 3.315 respectively) also provides positive support for model 1. For drug dealing, there does not appear to be a gang or an organization effect. However, gang membership is an important predictor for involvement in cannabis cultivation.

Similar to the results on drug supply offences, cannabis use is also a strong predictor for involvement in dealing and cannabis cultivation and is in fact consistently the strongest predictor regardless of the comparison group ( $N=479$ ,  $N=523$ ,  $N=215$ ). The strength of cannabis use may explain why organization fails to reach significance.

Much of the variance in the model is attributable to higher frequencies of cannabis use thus decreasing the relative importance of membership. In addition to cannabis use, age was found to be a significant predictor of involvement in cannabis cultivation. Older adolescents were more likely to be involved in cultivation.

Next, we examine involvement in violent offences using logistic regression (table 10). Examining the non-group and group offenders (N=479, left side of table 10), group membership is a significant indicator of involvement in violent offences. Age is also a significant factor, where older offenders have a greater likelihood of committing violent offences. Here is the first time we see fail to see frequency of drug use act as a significant predictor. When we examine the influence of gang membership using the full sample (N=523, middle of table 10), not surprisingly, gang members are much more likely to commit violence than non-gang members. Older male offenders also have a higher likelihood of involvement in violence. Selecting only gang group members again (model 1, right hand side of table 10), we find similar results: gang membership is a strong predictor of involvement in violence compared to group offenders. Does the level of gang/group organization matter? Model 2 suggests that the answer is yes: higher levels of gang or group organization reflect a higher likelihood of being involved in violent offending. The addition of the level of organization decreases the importance of gang membership but remains a significant predictor in the model. While the differences in BIC values (1.377) provides weak support for model 2, the likelihood ratio test is significant ( $p < 0.01$ ) indicating the addition of organization is a statistically significant improvement in model fit. When considering involvement in violence, both gang membership and organization are important factors to take into account. Low SES also

has a significant impact on involvement in violent offences for gang and group members, with those offenders from low-income families having a higher chance of committing violent crime.

Table 10  
 Estimated Parameters in Logistic Regression for Violent Offences

	Group vs. Non-Group (N=479)		Gang vs. Non-Gang (N=523)		Group vs. Gang (N=215) Model 1		Group vs. Gang (N=215) Model 2	
Control Variables	<i>b</i> (SE)	<i>z</i>	<i>b</i> (SE)	<i>z</i>	<i>b</i> (SE)	<i>z</i>	<i>b</i> (SE)	<i>z</i>
Age	0.342 (0.147)	2.33*	0.294 (0.127)	2.32*	0.414 (0.192)	2.16*	0.377 (0.205)	1.84 <sup>†</sup>
Gender	0.563 (0.300)	1.88 <sup>†</sup>	0.653 (0.279)	2.34*	1.026 (0.461)	2.23*	1.032 (0.480)	2.15*
SES	0.020 (0.300)	0.07	0.209 (0.265)	0.79	0.637 (0.363)	1.75 <sup>†</sup>	0.718 (0.373)	1.92 <sup>†</sup>
Cannabis Use	-0.141 (0.144)	-0.98	-0.105 (0.128)	-0.82	0.158 (0.174)	0.91	0.143 (0.178)	0.80
Hard Drug Use	0.359 (0.458)	0.78	0.489 (0.380)	1.29	0.245 (0.444)	0.55	0.108 (0.442)	0.24
Group Membership	0.613 (0.260)	2.36*	--	--	--	--	--	--
Gang Membership	--	--	1.878 (0.356)	5.27***	1.434 (0.389)	3.69***	1.020 (0.435)	2.34*
Organization Scale	--	--	--	--	--	--	0.179 (0.068)	2.64**
$\chi^2$	<b>15.710*</b>		<b>46.550***</b>		<b>33.800***</b>		<b>43.110***</b>	
Log Likelihood	<b>-194.067</b>		<b>-225.972</b>		<b>-108.999</b>		<b>-105.625</b>	
McFadden's Adjusted R <sup>2</sup>	<b>0.008</b>		<b>0.071</b>		<b>0.089</b>		<b>0.107</b>	
Cox & Snell R <sup>2</sup>	<b>0.036</b>		<b>0.091</b>		<b>0.157</b>		<b>0.183</b>	
BIC	<b>--</b>		<b>--</b>		<b>255.593</b>		<b>254.216</b>	

Note: \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ , <sup>†</sup> marginal; robust standard errors reported



The last series of logistic regression analyses examine involvement in property offences (table 11). As can be seen, we have much more difficulty in trying to predict involvement in property offences with the set of variables used. When groups are compared to non-groups (N=479, left hand side of table 11) there is not a single predictor that does a good job at predicting involvement in property offences. Gang membership is a significant predictor when compared with non-gang youth (N=523, middle of table 11) but not when group offenders and gang members are examined separately (N=215, right hand side of table 11). The addition of organization (model 2, right hand side of table 11) does not help either, suggesting that neither membership nor organization matters for property crime. What matters however, is the intensity of drug use: hard drug use is positive significant predictors of property crime.

Table 11  
Estimated Parameters in Logistic Regression for Property Offences

	Group vs. Non-Group (N=479)		Gang vs. Non-Gang (N=523)		Group vs. Gang (N=215) Model 1		Group vs. Gang (N=215) Model 2	
	<i>b</i> (SE)	<i>z</i>	<i>b</i> (SE)	<i>z</i>	<i>b</i> (SE)	<i>z</i>	<i>b</i> (SE)	<i>z</i>
Control Variables								
Age	-0.043 (0.109)	-0.40	-0.033 (0.101)	-0.33	0.056 (0.170)	0.33	0.040 (0.171)	0.24
Gender	-0.225 (0.211)	-1.07	-0.219 (0.203)	-1.08	-0.094 (0.360)	-0.26	-0.090 (0.362)	-0.25
SES	0.192 (0.237)	0.81	0.128 (0.226)	0.57	0.350 (0.350)	1.00	0.374 (0.353)	1.06
Cannabis Use	0.158 (0.113)	1.40	0.125 (0.104)	1.21	0.264 (0.162)	1.63	0.256 (0.162)	1.58
Hard Drug Use	0.403 (0.387)	1.04	0.548 (0.335)	1.63	0.967 (0.427)	2.27*	0.934 (0.426)	2.19*
Group Membership	-0.058 (0.214)	-0.27	--		--		--	
Gang Membership	--		0.693 (0.334)	2.08*	0.581 (0.379)	1.53	0.429 (0.422)	1.02
Organization Scale	--		--		--		0.062 (0.068)	0.90
$\chi^2$	<b>6.280</b>		<b>14.160*</b>		<b>15.600*</b>		<b>16.320*</b>	
Log Likelihood	<b>-288.029</b>		<b>-317.879</b>		<b>-128.003</b>		<b>-127.572</b>	
McFadden's Adjusted R <sup>2</sup>	<b>-0.013</b>		<b>0.001</b>		<b>0.020</b>		<b>0.016</b>	
Cox & Snell R <sup>2</sup>	<b>0.013</b>		<b>0.028</b>		<b>0.087</b>		<b>0.090</b>	
BIC	--		--		<b>293.600</b>		<b>298.108</b>	

Note: \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ , † marginal; robust standard errors reported

## **5: DISCUSSION**

Research on groups and gangs and delinquency is not new territory for academics. However, empirical investigation into the relationship between the organizational components of gangs or groups and delinquency has received considerably less attention. Decker et al. (2008) refer to the issues surrounding gang organization as a ‘black box’ where very little is known about the influential nature of the organizational level of gangs and the role it has on behaviour. Decker (2001) has also indicated the need for research examining organizational features of gangs but also for other groups involved in offending. Gangs are not the only group organizing themselves for criminal purposes. Various types of delinquent groups organize themselves for similar objectives and they too may also show similar organizational features typically considered to represent only gangs. The goal of this study is to determine whether the level of organization has an influence on delinquency involvement above and beyond mere membership to a group or gang. Changing the focus from “gang membership” to organizational level allowed for the analysis of other kinds of delinquent associations, importantly those who considered themselves as a member of a delinquent group. One important feature of this study is that three groups of offenders are included in the analyses: gang members, delinquent group members, and non-group offenders. This provided the opportunity to examine the comparisons not only between gangs and non-gang offenders but also delinquent groups. This allows for the examination of whether there is a gang or a group “membership” effect in regards to involvement in delinquency, and subsequently, whether there is an

“organization” effect for both gang and group offenders. If the role of organization for gangs and groups has an influence on delinquency levels, then less formal or organized gangs and groups will have lower levels of delinquency. Also of interest is whether the relationship between organization and delinquency will be similar across different offence types.

Bivariate and multivariate analyses revealed a number of significant and interesting findings and will be discussed further below:

- Gang members reported the highest levels of delinquency, followed by group members, and then non-group offenders. This indicates the possibility of viewing offenders along a continuum of intensity with gangs at one end and non-group members at the other end.
- Not only does membership to a gang matter but also membership to a group.
- Organization matters more than gang membership for delinquency. This is especially true for drug supply offences.
- Both membership and organization is important for violence.
- Neither gang membership nor organization matters for property crimes.

## **5.1 Membership and Delinquency**

Gang members were found to have significantly higher prevalence rates than group and non-group offenders in all of the illegal activities analyzed, including cannabis and hard drug use. This finding holds at the multivariate level for the general delinquency scale, even when only gang and group members are considered (N=215, Table 6, model 1). Belonging to a gang as opposed to a delinquent group intensifies delinquent behaviour. These results are not unexpected given the robust finding of the relationship

between gang membership and increased delinquency levels (Battin et al., 1998; Esbensen & Huizinga, 1993; Gatti et al., 2005; Gordon et al., 2004; Thornberry et al., 1993). Echoing the arguments from other gang researchers, these results show that gangs are qualitatively different from groups (e.g. Moore, 1991; Klein, 1995; Thornberry et al., 2003).

However, fewer studies have measured the progression of delinquency, from non-group to group members (the group membership effect), and then from group to gang members. The current study joins a small group of researchers suggesting that the increase in delinquency found in gangs extends to offenders who belong to “groups” in particular, as opposed to a more general category of “non-gang” offenders (Battin et al., 1998; Huff, 1996). Not only was gang membership a significant factor for delinquency but also group membership, even after controlling for the effect of drug use. The exclusion of gang members from the analyses highlighted the importance of group offending. These results join a number of studies examining co-offending and group offending in showing the importance of the group context for understanding delinquency (Carrington, 2002; Erickson, 1971; Reiss, 1988; Sarnecki, 1990, 1991; Warr, 2002).

These findings have two implications. First, it shows that the effect of gang membership extends beyond the influence of delinquent peer group associations (Esbensen et al., 2003; Thornberry et al., 2003; see also Klein, 1995). Secondly, it highlights the progression of offending intensity from non-group, to group, to gang. Gang members were highest on every measure of delinquency (including drug use), followed by delinquent members, with non-group members reporting the lowest. For instance, the mean number of delinquent acts committed by gang members was 4.8, 2.5

for delinquent group members, and 1.7 for non-group offenders (see table 2). Battin and colleagues (1998) also examined the mean number of delinquent acts committed by gang members, non-gang youth groups, and youths with non-delinquent friends and found a similar progression in offending intensity.

## **5.2 Organizational Level and Delinquency**

It is clear from these first set of findings that there is something special about membership to a gang that leads to higher levels of delinquency. The key to understanding what that exactly is may lie, in part, in the differential levels of organization reported by gangs and by less formal delinquent associations such as delinquent groups. There were some similarities and differences in the type of organizational properties reported. The highest reported feature for both gangs and groups was defense of honour/reputation. The symbolic meaning of being a gang member (e.g. a 'nobody messes with me' attitude) seems to extend to group members as well. Other organizational features frequently reported by gang members were: protection of a specific territory, presence of rules, and presence of a leader and hierarchy. These features resemble more structural-type characteristics. For instance, in Sanchez-Jankowski's (1991) description of the formal structures of gangs, formal leadership, hierarchies, codes of conduct, enforcement of rules are all used to describe how gangs establish organization with particular structural characteristics. On the other hand, group members often reported the presence of meetings, rules, and specific signs/codes. For group members, these features are not as structurally-based and are more indicative of 'hanging out' and perhaps wanting to emulate certain 'gang' characteristics such wearing

certain gang colours or displaying known gang signs (e.g. Gordon, 2000 “wanna-be gangs”).

While gang and group members may report some similar organizational features, offenders who reported belonging to a gang scored significantly higher on a scale measuring the number of organizational features than did offenders who reported belonging to a delinquent group (4.0 vs. 1.3). Although this finding is to be expected, it is nonetheless interesting to assess how much more “organized” gangs are, compared to groups. These results show that approximately 80% of gang members report at least one organizational feature, compared to almost 50% of group offenders. This analysis was nevertheless important in establishing that a majority of offenders who identify themselves as a “delinquent group” do report some organizational characteristics that we usually attribute to gangs. This makes group offenders worthy of attention in research on organization and delinquency.

The third set of results touches the core of this paper: the association of organizational level and delinquency. Would the effect of gang membership on delinquency be affected after controlling for the level of organization manifested by a group or gang? The results clearly show that organization matters and in fact decreased the importance of gang membership on delinquency. In addition to cannabis use, organizational level emerged as the most important indicator associated to general delinquency. This is consistent with Decker et al. (2008) and Sheley et al.’s (1995) finding that organizational level (or structure) of gangs is important to take into consideration when examining delinquency. Both at the bivariate and multivariate level,

the level of organization was positively related to increased levels of general offending not only for gang members but also those belonging to a delinquent group.

These findings suggest that groups may be as criminally productive as gang members--to the extent that they are organized. Additional analyses showed that the most organized groups (3 or more items of the scale- 20% of all groups) reported similar delinquency levels to members belonging to the less organized gangs (3.43 vs. 3.83), but significantly lower levels of delinquency compared to the most organized gang members (5.42). This explains why organization is so strongly associated to delinquency. Higher levels of organization allowed for groups to resemble characteristics attributable to gangs (i.e. higher delinquency levels). The fact that organized *gang* members exhibited significantly higher levels of delinquency than the most organized groups explains how *gang membership* can retain its important independent effect on delinquency.

These findings are consistent with earlier research that suggests gangs and groups provide an important setting for generating and maintaining a collective identity that is conducive to crime. Important indicators of organization such as role differentiation, hierarchy, leadership, meetings, and rules aide to produce collective goals, generate compliance among members, and enhance group cohesion and discipline in the group (Decker, 2001; Decker & VanWinkle, 1996). The presence or absence of these organizational features has an effect on criminal behaviour. As gangs or groups exhibit more organizational features, they are better able to efficiently accomplish criminal acts and operate more effectively in the criminal world compared to those gangs or groups that are less organized. This is consistent with Decker's (2001) view that greater numbers of organizational properties increases the chances a gang will resemble a formal



organization. As formal organizations, these gangs are more capable of “completing a greater number of complex acts than are their underdeveloped counterparts” (Decker, 2001, p. 36) and as such they should be able to create and seize a higher number of crime opportunities. The results of this study support this contention, but go a step further in suggesting that this argument applies not just to gangs, but to group delinquency as well. Gangs or groups exhibiting a greater number of organizational features are more seriously involved in delinquent behaviour.

### **5.3 Crime Specific Analyses**

The last set of findings examine whether the relationship between organization and delinquency in general follows the same pattern when specific offences are considered separately. Overall, a number of differences emerge when we break down the general delinquency scale and examine specific types of crimes (drug supply-drug dealing and cannabis cultivation, violent, and property offences). As you recall, the drug supply offence scale is not simply measuring involvement, it measures the number of drug supply offences (cannabis dealing, hard drug dealing, and cannabis cultivation) committed. The drug supply scale will be considered first followed by a separate discussion of drug dealing and cannabis cultivation.

For drug supply offences, a “membership” effect is seen only for the sample focusing on delinquent groups (N=479). There does not appear to be a “gang effect” for being simultaneously involved in a variety of drug supply offences. Group offenders are just as likely as gang members to be involved in these types of activities. When the effect of membership to a gang was controlled for, variations in the organizational level of gangs or groups are what matters, not membership. Organizational level is, along with

cannabis use, the most significant predictor of drug supply involvement. Higher levels of organization may expose gangs or groups to a greater number of criminal opportunities, which is especially important in the context of drug dealing and cannabis cultivation. As Decker (2001) argues, a greater number of organizational features found enable gangs or groups to more effectively complete crimes that require “specialization, sustainability, a division of labour, and the ability to motivate the troops” (pg. 37). This is especially evident in gangs specializing in drug supply offences. For instance, Skolnick (1990) found gang involvement in the drug distribution market to be heavily influence by organization with the goal of accumulating capital through involvement in the drug market. Similar to Skolnick’s entrepreneurial gangs, Taylor’s (1990) study of inner city gangs in Detroit found evidence of ‘corporatization’ where high levels of organization were necessary to operate effectively in drug dealing. To be sure, these results do not suggest that drug supply offending is well ‘organized’ in this sample but that organization is an important factor when considering a more business-oriented crime such as drug supply offences. Members of delinquent groups in general, but especially the most organized ones are just as likely as gang members to be involved in drug supply offences.

In order to understand and explore this issue further, it is useful to examine drug dealing and cannabis cultivation separately. Both drug dealing and cannabis cultivation were activities that a significant portion of the sample was involved in. In particular, gang members of this region were found to be involved in cannabis cultivation in large numbers (59.1%). This finding is especially interesting as no previous studies have examined the involvement specifically in cannabis cultivation. The option of considering cannabis cultivation was possible here because the survey was conducted in a region

where the cultivation industry was extensive. When gang members are removed from the analysis, a significant “group effect” is seen for drug dealing but not for cannabis cultivation. Using the same data, Bouchard, Alain, & Nguyen (2009) found those adolescents involved in cannabis cultivation to range from gang members to ‘regular kids’ growing cannabis on a very small scale. The heterogeneity of the population of growers explains why belonging to a ‘group’ is not an important condition for participating in cannabis cultivation.

When the influence of gang membership in the full sample is examined, a gang effect was seen for cannabis cultivation but not for drug dealing, even when non-affiliated offenders are excluded from the analysis (Tables 8 & 9, N=215, model 1). The potentially interesting pay-offs stemming from participation in cannabis cultivation may attract gang members, who also used cannabis on a weekly basis. Most importantly, cannabis cultivation, even on a small scale, requires a minimum of three to four co-offenders and involves a more extensive division of labour than most other types of crime (Bouchard, 2007; Weisheit, 1992). On the other hand, one can sell drugs relatively independently of others. The larger set of potential accomplices that a gang environment provides to gang members may facilitate their involvement in cannabis cultivation, compared to other offenders, especially in adolescence. It is still interesting that gang membership is not important for drug dealing in the presence of the extensive cannabis production industry in this region, especially since past research has noted the significant influence of gang membership on drug sales. Recall, however, that this sample is drawn from a small-town, agricultural region the gangs in this region may differ from those drawn from urban samples.

When organization was added to the model (Tables 8 & 9, model 2), gang membership remained an important predictor for involvement in cannabis cultivation and actually decreased its significance (marginally significant). Organization did not matter for involvement in either drug dealing or cannabis cultivation. While there is no organization effect when considering *involvement* in drug dealing or cannabis cultivation, organization had an effect on the number of drug supply offences committed. Greater levels of organization increase the ability of groups or gangs to be involved in multiple drug supply offences.

To further examine the influence of organization on drug supply offending, it is useful to come back on some of the bivariate results (see correlations in Table 4). The lack of association between organizational level and involvement in drug supply offences for gangs supports prior researcher arguing that participation in the drug distribution trade by gang members does not necessarily imply that a formal organizational level exists (Decker & Van Winkle, 1994; Fagan, 1989). The fact that a positive effect of organization was found for groups but not necessarily gangs (e.g. Table 4) suggests that a certain level of organization may need to be attained in less formalized groups before considering involvement in the drug trade. Or, alternatively, it may suggest that the opportunity of being involved in drug supply offences tend to formalize social interactions among group members. Such as been the argument of many past ethnographic studies which emphasized the need for coordination and organization for gangs to be effective in the drug trade (Sanchez-Jankowski, 1991; Padilla, 1992; Skolnick, 1990; Taylor, 1990). Moreover, the fact that organization plays a role for group offenders does not mean that organization is important for these offenders, and not

for gang members. Recall that gang dealers and gang growers still scored higher on the organization scale compared to dealers and growers who belonged to a delinquent group (see Appendix A-dealers: 3.88 vs. 1.86 and growers: 4.62 vs. 1.68). Instead, much like Decker et al. (2008), these findings suggest that, even at low levels of organization (e.g. group offenders in this study), more organization is associated with a higher likelihood of being involved in drug supply offences.

In addition to the findings on membership and organization, drug use, in particular cannabis use is the most important predictor of engaging in drug supply offences (including when drug dealing and cannabis cultivation is examined separately). Other than alcohol, cannabis is the most widely used illicit drug among gang members (Decker & Van Winkle, 1996; Moore, 1991; Waldorf, 1993). Arguably, cannabis use is often seen as a 'soft' drug and is one of the most socially acceptable substances among youth groups. Using interviews with 383 gang members in the San Francisco Bay Area, MacKenzie, Hunt, & Joe-Laidler (2005) found regular cannabis use to be a normalized function of gang life. In this study, over one-third (36.4%) of gang members used cannabis on a daily basis, compared to only 8.2% of delinquent group members and 5.8% of non-group offenders. It is important to note that these numbers may actually underestimate prevalence rates of drug use as those absent or truant on the day of the study would be expected to have higher rates (Smart, Adlaf & Walsh, 1992).

A number of studies have found a positive relationship between gang membership, drug sales and drug use, both having higher prevalence levels among gang members than non-gang members (Battin et al., 1998; Esbensen & Huizinga, 1993; Thornberry, 1998). Fagan's (1989) examination of inner city gang members in San

Diego, Los Angeles, and Chicago found levels of drug sales to be positively correlated with levels of drug use. A majority of gang members involved in dealing in this study used cannabis on a daily basis. This rate increased the more involved gang members were in drug supply offences: 63% of gang members who were dealers and growers used cannabis on a daily basis and 100% used cannabis at least once in the last 12 months. This may help explain why gang membership was not a significant predictor for drug supply offences. So many dealers and growers use cannabis and this rate increases even more when gang members are considered. Even though gang members have higher levels of involvement in drug supply offences, cannabis use is such a strong predictor for drug supply offences that it potentially masks the effects of gang membership.

Others have cautioned against the one-to-one relationship of drug sales and drug use. For example, Waldorf (1993) explicitly examined the influence of drugs sales on drug use among 300 gang members in San Francisco and found this relationship to depend on the type of drug used and sold. In particular, while a large percentage of cannabis users (88.2%) reported using the drugs they sold, only 18.2% of crack sellers reported using crack cocaine. Compared to the high rates of cannabis use among dealers, this sample found 38.5% of hard drug dealers to regularly use hard drugs. However, 60% of gang members who dealt hard drugs reported regularly using hard drugs.

Age was also found to be a significant positive predictor of involvement in one of the drug supply offences: cannabis cultivation. Older adolescents in this sample were more likely to be involved in cultivation than for other types of crimes. As students reach the end of their adolescent years two important events occur: the ability to receive a driver's license and legally obtain employment. A driver's license is an important asset

in order to be able to visit cultivation sites especially in rural towns lacking a transit system (Bouchard et al., 2009). Also, earning some extra money through legal work provides the financial opportunity to initially invest in a cultivation venture. This become less important for drug dealing on the other hand as this activity is much less dependent on these two factors, especially if drug dealing takes place around the school (Bouchard et al., 2009).

The results for violence replicate earlier findings that gang membership is a strong and robust predictor of involvement in violent offending (Battin et al., 1998; Gordon et al., 2004; Thornberry et al., 1993). Both bivariate and multivariate analyses confirm the finding that “membership” matters when considering involvement in violent crimes. What these results also suggest is that this relationship may also extent to group membership. However, gang members were still involved in violent offending at a rate almost 3 times higher than group members (56.8% vs. 20.5% respectively). This finding is not surprising given the rich discussions concerning the criminogenic effect of gangs on the facilitation of violence (Short & Strodbeck, 1965; Decker, 1996). But how do we explain this? Membership to a gang heightens the likelihood of spending time in high crime areas and leads to increased chances of violent offending and victimization. At the same time, gangs may also facilitate access to risky situations such as drug markets or rival gang conflicts (or even inter-gang conflicts) (Rosenfeld, Bray, & Egley, 1999), more so than members of less formal affiliations such as groups. This is highlighted by the fact that gangs are often territorial, more so than delinquent groups and the protection of turf can create conflict and are source for violence (Klein, 1996). For instance, 50% of

the gang members surveyed reported protecting a specific territory. In comparison, only 11% of delinquent group members indicated they belonged to a specific territory.

Importantly, these findings add to the literature in also showing that the effect of gang membership remains important, but is significantly reduced after controlling for organizational level (Table 10, model 2). Gang and group members reporting higher levels of organization were more likely to be involved in violent offences. Here both “membership” and “organization” matter. Once again it is useful to come back on some of the bivariate results to explore this issue further. While organization mattered when gang and groups were considered together, when examined separately organization level was important only for gangs, not groups (see Table 4). By comparing the most organized gang and groups to the least organized, we see how much more likely organized gang members are to be involved in violence. For instance, approximately 73% of the most organized gangs and 33% of the less organized gangs committed violent offences, while only 26% of the most organized groups were involved. This not only illustrates how organization is so strongly associated to violence for gang members but the significance of gang membership for violent offending.

The clear relationship seen between organization and violence found in this study echoes the results of a handful set of studies specifically focused on gang organization and delinquency (Decker et al., 2008; Sheley et al., 1995; see also Sanchez-Jankowski, 1991). Gangs have a significant influence over the norms and behaviours of its members through influential group processes (Klein, 1995; Short & Strodbeck, 1965; Vigil, 1988), especially when it comes to violent crime. Yet, it does not explain *why* more organization is associated to violence. For guidance, we look to researchers who were fortunate to



analyze the evolution of gang processes over time. As early as in the works of Yablonsky (1962), Short and Strodbeck (1965) and then in Decker (1996), the expression of gang violence is represented as a process where most gangs are loosely organized but the threat of violence, either real or imagined, increases group cohesion and the willingness to use violence. Decker (1996, pg. 262) describes a seven step process explaining gang violence:

1. Loose bond to the gang;
2. Collective identification of threat from rival gang;
3. A mobilizing event possibly, but not necessarily, violence;
4. Escalation of activity;
5. Violent event;
6. Rapid de-escalation;
7. Retaliation.

Whether the issue is protection from rival gang threats or the desire to increase their share of the drug market, organization is more likely to be present when the stakes are high. For example, empirical studies describing the process of “gang wars” have shown that even already very structured gangs further increase their level of cohesion and solidarity in order to provide a more unified front in response to an attack (Morselli, Tanguay, & Labalette, 2008; Levitt & Venkatesh, 2000). This does not mean, however, that the temporal order between organization and violence always follows this logic. For example, it is imaginable that an already structured organization may decide to expand its business activities through violence precisely because it reached an organizational level where violence has become a suitable strategy. For instance, the Hells Angels, a highly organized motor cycle gang with a well-known reputation for warfare (Tremblay, Bouchard, & Petit, 2009) exerted its force as a dominant group through increased conflicts with other outlaw motorcycle gangs in order to gain access and position

themselves in various illicit drug markets (Morseilli et al., 2008). While the cross-sectional nature of this data does not allow for arguments regarding the collective process of violent offending over time, the fact that the relationship is found for a continuum of organization, suggests that the relationship is important enough to operate at different levels of collective behaviour. Both more formal gangs and less formal groups may face the same kinds of violent situations, and may both feel the need to join forces and organize their actions.

The results for property crime were much less revealing than the other three crime types. Gang but not group membership was found to be a significant predictor of involvement in property type for the full sample. However, when non-groups offenders were excluded from the analysis, the gang effect seen disappeared. This is consistent with Thornberry et al.'s (1993) finding that gang membership appears to only marginally impact property offending. Battin et al. (1998) also failed to find a significant difference between gang members and youths with delinquent friends for property crimes. Organizational level was also not important for predicting involvement in property crimes. Sheley et al. (1995) also reported similar findings in their study which found that "structured" gangs were not more likely to be involved in property-type crime and in fact were significantly less likely to be involved in burglary. It appears these types of offences are not a characteristic of gang or group members, especially more organized ones.

Regular hard drug use, rather than gang membership or organization, is more important when determining involvement in property offences. Criminal activity, in this case property type crimes, may stem from the need to fund their hard drug habit, which depending on the type of drug can be quite expensive. Baron's (1999) study of 200

homeless male youth found property crime to be linked to the use of harder drugs. The constant need for money to sustain an addiction necessitates the undertaking of property offences. Inciardi's (1986) study on the relationship between drug use and crime found their sample of 573 heroin abusers to be responsible for 25, 000 instances of shoplifting and 45, 000 instance of larceny and fraud, amongst other types of crimes, including drug sales. While income-generating crimes may not be the only type of crime hard drug users commit, a substantial portion of those regularly using hard drugs do commit property type crimes.

#### **5.4 Limitations**

These findings should be interpreted within the limitations of this study. First, this data relied exclusively on self-reported measures of delinquency, drug use, and gang membership. While self-report measures provide many benefits over official data (e.g. ability to measure otherwise hidden delinquency) it would have been useful to cross-validate the delinquency measures with official data, especially since research has found that chronic offenders provide the least valid data (Junger-Tas & Marshall, 1999). However, past research examining youths who have been officially involved in the system found comparable rates of self reported delinquency when matched with official statistics (Huizinga & Elliot, 1986). In addition, school based samples often have difficulties in capturing accurate delinquency estimates as the most active delinquents are the most likely to be absent or truant from school (Bursik & Grasmick, 1993). Winfree, Fuller, Vigil, & Mays (1992) also cautioned that a sample of "true" gang members may not include the most criminally active ones either because they are absent from school or chose not to complete the survey or report, or those with the highest level of gang

involvement may answer delinquency questions cautiously. While these limitations are inherent to self-report data collection methods, every method of gang research, whether considering ethnographic methods using fieldwork or using police data, they all have their potential drawbacks.

Secondly, it was not possible to examine the frequency of involvement only prevalence of involvement. This is a serious limitation, as we are unable to assess differences in the level of involvement between those members who regularly engage in these delinquent acts, as opposed to those members who have committed the act irregularly. Moreover, higher prevalence rates do not necessarily translate into a higher frequency of offending (Esbensen & Huizinga, 1993). Recall, however, that the approach adopted in this study has been used and validated in many previous studies similar in nature (e.g. Haynie, 2001; McGloin & O'Neill Shermer, 2009; Weerman & Bijleveld, 2007). And as noted earlier, a strict measure of frequency may be misleading when measuring general delinquency, as less serious crimes have a tendency to be more frequent. The findings of the current study are nonetheless important as a first step in examining and comparing the impact of organization in whether or not a gang member or group offender is involved in delinquency.

Thirdly, question concerning the offence variables did not specifically ask respondents whether they committed these delinquent activities with their gang or group, or whether this behaviour was committed outside the influence of the gang/group. While studies such as those by Fagan (1989) and Sheley et al. (1995) found that gang and individual level criminal activities are strongly related, Decker et al. (2008) makes a compelling argument that individual and gang-related delinquency should be measured

separately. Fourth, due to the cross-sectional nature of our data, it is impossible to make any claims regarding the temporal order of organization and delinquency. Longitudinal studies on the population of offenders should explicitly incorporate questions regarding the organizational dynamics of gangs and groups and their impact on delinquency over time.

Lastly, the findings from this study are derived from a sample of high school students in a rural area of Quebec, Canada and as such the results may be limited to this sample. The area was known for its prevalence of marijuana cultivation sites, which is both a drawback (because of the peculiar crime opportunity context) and an advantage (because no previous studies have analyzed the involvement of gang members in cannabis cultivation). The context in which this study was conducted is important to understand the implications of our findings, and deserves an extended discussion. First, crime in rural areas and cities of smaller populations do not occur at the same level or rate as in urban settings (Weisheit et al., 2006). According to 2003 Uniform Crime Report data (UCR), rates for crime in urban areas was higher than rural areas on every index offence, including homicide. However, Scheer, Bordon, & Donnermeyer (2000) examined differences in substance abuse rates between rural, suburban, and urban areas and found that location did not have a significant effect on adolescent substance use. Furthermore, risk factors associated with substance use were similar across settings. Other studies have found similar rates of weapon carrying, fighting, and victimization between urban and rural samples (Lowry, Powell, Kann, Collins, & Kolbe, 1998). While comparative patterns of drug use and alcohol use have been extensively studied and understood using rural and urban samples, drug trafficking and production in rural areas

have received considerably less attention and as a result are not as well understood (Weisheit et al., 2006). Compared to urban areas, rural areas allow production sites to go unnoticed due to the isolated nature of such settings (Weisheit, 1992; Weisheit et al., 2006).

Secondly, despite the prevalence of gang literature focusing on gangs operating in urban settings, gang activity is not solely restricted to the urban backdrop, and has been reported in suburban and rural areas (Evans et al., 1999; Weisheit et al., 2006; Zevitz & Takata, 1992). There has been considerably less attention paid to gangs in rural areas, and the studies that have been conducted are often non-representative and use too small of a sample to draw any conclusive results (Wells & Weisheit, 2001). For instance, Zevitz and Takata (1992) examined the factors associated with the emergence of youth gangs in a rural community. Their study consisted of only 23 self-identified gang members. The youth gang members interviewed expressed a lack of sophistication and organization compared to the more organized and cohesive gangs found in urban settings (Zevitz & Takata, 1992). While these findings highlight that for this sample, the youth gangs were indigenous to the area and were not a result of gang migration from the larger surrounding metropolitan areas, conclusions regarding organization and gang cohesiveness based on a sample of 23 in a single rural setting cannot be generalized to rural settings in general.

To date there has been very few empirical studies directly comparing urban and rural gang members and the studies that have been conducted produced contradictory findings. One such study conducted by Evans et al. (1999) examined individual, family and community factors associated with gang involvement in both an urban and a rural

setting using a self-report survey of approximately 2,000 high-school students in the state of Nevada. Evans et al. (1999) failed to find significant differences between self-reported urban and rural gang membership or in the pressure to join gangs. Unlike Evans et al. (1999), Wells and Weisheit (2001) did find significant differences between urban and rural gangs. In their study examining the applicability of urban based gang models to gangs in a rural settings, economic type factors normally associated with gang membership and gang presence were not directly applicable when examining rural gangs. Social stability and population composition were the most consistent indicators of gang development in both urban and rural settings. In this case, poverty may not exert the same influence across environmental settings. Wells & Weisheit (2001) argue gangs in rural areas may be linked to economic prosperity rather than economic decline or deprivation and further argue that future research concerning rural gangs should focus on the social and demographic characteristics of the community.

The generalizability of these results to other settings and contexts may be limited due to the regional characteristics comprising this sample. This sample was derived from a specific rural region with an extensive cultivation industry. Other regions in Quebec did not experience widespread growth in cannabis cultivation despite having low population density rates and good soil (Bouchard et al., 2009). The rates of involvement in drug sales may be exaggerated in this region due to the presence of a pervasive cultivation industry and a greater opportunity to engage in drug supply offences. A significantly higher proportion of gang members reported involvement in drug dealing (59.1%) compared to lower rates of involvement found in other studies (29% for male gang members) (Esbensen & Huizinga, 1993). The findings for violence on the other hand

may be much more likely to be applicable to other settings. Similar to other studies examining gangs and violence, violence is one the highest reported form of illegal activity. Although the results for drug supply offences may be limited in generalizability, the finding that membership and organization matter when considering involvement in criminal behaviour significantly contributes to the literature on gangs, groups, and delinquency. While the offending rates seen in rural samples may not necessarily be as high as those found in more urban areas, the internal mechanisms of membership (i.e. symbolic representation of being in a gang) and organization still operate under the same conditions. Group processes and the reinforcing environment of the group, in particular the gang, in urban settings arguably have the same effect on the gang and group in rural settings. Similar to the conclusions held by Wells & Weisheit (2001), much more research is needed on the applicability of urban gang models to rural settings (Wells and Weisheit, 2001).



## 6: CONCLUSION

A number of ethnographic studies examining the issues of cohesiveness and organizational structure of gangs have provided insight into the potential role (or lack of role) organization has on behaviour (see Decker & Van Winkle, 1996; Sanchez-Jankowski, 1991; Klein, 1995; Padilla, 1992; Short & Strodbeck, 1965). However, empirical studies examining the relationship between organizational level and delinquency among gangs are quite limited. Only one such study has connected organizational *level* to various criminal activities (Decker et al., 2008) and another used a dichotomous measure of gang structure to predict involvement in certain types of crimes (Sheley et al., 1995). These studies are an important starting point for the understanding of group processes surrounding membership to an identifiable group. It is critical to understand the processes surrounding gang or group organization. Longitudinal research has established that gang membership facilitates higher rates of offending with considerably lower delinquency levels prior to joining and after leaving a gang (Esbensen et al., 1993; Gatti et al., 2005; Thornberry et al., 1993). While this finding intuitively makes sense, understanding why this facilitation effect occurs is a much more difficult task. An understated but very important question that needs to be addressed is how gangs exert such an influence on its members. In other words, what is so “special” about belonging to a group of individuals who call themselves a ‘gang’? What changes when you cross the line from an informal group to a more formalized group that calls itself a gang? The answer to this may lie, in part, with the gang context of violent offending.

Results from this study and others illustrate the strong effect of gang membership on violent offending. Gang violence is a form of collective behaviour that emerges through group processes and the identification of a common threat (Decker, 1996). Violence is a central feature in gang life (Klein & Maxson, 1989), from initiation processes for joining gangs to the retaliation from rival gang threats. Acts of violence bring together the majority of gang members, including peripheral and core gang members, thereby increasing levels of cohesion in order to unite against a common enemy (Decker, 1996). This implies that gang members as opposed to those belonging to a less formalized group may be more willing to sacrifice themselves for their fellow gang member. While most gangs lack effective leadership or strong ties between members, the very fact that one belongs to a gang allows for the collective identification of a threat, which then increases organization and cohesion, albeit temporarily, to effectively mobilize and respond using violence (Decker, 1996).

Since gang membership is so important for violence, why do we fail to see a similar relationship for drug supply offences? Even though gang members may be involved in drug sales at a higher rate than non-gang members, the effects of membership are not sufficient to explain participation in the drug market. Engaging in drug supply offences does not require the collective behaviour inherent to *gang* involvement in violence. In order to operate effectively in the drug market, higher levels of organization are required regardless of whether you belong to a gang or to a group. Involvement in drug supply offences is more business oriented requiring a higher degree of organization. Although levels of organization and cohesion may increase in the presence of a common threat, the reason for the increased cohesion is a result of a shared common identity (i.e.

membership to the same gang). This is something that is not required for participating in the drug market, what is required above all else is organization. Greater involvement in drug supply offences require a higher degree of specialization, division of labour, discipline, and access to opportunities all of which organization aide in accomplishing.

In order to understand further what it is about the dynamics of being in a gang that influences offending behaviour so strongly and why organization affects involvement in certain criminal activities, two important future directions for gang and group research are needed. One issue future research should focus on is uncovering or demystifying what makes gangs so 'special' and qualitatively different from other delinquent youth groups. Short and Strodbeck (1965) alluded to this difference when considering the influence of group processes in gang behaviour. Since group dynamics are a fundamental issue in the field of gang research, one of the reasons accounting for the difference seen between gangs and groups may have to do with the influence of the network structure. While the use of network analysis has been a relatively underutilized technique for most criminologists, especially in the realm of gang research, this particular method has been useful for studying both organized crime (McIllwain, 1999) and co-offending networks (Haynie, 2001, 2002; Sarnecki, 2001). According to Krohn (1986), analyzing network structures helps in the understanding of delinquency patterns and determines how this structure can influence and constrain behaviour. Identifying particular network characteristics particular to the gang and importantly the relationships between members would enable researchers to understand the processes specific to gangs. Fleisher (2002) states that, "gangs are social networks composed of individual gang members, and that gang member behaviour is determined in part by a gang member's location in the

structure of the social network. That location in the social network structure determines opportunities and constraints that expand or limit a gang member's choices" (pg. 200). Relationships among members are crucial to understand the influence of organization on not only the group but on individual behaviour. McGloin (2005) found it useful to focus on the gang member and their relationships as the unit of analysis, in order to uncover the organization, cohesion, and structure of gangs in Newark. Future research should compare the location of individual gang and group members within the social network to determine the potential social, economic, and criminal opportunities available and how this influences offending behaviour. In addition, networks may differentially constrain or influence behaviour depending on the relationship individual members have with the gang or group and how embedded a particular member is. Future research should consider these factors when examining the impact gang membership has on delinquency.

The dynamic nature of the relationships between gang or group members is a defining part of the organization seen in groups (McGloin, 2005). The findings from this study illustrate how increased levels of organization and cohesion are paramount to understanding *why* and *how* gangs facilitate higher levels of delinquent behaviour. Longitudinal studies examining the dynamic nature of organization would enable researchers to determine the causal direction of such a relationship. This would allow researchers to understand whether higher levels of organization generate a greater number of criminal opportunities or if engaging in more delinquency or certain types of criminal activities stimulates the need for higher levels of organization to operate effectively and efficiently. Research of this nature should address the number and type of organizational features present over time and the frequency and type of criminal activities

committed by the gang or group. By specifically examining *gang* or *group* involved criminal activities, as opposed to individual offending outside the gang/group context, a greater understanding of how organization influences the actions of the gang or group as a whole would be possible. Also of importance is how embedded an individual member is within a criminal network. Gang researchers have noted that gangs or groups are often composed of many subgroups or cliques with varying degree of connection to the overall group (Klein, 1971; Reiss, 1998; Warr 2002), thus it is important to understand how organization differentially influence these core and fringe members.

Instead of strictly focusing on whether or not “membership” has an impact on involvement in delinquency, the current study focused on the issue of “organization” and its association to crime participation. Doing so contributed in bringing back the issue of group offending to the forefront. Both decisions proved to be fruitful. By viewing offenders along a continuum from gangs to groups, and from groups to non-groups it allowed for the possibility of examining the finer distinctions in offending patterns. Gang membership was found to have a significant impact on delinquency levels, above those claiming membership to a delinquent group. While gangs exhibited higher rates of delinquency, *group* membership also was associated with higher delinquency levels compared to those offenders not affiliated with any type of group. Some argue the impact of gangs on behaviour is simply the result of peer group influence, and that gangs are one form or type of delinquent peer group. In general, these results show that gangs are qualitatively different from other delinquent youth groups. This supports the contention held by veteran gang researchers such as Klein (1995), Maxson (Klein & Maxson, 2006) and Moore (1991) that there is something “special” about gangs,

something that makes them qualitatively different from even other highly delinquent peer groups. One of the main reasons accounting this progression in offending is the organizational environment gang or group members are embedded in. While group and gang membership had an impact on offending, the level of organization exhibited by the gang or the group also influenced involvement in many of the criminal activities examined, especially for violent offending. Furthermore, the association between organization and offending behaviour may be more important than membership when considering participation in the drug market.

These results show the importance of considering organizational level as a unit of analysis for gang prevention efforts, and recognize that the diversity of structure showed has an impact on delinquency. While most gang research has supported the contention that gangs lack a cohesive organizational structure (Decker et al., 1998; Decker & Van Winkle, 1996; Fagan, 1989; Klein, 1995), this does not necessarily mean that levels of organization are independent of and not related to delinquency. The finding that an increase in the number of organizational properties seen in gangs (and groups) has an important effect on offending behaviour illustrates the need for policy to address to the organizational characteristics of gangs. In this sense, gangs should not be viewed as a single dimensional aggregate of adolescents. Gangs vary based on a number of identifying characteristics such as sub-group organization, size, age range, duration, territoriality, and versatility in offending (Maxson & Klein, 1995). According to Decker's (2001), "it is useful from this perspective to think of groups as tools. The ability of a tool to complete a discrete task is enhanced to the extent that it contains the capability to do so" (pg. 36-37). Since most crime in adolescence is committed within a

group context, understanding the role of organizational properties and its relationship to delinquency is so important. Offending not only in gangs but also groups provides an environment that can reinforce group processes and normalize delinquent behaviour. Therefore, a strict focus on gangs may prove to be limiting, while interventions targeted at non-gang members may not be focused enough. A policy restricting the organizational level showed by young offenders may prove to have a larger effect on drug market offences than a policy restricting only gang membership.

## APPENDIX

Table 12  
Correlation Matrix for Full Delinquent Sample (N=523)

	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	1.0											
2. Gender	0.04	1.0										
3. SES	0.06	-0.02	1.0									
4. Cann Use	0.11	-0.04	0.00	1.0								
5. Hard Use	0.05	0.03	0.00	0.32	1.0							
6. Dealer	0.06	0.11	0.01	0.49	0.28	1.0						
7. Grower	0.15	0.02	0.06	0.40	0.20	0.30	1.0					
8. Violence	0.11	0.13	0.06	0.03	0.11	0.07	0.03	1.0				
9. Property	0.01	-0.04	0.03	0.10	0.12	0.09	-0.03	0.21	1.0			
10. Gen del	0.08	0.15	0.06	0.36	0.34	0.57	0.34	0.47	0.44	1.0		
11. Drug supp	0.13	0.08	0.05	0.56	0.34	0.84	0.72	0.07	0.06	0.59	1.0	
12. Gang	0.03	0.11	0.09	0.16	0.22	0.18	0.22	0.30	0.12	0.32	0.25	1.0
13. Group	-0.05	0.10	0.02	0.11	0.10	0.13	0.01	0.03	-0.02	0.19	0.09	-0.21

Table 13  
Correlation Matrix for Group and Non-Group Offenders (N=479)

	1	2	3	4	5	6	7	8	9	10	11
1. Age	1.0										
2. Gender	0.05	1.0									
3. SES	0.06	-0.01	1.0								
4. Cann Use	0.12	-0.06	0.02	1.0							
5. Hard Use	0.06	0.02	-0.01	0.30	1.0						
6. Dealer	0.09	0.08	0.04	0.48	0.26	1.0					
7. Grower	0.17	0.01	0.07	0.36	0.17	0.29	1.0				
8. Violence	0.11	0.11	0.01	-0.02	0.04	0.05	-0.03	1.0			
9. Property	0.01	-0.05	0.04	0.08	0.07	0.07	-0.05	0.14	1.0		
10. Gen del	0.08	0.13	0.04	0.33	0.30	0.58	0.30	0.39	0.40	1.0	
11. Drug supp	0.15	0.05	0.06	0.53	0.29	0.84	0.72	0.01	0.02	0.56	1.0
12. Group	-0.05	0.13	0.04	0.16	0.17	0.18	0.06	0.11	0.00	0.29	0.16



Table 14  
Correlation Matrix for Gang and Group Members (N=215)

	1	2	3	4	5	6	7	8	9	10	11
1. Age	1.0										
2. Gender	0.15	1.0									
3. SES	0.03	-0.00	1.0								
4. Cann Use	0.03	-0.13	-0.09	1.0							
5. Hard Use	0.03	-0.06	-0.09	0.40	1.0						
6. Dealer	0.09	0.04	-0.05	0.56	0.30	1.0					
7. Grower	0.08	-0.03	0.05	0.46	0.27	0.32	1.0				
8. Violence	0.20	0.18	0.14	0.10	0.09	0.08	0.15	1.0			
9. Property	0.05	-0.03	0.05	0.20	0.24	0.24	0.13	0.28	1.0		
10. Gen del	0.12	0.14	0.06	0.45	0.40	0.60	0.45	0.56	0.58	1.0	
11. Drug supp	0.06	0.01	-0.01	0.64	0.41	0.85	0.71	0.15	0.25	0.70	1.0
12. Gang	0.07	0.09	0.11	0.17	0.18	0.16	0.27	0.33	0.17	0.36	0.26

Table 15  
Comparing Mean Number of Organizational Features Reported  
by Gang and Group Members by Offence Type

	Gang Members (N=44)	Group Members (N=171)	Significance
	<i>Mean</i>	<i>Mean</i>	
Dealers	3.88	1.86	**
Growers	4.62	1.68	***
Violent Offenders	5.08	1.74	***
Property Offenders	4.59	1.51	***

Note: \* $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\* $p < 0.001$

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