

GENDER, NEIGHBORHOODS, AND DELINQUENCY:
A REEXAMINATION OF SOCIAL DISORGANIZATION THEORY

by

MAN KIT LEI

(Under the Direction of Ronald L. Simons)

ABSTRACT

Using a sample of 678 African Americans derived from the Family and Community Health Study (FACHS), this current research project challenges the gender-invariant hypothesis of social disorganization theory (SDT) and argues that SDT has largely neglected neighborhood effects on girls' delinquency. This study finds that delinquency is unevenly distributed across and within neighborhoods between girls and boys. In addition, I indicate that gender differences in delinquency will be reduced when girls and boys live in equalitarian neighborhoods compared to patriarchal neighborhoods. Furthermore, this study also finds that the effects of collective efficacy depend on the conditions of gender and neighborhood gender equality. Finally, this study reveals that the combination of neighborhood gender equality and neighborhood poverty, through collective efficacy and supportive parenting, are highly salient factors in determining the likelihood of girls' and boys' delinquency. Results show evidence of gender-stratified neighborhoods. Thus, gender-specific neighborhood prevention programs should be developed.

INDEX WORDS: Social disorganization theory, Gender equality, Collective efficacy, Parenting Practices, Adolescent delinquency

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MAN KIT LEI

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M.A., National Taiwan University, 2001

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by

MAN KIT LEI

Major Professor: Ronald L. Simons
Committee: Thomas L. McNulty
Jody Clay-Warner

Electronic Version Approved:

Maureen Grasso
Dean of the Graduate School
The University of Georgia
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CHAPTER ONE

INTRODUCTION

Criminologists and sociologists have long studied why crime rates or delinquency differs by neighborhood contexts. Theorists working within the framework of social disorganization theory (SDT) have stated that high levels of disadvantage in a neighborhood are associated with high levels of crime or delinquency (e.g. Shaw & McKay, 1942; Sampson et al., 1997; Ingoldsby & Shaw, 2002; Sampson, 2006). Thus, traditional SDT assumes that the rates of delinquency vary among different neighborhood contexts. Based on this statement, people who live in a disadvantaged neighborhood are more likely to have a high risk of delinquency than those who live in an advantaged neighborhood (Leventhal et al., 2000; Sampson et al., 2002). An important element in this argument is the use of the word “people” as a gender-neutral term that includes women and men. To this end, SDT posits that both boys and girls who live in disadvantaged neighborhoods are more likely to develop delinquent behaviors than those who live in advantaged neighborhoods and implies that neighborhood effects influence girls and boys in similar ways. The statement assumes that gender makes little difference in the effects of neighborhood on crime or delinquency. In short, SDT hypothesizes the *gender-invariance* of neighborhood effects on delinquency.

Since traditional criminological theories are tested mainly on men and are constructed mostly by men as well, feminist scholars have charged that traditional theories are better at explaining crime or delinquency for men than for women (e.g. Chesney-Lind & Bloom, 1997; Jacob, 2006; Cullen et al., 2006; Zahn & Browne, 2009). Feminist scholars, therefore, have been concerned whether the causes of delinquency are gender invariant or not (Chesney-Lind, 1989; Belknap, 2007; Miller et al.,

2009). Similar to other traditional criminological theories, the gender-invariance hypothesis of SDT has been challenged for its failure to acknowledge gender differences (Chesney-Lind & Pasko, 2004). Many feminists indicated that a growing number of SDT studies use gender as a control variable or simply divide a model by gender to support the gender-invariant hypothesis. This approach has been noted as the “add women and stir” approach and has been criticized by many feminist scholars (e.g. Chesney-Lind, 1989; Miller & Mullins, 2009). They contend that the conceptualization of gender is embedded in certain social systems and unique life experiences. Giordano and Cernkovich (1997) concluded that “[scholars] know very little about how living in marginal or economically disadvantaged circumstances affects female involvement in antisocial behavior, although there is a wealth of information on how structural constraints affect male misbehavior” (p. 506). Therefore, the gender effect is a puzzling piece that is missing from social disorganization theory.

In contrast to the gender-invariance hypothesis, several studies have found that girls and boys tend to have different experiences in their neighborhoods (e.g. Leventhal & Brooks-Gunn, 2000; Beyers et al., 2003; Leventhal & Brooks-Gunn, 2004; Miller & White, 2006a; Cobbina et al., 2008). Sexual and violent victimizations are unevenly distributed across neighborhoods between girls and boys (Miller & White, 2006a). Girls who live in disadvantaged communities are less likely to be delinquent than boys who live in the same place (Belknap, 2007). In addition, girls are less likely to be involved in neighborhood gangs (Esbensen et al., 1999; Chesney-Lind et al., 2004), are more likely to stay at home than play outside (Zahn & Browne, 2009), and are more likely to use risk-avoidance strategies in poor communities to protect themselves against crime or sexual assaults (Cobbina et al., 2008). Moreover, liberal feminism indicates that girls living in equalitarian societies are more liberated and are free to play outside without restriction, which is similar to how boys experience their neighborhoods (Chesney-Lind, 1989; Jacob, 2006; Belknap, 2007).

Furthermore, many gender studies have pointed out that parents use different parenting behaviors, especially in patriarchal families and societies, to teach or to manage boys and girls. These behaviors result in increasing exposure to neighborhood effects for boys but not for girls (Ensminger et al., 1996; Heimer et al., 1999). Girls, for instance, tend to have more monitoring than boys from their parents (LaGrange & Silverman, 1999) because parents commonly fear that their daughters will become victims of crime or sexual assault (Warr & Ellison, 2000). On the contrary, boys are more likely to be exposed to coercive discipline than girls because boys are expected to turn into strong and aggressive men (Straus, 1994a; Heimer & DeCoster, 1999). Thus, neighborhood effects, through the mechanisms of parenting practices leading to adolescent delinquency, may not be the same for girls as for boys. In a word, several studies have revealed that the relationships between neighborhood effects and individual behaviors varies with the individual characteristics of race, gender, age (e.g. Rountree et al., 1999; Kroneman et al., 2004), and parenting practices (i.e. Brody et al., 2001). Chesney-Lind and Pasko (2004) concluded that “girls live, play, and go to school in the same neighborhoods as boys, but their lives are dramatically shaped by gender” (p.30).

Based on previous studies, the gender-invariance hypothesis of SDT has not successfully explained gender differences in neighborhood effects on adolescent delinquency. To date, several gender and feminist studies challenge the gender-invariant hypothesis of SDT and argue that SDT models have largely ignored neighborhood effects on girls’ delinquency (Chesney-Lind, 1989; Chesney-Lind et al., 2004; Kroneman et al., 2004; Jacob, 2006; Cobbina et al., 2008). Unfortunately, few studies have systematically examined gender variation in delinquency across or within neighborhood contexts (Figueira-McDonough, 1992; Odgers et al., 2009). To my knowledge, no studies have actually examined the effect of neighborhood gender equality on adolescent delinquency. In addition, no previous studies have systematically investigated gender variation in

delinquency on different versions of SDT models. Unlike other traditional theories, SDT has at least three main versions (Leventhal & Brooks-Gunn, 2000) that respond to three types of components: neighborhood structure, neighborhood processes, and social processes. To date, it is still not clear whether neighborhood structure, neighborhood processes, or social processes influence girls and boys in similar or different ways according to SDT. In other words, comparing SDT model with gender studies, the relationships between neighborhood effects and girls' delinquency remain unclear. In fact, few studies have attempted to reexamine SDT and to explain neighborhood effects on gender differences in adolescent delinquent behaviors (Ingoldsby et al., 2002; Zahn & Browne, 2009). Just as Kroneman et al. (2004) noted, "the processes by which neighborhood factors influence female behavior, both directly and indirectly, need to be better understood" (p.119).

In summation, this study attempts to incorporate SDT with gender studies in order to fill a void in SDT and reexamine the gender-invariant hypothesis of SDT. This study intends to answer the following questions: How do the effects of neighborhood structure and neighborhood process differ between African-American girls and boys? Why are there differences? How do mechanisms of neighborhood effects and parenting practices differ between girls and boys? How do the relationships among neighborhood structure, collective efficacy, and parenting practices explain gender differences in neighborhood effects on African-American adolescents' delinquency?

This study uses data from the Family and Community Health Study (FACHS) that was designed to assess the linkages among families, communities, peers, and African-American children's well-being. The following four chapters reviews the assumptions and limitations of SDT models, discusses gender differences in the relationship between neighborhood structure and delinquency, demonstrates gender differences in collective efficacy, and indicates gender differences in the mechanisms between neighborhood effects and parenting practices on adolescent delinquency.

CHAPTER TWO

SOCIAL DISORGANIZATION THEORY AND DELINQUENCY

A meta-analysis by Leventhal et al. (2000) identifies three main types of mechanisms to explain the relationships between neighborhood effects and adolescents' well-being: *institutional resources*, *collective efficacy*, and the *relationship model*. These three types of mechanisms correspond to the three main versions of SDT models.

The first mechanism of institutional resources contends that concentrated poverty as a form of *neighborhood structure* relates to adolescents' delinquent behaviors; this mechanism is related to the first version of the traditional SDT (Shaw & McKay, 1942; Sampson & Groves, 1989). This version assumes that “*children* living in [disadvantaged] communities are exposed to a variety of contradictory standards and forms of behavior rather than to a relatively consistent and conventional pattern” (Shaw & McKay, 1942: p.389).

The second mechanism of collective efficacy concerns social cohesion and informal social control as a main *neighborhood process* (see Sampson et al., 1997). This version indicates that “after adjustment for measurement error, *individual* differences in neighborhood composition, prior violence, and other potentially confounding social processes, the combined measure of informal social control and cohesion and trust remained a robust predictor of lower rates of violence” (Sampson et al., 1997: p.923). In addition, “levels of informal social control and cohesion within deprived neighborhoods may help to buffer the harmful effect of deprivation on *children*” (Odgers, 2009: p.954).

Nevertheless, the word “children,” or “individual” is a neutral term that includes girls and boys. Obviously, research in both of these versions share the insight that there is gender invariance for the connections between neighborhood effects and delinquency. For a long time, both the models of institutional resources and collective efficacy have been included in the classical SDT model. Shoemaker (2009) summarized four assumptions of classical SDT. First, neighborhood structure is a natural object. Second, the disorganization of neighborhood structure is a result of rapid urbanization and social change. Third, the level of social disorganization is based on social ecology. Fourth, the areas of social disorganization disrupt conventional social values and control, which in turn lead to high rates of delinquency. From these four assumptions, neighborhood structure is seen as a relatively stable and external object, yet delinquency is mainly the result of *where people live*.

As for the third mechanism, a relationship model was developed in the last decade. This model emphasizes other *social processes*, especially parenting practices, to explain the relationships among neighborhood structure, neighborhood process, and individual well-being. For example, some studies indicate that neighborhood effects moderate the effect of parenting practices on adolescents’ problem behaviors (Boardman et al., 2001; Wickrama et al., 2005; Simons et al., 2005), and another piece of research notes parenting practices as an important mediator of neighborhood effects and adolescent well being (Beyers et al., 2003; Chung et al., 2006; Cantillon, 2006). Although the third version of the SDT model does not clearly assume the gender-invariant hypothesis, few studies have examined gender differences in the mechanisms among neighborhood effects, parenting practices, and delinquency (Kroneman et al., 2009).

In contrast to the gender invariance hypothesis, Leventhal and Brooks-Gunn (2000) reviewed over 50 previous studies and found that girls and boys may perceive their neighborhoods differently. In particular, several studies have indicated that boys are more susceptible to neighborhood

influences than girls during their adolescence (e.g. Beyers et al., 2003; Leventhal et al., 2004). For example, African-American girls living in disadvantaged neighborhoods have high levels of violent victimization and fear of crime based on unfair gendered power relations (Miller & White, 2006a). In addition, researchers within family sociology have found that girls might be more likely to spend more time at home or other safe places (Chesney-Lind & Pasko, 2004). In other words, a gender-invariance hypothesis is not sufficient to explain gender differences in delinquency within or across neighborhood contexts because girls and boys tend to have different life experiences in their neighborhoods. Just as recent research has suggested that “few studies have mapped the developmental course of antisocial behavior among male and female children across deprived versus affluent neighborhoods” (Odgers, Moffitt, Tach, Sampson, Taylor and Matthew, 2009: p.944).

Feminist criminologists have emphasized that most of the traditional theories ignore gender and the mechanism between gender structure and delinquency (Miller & Christopher, 2006b). Similar to other traditional theories, feminist scholars claimed that the SDT model was a “male” theory because it had been tested with exclusively male samples and had been dominated by male approaches and scholars (Daly & Chesney-Lind, 1988; Jacob, 2006; Belknap, 2007; Miller & Mullins, 2009; Zahn & Browne, 2009). As a result, previous neighborhood studies may not be able to generalize to girls (Obeidallah et al., 2004). For instance, in Shaw and McKay’s (1942) book chapter entitled “Distribution of Male Juvenile Delinquents in Chicago,” they focused only on boys under 17 who were brought before the juvenile court or other juvenile justice systems. Thus, although different feminist approaches have different views to explain gender differences in delinquency, they share a key assumption: A move away from traditional male-based theories is necessary (Daly & Chesney-Lind, 1988; Cobbina et al., 2008; Miller & Mullins, 2009).

To date, only a few studies of neighborhood effects have explicitly focused on gender differences (e.g. Ingoldsby et al., 2002; Beyers et al., 2003; Kroneman et al., 2004; Jacob, 2006; Cobbina et al., 2008), although more have included gender as a control variable. More importantly, gender differences in delinquency on the different versions of the SDT model have not received systemic attention. Zahn and Browne (2009) noted that “how specifically neighborhoods impact girls versus boys, and whether the effects vary for girls, is not well researched” (p.165).

In the current study, gender is a central focus rather than simply a control variable. The following sections are divided into three parts based on the three versions of the SDT model. The first part illustrates the limitations of traditional social disorganization theory (chapter 3). The second part demonstrates the relationships between collective efficacy and gender (chapter 4). The third part discusses the mechanisms between neighborhood effects and parenting practices on adolescent delinquency (chapter 5). Finally, I provide conceptual models for interpreting all research hypotheses and mechanisms (chapter 6).

CHAPTER THREE

TRADITIONAL SOCIAL DISORGANIZATION THEORY: THE FIRST MODEL

Traditional social disorganization theory has received great attention in criminology since the 1940s. Shaw and McKay (1942) attempted to use this theory to answer two main research questions. First, why do the rates of delinquents show similar variations among local communities in different types of cities? Second, how do variations in rates of delinquency correspond to differences in economic status, ethnic heterogeneity, and cultural characteristics in different neighborhoods?

Shaw and McKay (1942) assumed that different types of neighborhood structure contribute to different levels of social disorganization because neighborhood structure is highly correlated with the quality of schools, public resources, health care services, employment opportunities, social values, and social norms. Therefore, social disorganization normally occurs in densely populated inner cities or urban areas, and those communities have a high concentration of poverty, low economic opportunity, residential instability, and a high percentage of African-American residents. When a neighborhood has high social disorganization, it is directly or indirectly associated with high rates of crime (Sampson et al., 1989; Sampson et al., 1997), adolescents' delinquency (Sampson et al., 1994; Simons et al., 2005), affiliation with deviant peers (Brody et al., 2001), and domestic violence (Benson et al., 2004). In short, the basic argument for this theory states that negative outcomes are stronger for adolescents living in more disadvantaged neighborhoods than for adolescents living in less disadvantaged neighborhoods.

In accordance with Shaw and McKay's approach, many researchers incorporated some socio-economic indicators from census data to determine the concept of neighborhood structure, a

concept they term “concentrated disadvantage” (e.g. Wilson, 1987; Sampson et al., 1989, 1997, 2002; Simons et al., 2005; Jacob, 2006). These indicators include levels of poverty, female-headed families, male unemployment, and racial composition. From the 1940s to 1980s, neighborhood studies almost all focused on how concentrated disadvantage across neighborhoods influenced delinquency (see Mazerolle et al., 2010). Although traditional SDT research has clearly demonstrated the importance of concentrated disadvantage on adolescent delinquency, relatively little research has sought to examine whether girls and boys depend on similar mechanisms across different types of neighborhoods or within the same neighborhood (Figueira-McDonough, 1992; Kroneman et al., 2004; Zahn & Browne, 2009), and what the limitations of concentrated disadvantage are (Steffensmier & Haynie, 2000; Hipp, 2007).

3.1. Across- versus Within- Neighborhood Level

In order to compare different types of neighborhoods, the traditional SDT model focuses mostly on the effects of neighborhood structure on delinquency across different neighborhoods. For example, adolescents living in a disadvantaged neighborhood are associated with a greater prevalence of delinquency than those living in an advantaged neighborhood. However, Odgers et al. (2009) noted that neighborhood effects exist not only at across-neighborhood levels but also with the within-neighborhood levels. Thus, two adolescents living in the same disadvantaged neighborhood are not assumed to have the same likelihood of delinquency. For instance, several studies indicate that girls who live in disadvantaged neighborhoods are less likely to be delinquent than boys who live in the same place (Belknap, 2007). However, few studies have simultaneously examined delinquency between girls and boys across disadvantaged versus advantaged neighborhoods (Odgers et al., 2009) or within the same type of neighborhood (Beyers et al., 2003).

Based on existing studies, there is no evidence to show that gender differences in delinquency varies between disadvantaged and advantaged neighborhoods (Steffensmeier & Haynie, 2000; Odgers et al., 2009; Zahn & Browne, 2009). Using data from the census and the Uniform Crime Report, Steffensmeier and Haynie (2000) found that neighborhood structure affects arrest rates for both women and men but with different levels of magnitude. Leventhal and Brooks-Gunn (2004) also indicated that boys might be more sensitive to neighborhood effects than girls. Neighborhood structure, thus, may be more strongly associated with boys than with girls because of boys' greater exposure to the neighborhood sphere than girls. In other words, gender differences may vary across different types of neighborhoods. I hypothesize the following:

Hypothesis 1a: Girls and boys living in disadvantaged neighborhoods will have higher levels of delinquency than those living in advantaged neighborhoods.

Hypothesis 1b: However, the mean difference of delinquency between disadvantaged and advantaged neighborhoods will vary between girls and boys. The impact of neighborhood structure on adolescent delinquency will be more pronounced for boys than for girls.

On the other hand, some studies have indicated gender differences in delinquency within the same neighborhood. For example, Beyers et al. (2003) reported more behavior problems for boys than for girls when both live in disadvantaged neighborhoods. Girls living in disadvantaged neighborhoods were less likely than boys to carry guns (Koons-Witt et al., 2003), to be involved in street robbery (Miller, 1998), and to join neighborhood gangs (Chesney-Lind & Pasko, 2004). In addition, girls who live in a disadvantaged neighborhood may experience a greater fear of sexual victimization than boys (Cobbina et al., 2008). In contrast, both girls and boys living in advantaged neighborhoods tend to have low levels of delinquency and no significant gender differences. To date, only a few studies have examined the within-neighborhood level approach to SDT (Odgers et al.,

2009). This study, thus, attempts to examine how gender effects on delinquency may vary within the same type of neighborhoods. I propose that:

Hypothesis 2: Boys will have higher levels of delinquency than girls within disadvantaged neighborhoods, but there will be no gender differences in delinquency within advantaged neighborhoods.

3.2. Concentrated Disadvantage versus Gender Equality

Another limitation relates to the measurement of concentrated disadvantage. Although concentrated disadvantage is disproportionately distributed across neighborhoods, few studies consider the distribution of socio-economic status across demographic groups within a neighborhood (Hipp, 2007). As mentioned above, traditional SDT has used neighborhood levels of concentrated disadvantage to determine neighborhood structure and argued that disadvantaged neighborhoods would have higher crime rates because of lower economic resources in their neighborhoods. One criticism of the standard concentrated disadvantage measure is that the measurement of concentrated disadvantage is an absolute socio-economic index, such as the percentage of poverty or per-capita income in census tracts. Obviously, traditional SDT has often ignored an index of relative inequality measure across the different demographic groups. In particular, gender equality as a relative index has been largely ignored.

In contrast with neighborhood concentrated disadvantage, several studies have found that higher levels of racial heterogeneity and class inequality in neighborhoods could effectively predict crime rates and delinquency (e.g. Shihadeh et al., 1996; Wickrama et al., 2005; Hipp, 2007). Similarly, Martin et al. (2006) used women's absolute societal status and relative status (the measure of gender equality) in explaining rape rates. Obviously, traditional SDT that included only concentrated disadvantage as neighborhood structural characteristics may be missing an important piece of the puzzle. That is to say, based only on the absolute socio-economic measure, the link between

neighborhood structure and delinquency is unclear. In particular, traditional SDT model has failed to take into account gender equality in neighborhood contexts because concentrated disadvantage may be confounded with the measure of gender equality.

To my knowledge, although some studies have examined gender equality on sexual violence (Martin et al., 2006), gendered homicide (Whaley & Messer, 2002), domestic violence (Straus, 1994b), and victimization (Lauritsen & Heimer, 2008), no study has attempted to include the level of gender equality into the SDT model. Moreover, existing studies have not indicated that girls or boys might be more influenced by different levels of gender equality in certain type of neighborhoods. I believe that the effect of gender equality with concentrated disadvantage may have shaped alternative results, especially in explaining gender differences. This study, therefore, examines whether or not the relationship between neighborhood structure and adolescent delinquency varies as a function of gender equality.

According to prior studies, men carry higher levels of power or authority in patriarchal societies than women because men are more likely than women to work outside the home. Thus, almost all feminists agree that there is a large gender gap in crime in patriarchal societies, and that delinquency in such societies is more likely to be dominated by boys (Adler, 1975; Hagan et al., 1985; Belknap, 2007). Because girls, in contrast to boys, have higher rates of conformity in gender-inequality societies, the likelihood of girls' delinquency is reduced (Steffensmeier & Allan, 1996; Chesney-Lind & Sheldon, 1998). If hypothesis 2 is true, I propose that:

Hypothesis 3: Boys living in disadvantaged and gender-inequality neighborhoods will have higher levels of delinquency than girls.

However, although most scholars accept the gender-convergence hypothesis and assume that the gender gap for delinquency has narrowed as gender equality increases (Adler, 1975;

Steffensmeier & Allan, 1996; Belknap, 2007), the mechanism of gender equality and delinquency is still unclear. In the last two decades, there have been two competing hypotheses used to explain the narrowed gender gap in delinquency (Hagan et al., 1985; Steffensmeier & Allan, 1996). One is the power control hypothesis. Another is the masculinity hypothesis.

The power control hypothesis focuses on the dark side of female liberation and claims that girls have more freedoms in equalitarian societies; these freedoms result in increases in girls' delinquency (Steffensmeier & Allan, 1996; Chesney-Lind et al., 1998). For example, power-control theory (Hagan et al., 1985) emphasizes that patriarchal families teach girls to avoid risk taking but teach boys to take more risks. By contrast, egalitarian families tend to encourage both girls and boys to take risks, and parents teach and control sons and daughters more equally. In addition, both girls and boys are equally employed outside the home in gender-equality societies. Hagan (1987) indicates that the gap of delinquency between boys and girls is lower in gender-equality societies because girls who reside in equalitarian societies are more likely to engage in delinquency than girls who reside in patriarchal societies. However, boys' delinquency rates are relatively unchanged between gender-inequality and -equality societies. In other words, the power control hypothesis of gender equality assumes that increases in gender equality are associated with higher rates of girls' delinquency (Steffensmeier & Allan, 1996; Gorman-Smith, 2003).

Unlike the power control hypothesis, Morash and Chesney-Lind (1991) indicate that girls who live in either equalitarian or patriarchal societies have less delinquent behaviors than boys. Some feminists focus on the relationship between masculinity and delinquency. They indicate that high degrees of masculinity are associated with higher levels of delinquency (e.g. Messerschmidt, 1993; Jefferson, 1997). Boys living in gender-equality societies may have low degrees of masculinity, which in turn leads to lower levels of delinquency. For example, some studies found that high levels of

gender equality tend to reduce boys' negative outcomes such as rape, violence, crime, and delinquency (Whaley & Messner, 2002; Martin et al., 2006). The second hypothesis is that the effect of gender equality on adolescent delinquency is significantly greater for boys than for girls. Thus, the gender gap is narrowed in gender-equality societies because boys' rates of delinquency decrease while the rates for girls remain relatively stable (Steffensmeier et al., 1996). Both hypotheses are depicted in Figure 1.

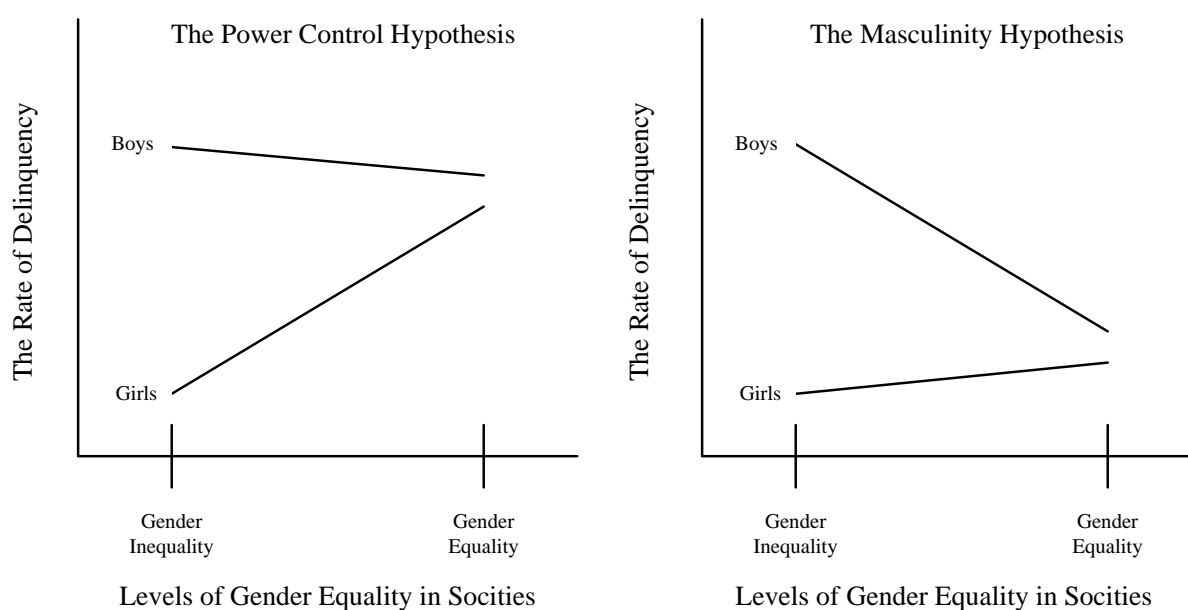


Figure 1. Competing Theoretical Hypotheses of Gender Equality

Thus, prior studies produced seemingly paradoxical findings regarding gender differences in delinquency in gender-equality societies. Some scholars found that boys who live in gender-equality societies are more likely to have less delinquency, yet others claim that girls in gender-equality societies engage in more delinquency. In addition, these two hypotheses of gender equality focus mostly on families or societies. There are few studies on levels of neighborhood gender equality.

In short, the question remains unclear to what extent the measure of neighborhood gender equality accounts for the differences between girls' and boys' delinquency in different types of neighborhoods. This study incorporates the measure of gender equality into SDT and examines whether the narrowed gender gap in gender equality reflects an increase in girls' delinquency, or reflects only a decrease in boys' delinquency. I propose that:

Hypothesis 4a: If the power control hypothesis of gender equality is true, girls living in gender-equality neighborhoods will have higher levels of delinquency than those who live in gender-inequality neighborhoods. On the other hand, boys' delinquency will remain stable between gender-equality neighborhoods and gender inequality neighborhoods.

Hypothesis 4b: If the masculinity hypothesis of gender equality is true, boys living in gender-equality neighborhoods will have lower levels of delinquency than those who live in gender-inequality neighborhoods. By contrast, girls will remain stable between gender-equality neighborhoods and gender-inequality neighborhoods.

CHAPTER FOUR

COLLECTIVE EFFICACY THEORY: THE SECOND MODEL

The second version of social disorganization theory emphasizes the importance of collective efficacy as a neighborhood process. This is based on the links between neighborhood structure and delinquency. Although traditional SDT indicates the ecology of delinquency, it does not clearly demonstrate how neighborhood structure influences an individuals' well-being. In other words, the first version of the SDT model does not answer questions about the neighborhood process that influence the relationship between neighborhood structure and adolescent delinquency.

In the past three decades, many community scholars have interpreted the mechanisms between neighborhood structure and delinquency, such as social ties (Rountree et al., 1999), social capital (Furstenberg et al., 1995), and social networks (Browning et al., 2004). However, Sampson (2006) indicates that the operational definitions of these concepts emphasize strong network ties rather than weak ones. In contrast to strong ties, Sampson (2006) emphasizes the importance of weak ties in neighborhoods, which is consistent with previous studies indicating that weak ties help people to access social resources and integrate social systems (Lin, 1999).

Based on social control theory, Sampson et al. (1989) included some informal social control concepts, such as social cohesion, social ties, and social networks, to reexamine SDT and to identify specific causal mechanisms. The researchers reported that the total effect of crime or delinquency was mediated by informal social controls. Furthermore, Sampson et al. (1997) reincorporated some informal social control concepts to propose a new concept of collective efficacy to explain how neighborhood poverty is associated with high levels of criminal behavior. This concept merged SDT

with social capital theory and social control theory. Thus, their concept attempted to combine social cohesion with shared expectations for informal social control. In other words, collective efficacy involved the extent to which informal social cohesion occurred within neighborhoods and the degree to which neighborhoods monitored the behavior of their residents. Sampson et al. (1997) found that the relationship between concentrated disadvantage and neighborhood violence was mediated by neighborhood collective efficacy.

More importantly, traditional SDT as a macro theory focused on macro-level explanations. Sampson (2006) noted that the macro-level approach always focused on crime rates across different neighborhoods, but this approach did not account for who commits delinquent behaviors. An alternative approach was based on linkages between macro and micro processes (Sampson, 2006). The basic argument is that neighborhood structure affects residents in neighborhoods.

Several previous studies have indicated a link between collective efficacy and adolescent delinquency (Bernburg & Thorlindsson, 2007; Browning et al., 2008; Odgers et al., 2009). Therefore, collective efficacy not only explains macro-level crime rates, but also links between macro-neighborhood effects and micro-individual behaviors. In other words, collective efficacy answers not only the macro-level questions but also the micro-level questions (Sampson et al., 2002). In the last two decades, many neighborhood studies have included neighborhood structure and collective efficacy to explain adolescent delinquency (Leventhal et al., 2004). The main finding was that collective efficacy mediated the association between concentrated disadvantage and the crime or adolescent delinquency rate in a community (e.g. Cook et al., 1997; Sampson et al., 1997; Simons et al., 2005; Browning et al., 2008; Odgers et al., 2009). Thus, the concept of collective efficacy offers an understanding of how neighborhood structure is associated with adolescents' delinquency.

In summary, collective efficacy, explaining the relationships between neighborhood structure and adolescent delinquency, assumes two pathways: 1) concentrated disadvantage is related to weak collective efficacy; and 2) the impact of weak collective efficacy results in high rates of adolescent delinquency. However, the second version of SDT has two methodological limitations. One is the analysis level of collective efficacy, and the other is the measure of collective efficacy.

4.1. The Analysis Level of Collective Efficacy

Similar to traditional SDT, most previous studies focused only on the collective efficacy across different types of neighborhoods and depended on the mediating framework. Compared with advantaged neighborhoods, previous studies indicated that disadvantaged neighborhoods tended to have low levels of collective efficacy, which in turn led to increased crime and delinquency. Thus, previous studies explained only why disadvantaged neighborhoods have higher crime rates than advantaged neighborhoods.

Although collective efficacy as a mediator has received much empirical support (e.g. Sampson et al., 1997; Morenoff, 2003; Mazerolle et al., 2010), some recent studies have noted that collective efficacy was not a full mediator between neighborhood structure and delinquency (Sampson, 2002; Odgers et al., 2009). Sampson (2006), thus, suggested that collective efficacy has not only mediating effects but also situational effects. In fact, the simple mediating model does not demonstrate the effect of disadvantaged neighborhoods with high collective efficacy or advantaged neighborhoods with low levels of collective efficacy. Recently, a study has shown that neighborhood collective efficacy is an important factor to protect children growing up in deprived rather than affluent neighborhoods. Based on British data, Odgers et al. (2009) identified two types of neighborhoods: deprived and affluent neighborhoods and found that “levels of informal social control and cohesion within deprived neighborhoods may help to buffer the harmful effect of deprivation on children”

(p.954). In addition, they also reported that collective efficacy did not predict children's delinquency within affluent neighborhoods. In other words, the effect of collective efficacy may vary within or across neighborhood contexts.

4.2. The Measure of Collective Efficacy

Another limitation is the measure of collective efficacy. As mentioned previously, collective efficacy combines two dimensions: 1) informal social control and 2) neighborhood cohesion (Sampson et al., 1997). Although Sampson (2006) pointed out that collective efficacy had high validity, the results frequently depended on a total sample or a male sample. It is unclear whether the effect of neighborhood collective efficacy on delinquency varies by gender (Browning et al., 2005; Meier et al., 2008; Kim, 2010). In other words, few studies have examined whether neighborhood collective efficacy vary across gender.

In fact, some of these few studies have found that informal social control and neighborhood cohesion are gender-specific rather than gender-neutral variables (Small & Luster, 1994; Rountree et al., 1999; Drukker et al., 2009; Mazerolle et al., 2010). First, neighborhood informal social control is defined by neighborhood monitoring (Sampson et al., 1997). It involves the extent to which residents in the neighborhood are willing to report problematic children to their parents. To my knowledge, no study has been conducted on gender differences in informal social control on delinquency, but some other fields have examined this question. For instance, Small and Luster (1994) demonstrated that neighborhood monitoring is associated with adolescent sexual activity for boys but not for girls. Another example, Drukker et al. (2009) found that lower levels of neighborhood informal social control were associated with school achievement in boys only. According to these studies, neighborhood monitoring as an informal social control may be more effective for inhibiting delinquent behaviors among boys than girls.

Second, the relationship between neighborhood cohesion and delinquency may also be due to gender differences. Using census tracts as the unit of analysis, Rountee and Warner (1999) found that gendered social ties influenced neighborhood crime rates and indicated that women were more likely to establish neighborhood social ties than men. Although few criminological studies examine neighborhood cohesion by gender, other fields have examined gender differences in different neighborhood cohesions. For example, public health studies found that neighborhood social cohesion were more important for women than for men (Kavanagh et al., 2006). Similarly, Stafford et al. (2005) indicated that the effect of neighborhood cohesion on health was more pronounced for girls than for boys. In other words, the effects of informal social control and neighborhood cohesion may operate differently between girls and boys.

Using a composite of collective efficacy, previous studies also found gender differences in collective efficacy. Interestingly, some studies showed that boys are more sensitive to neighborhood collective efficacy than girls. For example, Kim (2010) found that collective efficacy has a protective effect on boys' sexual behavior but no effect on girls' behavior. Sapouna (2010) revealed that boys were less likely to report bullying behavior with high levels of neighborhood collective efficacy than girls. However, other studies indicated that collective efficacy may be more effective for girls than for boys. For instance, Meier et al. (2008) collective efficacy influenced the effect of impulsivity on anti-social behaviors more for girls than for boys. Mazerolle et al. (2010) noted that girls were more likely to report higher collective efficacy than boys. In other words, there have been two competitive hypotheses: 1) neighborhood collective efficacy is more important for boys than for girls; 2) neighborhood collective efficacy is more effective for girls than for boys.

Unfortunately, many previous studies were limited to sexual behavior, mental health or substance use. Gender differences in collective efficacy on delinquency outcomes may be

insufficiently understood. In particular, the relationships among neighborhood structure, gender equality, and gender on collective efficacy are unclear. According to previous research, girls' informal social control is increased in patriarchal and disadvantaged societies because parents and neighborhoods fear girls will become crime victims (Steffensmeier & Allan, 1996; Chesney-Lind & Sheldon, 1998). In addition, recent studies note that collective efficacy is important for children who live in disadvantaged neighborhoods (Spokane, 2007; Odgers et al., 2009). This leads to the following hypothesis:

Hypothesis 5: Boys living in advantaged neighborhoods will perceive higher collective efficacy than those living in disadvantaged neighborhoods, whereas girls will report higher collective efficacy in disadvantaged than advantaged neighborhoods.

Hypothesis 6: Within disadvantaged neighborhoods, there will be gender differences in the relationship between gender equality and neighborhood collective efficacy. However, there will be no gender differences within advantaged neighborhoods.

Hypothesis 7: Both girls and boys living in disadvantaged neighborhoods will perceive a different level of collective efficacy based on a different level of gender equality, which in turn will affect the likelihood that girls and boys will engage in delinquency.

CHAPTER FIVE

A FAMILY PROCESS MODEL AND SOCIAL DISORGANIZATION THEORY: THE THIRD MODEL

Unlike the first and second versions of the SDT model, the third theoretical model assumes that the traditional model cannot ensure that alternative explanations can be ruled out because this model may ignore some social process variables. To avoid this omitted variable bias (Zahn & Browne, 2009), the third version of the model includes other social processes in the traditional social disorganization model. One of the most prominent explanations for social processes in the links between neighborhood effects and delinquency is parenting practices (Leventhal & Brooks-Gunn, 2000; Simons et al., 2005; Leventhal & Brooks-Gunn, 2005; Kroneman et al., 2009). In other words, neighborhoods effects on adolescent delinquency may be based upon different types and levels of parenting practices (Brody et al., 2001; Kroneman et al., 2004; Simons et al., 2005).

For instance, adolescents living in advantaged neighborhoods will report less harsh and more supportive parenting than those living in disadvantaged neighborhoods (Steinberg, 2001; Leventhal & Brooks-Gunn, 2005). Parents who live in an advantaged neighborhood are more likely to communicate with neighbors about their children's activities than in disadvantaged neighborhoods (Beyers et al., 2003). In particular, parental monitoring is an important social control for adolescents to avoid exposure to neighborhood risks. Adolescents who experience low levels of parental monitoring will spend a lot of time outside in their own deprived neighborhood and that will increase the likelihood of delinquency (Kroneman et al., 2004).

In this decade, specifically, several studies have incorporated parenting practices as a social process into the SDT model to examine the relationships among neighborhood structure, neighborhood process, and adolescent delinquency (e.g. Brody et al., 2001; Simons et al., 2005; Chung et al., 2006). They consistently indicate that parenting practices are important indirect effects of neighborhood contexts on adolescents' delinquency (Leventhal et al., 2000; Kroneman et al., 2004; Simons et al., 2005). In addition, these studies emphasize two main dimensions of parenting practices, supportive and harsh parenting. Supportive parenting refers to monitoring, understanding, warmth, and acting in ways that support and teach their children within the family. A lack of supportive parenting results in an increase in delinquency and association with deviant peers (Dodge et al., 2008). By contrast, harsh parenting indicates parents' use of parental punishment, harshness, criticism, or commands in relation to children's daily life. Some studies found that harsh parenting is a consistent predictor of adolescent delinquency (Simons et al., 1994; Garnier et al., 2002). Furthermore, boys were more likely to experience harsh parenting from parents (Smith & Brooks-Gunn, 1997), whereas girls are more likely to have to perceive different levels of parental warmth and support (LaGrange et al., 1999). Two aspects of parenting practices, harsh and supportive parenting, have been identified as important predictors of gender-stratified delinquency.

To test this SDT model, some previous studies have used measures of harsh parenting and found that neighborhood poverty is associated with parental harshness that, in turn, affects adolescent delinquency (e.g. Brody et al., 2001; Garnier et al., 2002). On the other hand, other prior researchers employed supportive parenting to explain the relationship between neighborhood effects and adolescent delinquency (e.g. Simons et al., 2005; Chung et al., 2006; Cantillon, 2006). For these studies, they found supportive parenting to be a mediator of neighborhood effects on adolescent delinquency. Therefore, evidence on the importance of parenting practices in a neighborhood

context is mixed. Some studies argue that harsh parenting may be mediated between neighborhood effects and delinquency, whereas others claim that neighborhood effects relates to supportive parenting, which in turn related to the likelihood of delinquency.

Moreover, similar to other SDT models, these studies frequently only included gender as a control variable or used an all male sample. Gender differences in the association among neighborhood structure, parenting practices, and delinquency are less clear. This mirrors Meier's (2008) conclusion that "future research on gender differences in neighborhood effects on adolescent delinquency, important mechanisms, such as parenting practices, should be explored" (p.383).

Although no study has directly examined a gender-invariance hypothesis of the third SDT model, several scholars have provided reasons, including the context of a "gender-stratified" environment (Miller, 1998; Miller et al., 2009) and patriarchal family systems (Heimer, 1999), to expand the explanations of gender differences in the relationship between neighborhood effects and parenting practices on delinquency. For example, parents who live in disadvantaged neighborhoods tend to use more monitoring with their daughters than sons (Leventhal & Brook-Gunn, 2005) because parents tend to fear their daughters will become crime victims (Cobbina et al., 2008; Miller et al., 2009). Girls living in patriarchal societies tend to experience higher levels of parental monitoring, parental control, and emotional support within the family than boys (Bottcher, 1995; Giordano & Cernkovich, 1997; LaGrange & Silverman, 1999; Beyers et al., 2003), and they spend more time in and around their homes than boys (Cobbina et al., 2008). Girls tend to be more positively influenced by parenting practices (Zahn & Browne, 2009). Parental emotional bonds as indirect controls are the primary controls over girls, whereas direct parental controls may be more consequential for boys (Heimer & DeCoster, 1999). Parents teach their girls and boys differently, which in turn result in gender differences in delinquency (Ensminger et al., 1996).

Thus, several feminist scholars have noted that girls are more likely to have unique family circumstances and life experiences than boys, and one of the important differences between girls and boys is the perceived different parental practices. (e.g. Steffsmier & Allan 1996, Chesney-Lind et al., 2004). For example, LaGrange and Silverman (1999) indicated that gender differences in delinquency were explained by the different levels of parental monitoring. Most importantly, based on gender differences in parenting practices, the exposure to neighborhood effects may differ between girls and boys (Leventhal & Brooks-Gunn, 2005; Kroneman et al., 2004; Kroneman et al., 2009). In short, parenting practices can be effectively integrated into the SDT model that offers the opportunity to examine gender differences in neighborhood effects on adolescent delinquency (Leventhal et al., 2000). This current study attempts to use two dimensions of parenting practices, supportive and harsh parenting, and examines the mechanisms among gender, neighborhood structure, collective efficacy, parental practices, and adolescent delinquency.

5.1. Hypotheses for the Third Theoretical Model

Previous studies have found two main types of parenting practices, supportive and harsh parenting, when considering the relationship between neighborhood structure and adolescent delinquency. Most gender studies find that boys are more likely to experience harsh parenting than girls (Heimer et al., 1999), and harsh parenting is always related to increased rates of problem behavior for boys but not for girl adolescents (Simons et al., 1994; Leve et al., 2005). In particular, boys living in disadvantaged neighborhoods were likely to experience bad parenting in their families (Kroneman et al., 2004). Boys, therefore, had high levels of delinquency because they simultaneously experienced many risk factors, such as harsh parenting and deprived neighborhood resources (Moffitt et al., 2001). In contrast to boys, girls tend to be more monitored by their parents and have less freedom to play outside the home (Kim et al., 1999; LaGrange et al., 1999). For instance,

LaGrange et al. (1999) found that higher levels of supportive parenting were associated with lower levels of delinquent behavior for girls only because supportive parenting as a type of informal social control offered protection against delinquency.

On the other hand, previous studies have showed that neighborhood structure predicts an increase in supportive parenting, which in turn leads to decreased adolescent delinquency (Beyers et al., 2003; Simons et al., 2005; Chung et al., 2006; Cantillon, 2006). Others have indicated that harsh parenting is a mediator of neighborhood effects on adolescent delinquency (Simons et al., 1996; Brody et al., 2001; Garnier et al., 2002). In addition, boys who live in disadvantaged neighborhoods are more likely to experience harsh and low supportive parenting than those living in advantaged neighborhoods, whereas girls living in disadvantaged and patriarchal neighborhoods tend to experience the highest level of supportive monitoring because parents tend to fear that their daughters will become victims of sexual and violent crimes (Cobbina et al., 2008; Miller et al., 2009). In other words, the mechanism between neighborhood structure and parenting practices may be different pathways for girls and for boys. Furthermore, some studies indicated that parenting practices will mediate the relationship between collective efficacy and the rate of delinquency (Beyers et al., 2005; Chung et al., 2006). When the interaction effects of gender, neighborhood structure and gender equality on collective efficacy are considered. This leads to the following hypotheses:

Hypothesis 8a: Based on different types of neighborhoods and different levels of gender equality, gender differences in collective efficacy will relate to harsh parenting, which in turn will influence the rate of adolescent delinquency.

Hypothesis 8b: Based on different types of neighborhoods and different levels of gender equality, gender differences in collective efficacy will relate to supportive parenting that, in turn, will influence the rate of adolescent delinquency.

CHAPTER SIX

CONCEPTUAL MODELS

Given the limited research on gender and neighborhoods, the current study attempts to reexamine the gender-invariant hypothesis of SDT and determine how neighborhood effects on adolescent delinquency vary by gender. According to my research questions and hypotheses, all conceptual models are depicted in Figure 2.1 to 2.4.

The first conceptual model in Figure 2.1 is used to test hypotheses 1 and 2. These two hypotheses are meant to examine whether neighborhood structure on delinquency varies by gender. In order to understand how gender effects vary across or within neighborhood structure, the interaction effect between gender and types of neighborhoods on adolescent delinquency is tested by a two-way ANOVA.



Figure 2.1. The First Conceptual Model: Identifying the Relationship between Neighborhood Structure and Delinquency Varies by Gender.

NOTE: The analysis model includes all main effects and control variables.

The second conceptual model in Figure 2.2 is used to examine two hypotheses about neighborhood gender equality. This model adds the measure of neighborhood gender equality into the first conceptual model and includes a three-way interaction term (gender x types of neighborhoods x gender equality) to examine the relationships among gender, neighborhood structure, and gender equality and their interactive effects on adolescent delinquency. Thus, this

model allows me to test whether girls and boys living in different types of neighborhoods with different levels of neighborhood gender equality have different levels of delinquency (see my hypotheses 3 and 4).

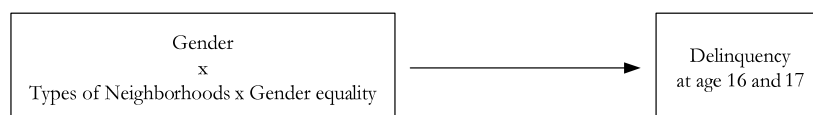


Figure 2.2. The Second Conceptual Model: Examining the Hypotheses of Gender Equality. NOTE: The analysis model includes all main effects, two-way interaction effects and control variables.

The third conceptual model is used to test collective efficacy theory. According to Sampson et al. (1997), collective efficacy is a mediator between neighborhood structure and levels of crime or delinquency. As shown in Figure 2.3, collective efficacy as a mediator is added to the second conceptual model to test hypotheses 5 to 7. Using the mediated-moderation model (see detailed in 7.3 analytic strategies below), a three-way interaction (gender x types of neighborhoods x gender equality) is related to collective efficacy, which in turn decrease the rate of delinquency. The direct effect (broken line) is significantly reduced.

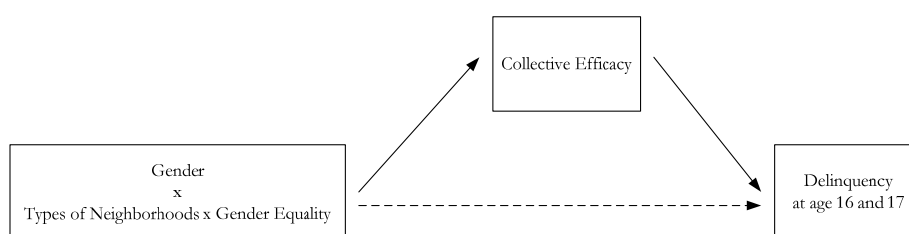


Figure 2.3. The Third Conceptual Model: Testing the Hypotheses of Collective Efficacy. NOTE: Broken line indicates direct effect of independent variable on delinquency. The analysis model includes all main effects, two-way interaction effects and control variables.

Finally, the fourth conceptual model is used to test hypotheses 8. As shown in Figure 2.4, this model includes supportive and harsh parenting as mediators in the third conceptual model. There are four mechanisms in the relationship among a three-way interaction (gender x types of neighborhoods x gender equality), collective efficacy, parenting practices, and adolescent delinquency. These four mechanisms are:

Mechanism 1: Supportive parenting mediates the relationship between (G x N x E) and delinquency.

Mechanism 2: Harsh parenting mediates the relationship between (G x N x E) and delinquency.

Mechanism 3: A three-way interaction relates to collective efficacy, which in turn, increases supportive parenting. Finally, supportive parenting is negatively associated with delinquency.

Mechanism 4: A three-way interaction relates to collective efficacy, which in turn decreases harsh parenting. Finally, harsh parenting is positively associated with delinquency.

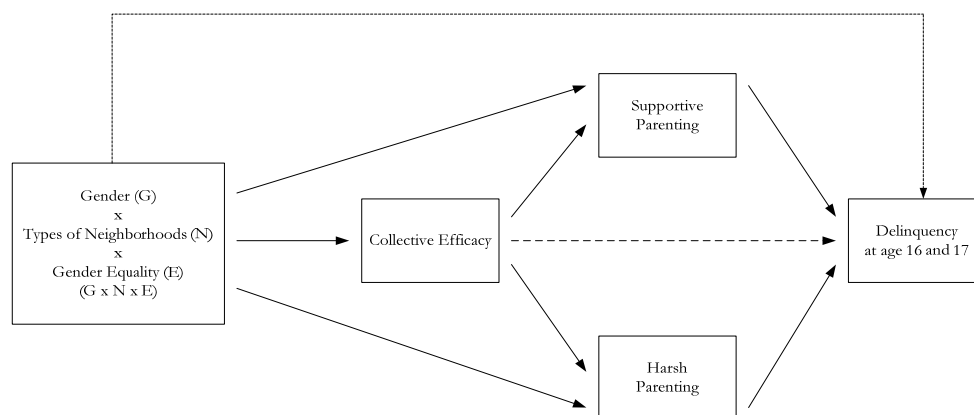


Figure 2.4. The Fourth Conceptual Model: Testing the Relationships among Gender, Collective Efficacy, Parenting Practices, and Delinquency under Different Types of Neighborhoods and Different Levels of Gender Equality.

NOTE: Broken line indicates direct effects of exogenous variables on delinquency and collective efficacy on delinquency. The analysis model includes all main effects, two-way interaction effects and control variables. G x N x E: Gender x Types of Neighborhoods x Gender Equality

CHAPTER SEVEN

DATA AND METHODS

7.1. SAMPLE

This paper seeks to address gender differences in neighborhood effects on African-American adolescent delinquency. The hypotheses were tested using the third wave of data collected in 2004 from participants in the Family and Community Health Study (FACHS), which surveyed the population in Iowa and Georgia. As for the sampling strategy, the sampling units of FACHS are defined as households with a child who was 10 or 11 years old in 1997. The dataset included only households with children of this age because criminologists and developmental psychologists have established a turning point for children's well-being at this age (see Brody et al., 2001; Simons et al., 2005).

In order to recruit households from neighborhoods that vary in demographic characteristics, researchers drew a probability sample of respondents through a multistage cluster sampling procedure. Thus, this data goes beyond urban-based studies and can effectively examine African Americans in different community situations. The first stage clusters, defined as census Block Group Areas (BGAs) using 1990 census data, were selected to represent the diversity of communities where African Americans lived outside of densely populated inner cities. Rural, suburban, and modestly populated metropolitan areas were sampled, but the clusters excluded BGAs in Iowa and Georgia in African-American households that made up the lower 10 % of the population and the percentage of families with children living below the poverty line ranged from 10 percent to 100 percent. In 1997, FACHS included 299 BGAs: 144 in Iowa and 115 in Georgia.

In the second stage, recruitment strategies differed in Georgia and Iowa. In Iowa, families were recruited from 114 census BGAs through a sampling frame, which includes rosters of all African-American students in grades four to six in the public school system. Thus, the sampling criteria included children in households who: (a) studied in the public school system, (b) studied in grades four to six with an age range of 10 to 11, (c) were African American, and (d) were on the rosters of residents' addresses (excluded homeless or illegal residents' addresses). After that, researchers randomly selected households from these rosters and contacted them to determine their interest in participating. Candidates who declined were removed from the rosters, and other households were randomly selected until the required number of households from each BGA had been recruited. In Georgia, the sampling frame was derived from community liaisons. These community liaisons were compiled from rosters of children within 115 BGAs who met the above sampling criteria. Households were then randomly selected from these rosters and contacted to determine their interest in participating in the project. Finally, the FACHS project recruited 897 African-American families, 475 in Iowa and 422 in Georgia, with at least one child age 10 or 11 to participate in 1997. A central goal of this study was to generalize the effects of neighborhood contexts on adolescent delinquency in the African-American population, whether affluent or poor.

The Third Wave of data was conducted in 2004. Of the 897 households, 767 were investigated at Wave 3 (86% of the Wave 1). In addition, neighborhood variables were created using the 2000 census STF3A data (Summary Tape File 3) that was geocoded with participant's residential addresses in 2004. Completed data for the measures used in this research were 678 (306 boys and 372 girls). The median family income in 2004 was \$32,238. The mean age of the children in this study was 16 years in 2004.

There are two reasons for using the third wave of data. First, late adolescents are more likely to spend time in their neighborhoods than early adolescents or young children. Thus, neighborhood effects are likely to increase during late adolescence (16-19 years old) because of high autonomy in late adolescence (Sampson, 1993; Leventhal et al., 2004). Second, this study attempts to examine the effects of parenting practices. Many children about 16 and 17 years old still live at home with parents. Thus, many samples can be included.

To assess attrition bias, this study attempted to compare the demographic differences between the dropouts (attritors) and the remaining case (non-attritors). The result showed no difference for both groups and provided suitable reasons to assume a low attrition impact.

7.2. MEASURES

This study used measurements from the FACHS dataset that was designed to assess the linkages among families, peers, communities, and African-American children's well-being. The scales of FACHS have contained strong content and construct validity (Brody et al., 2001; Simons et al., 2005). In addition, this study used 2000 census data to create neighborhood variables that had a high validity according to many studies (Sampson et al., 1997). The specific measures are described below.

Adolescent delinquency. This study measures adolescent delinquency using self-reports and parent-reports on the conduct disorder section of the Diagnostic Interview Schedule for Children, Version 4 (DISC-IV). The DISC was developed over a 15-year period of research on thousands of children and parents. Several studies support that the DISC-IV has acceptable levels of test-retest reliability and construct validity (Shaffer et al., 1993, 2000). This scale generates both counts and diagnoses of symptoms that cover Diagnostic Statistical Manual-IV (American Psychiatric Association, 1994). In this study, only symptom counts were used because fewer than 5% of the

respondents in this sample met the criteria for clinical diagnoses. The symptom counts of conduct disorder include 12 deviant acts items, such as run away from home, stolen with confrontation, physical assault, setting fires, forced sex, vandalism, burglary, and robbery. In addition, this study uses the combined 12 items from both primary caregiver- and children report of DISC because multi-method assessments can reduce method and measurement error (Crocker & Algina, 2008). Cronbach's alpha for this measurement is .71.

Moreover, delinquency in this study is defined as a symptom count variable with substantial numbers of zero and positive right-skewed distribution (skewness = 4.60 > 1.00). In order to meet the OLS assumption of linearity, this variable was transformed by taking the natural log ($\log_{10} [x+1]$) of the measure (Cohen & Cohen, 1983).

Delinquency at age 10 to 11. Sampson et al. (2005) indicated that the relationship between neighborhood structure and individual delinquency might be spurious because a selection bias might be possible if children had high levels of prior delinquency. Past studies also suggested that DISC-IV conduct disorder symptom counts in the longitudinal analyses have to control for the baseline symptom scores, such as conduct disorder symptom counts on previous time, to rule out the time effect and unrelated variance (McCreary, 2004; Simons et al., 2005, 2006). If previous delinquency were not controlled for, the effect of independent variables on adolescent delinquency would be overestimated. Therefore, this study includes delinquency scores at Wave 1 as a scale of previous delinquency behaviors. Cronbach's alpha for this measurement is about .70.

Collective efficacy. Sampson et al. (1997) noted that collective efficacy is comprised of two components: neighborhood cohesion and informal social control. Neighborhood cohesion is mainly focused on the level of trust and attachment among neighbors, whereas informal social control emphasizes the members of a neighborhood believing in the capacity of neighborhood residents to

intervene to help the community to reach collective goals. In this study, the measure of collective efficacy was adapted from the project on Human Development in Chicago Neighborhoods (PHDCN) (see Sampson et al., 1997).

The *neighborhood cohesion* construct consisted of nine questions, such as “the people in the area get together and deal with it,” “neighborhood really cares much about what happens to anyone else,” “this is a close-knit neighborhood,” “people are willing to help their neighbors,” “people in this neighborhood can be trusted,” and “parents in the neighborhood generally know each other.” The nine response options were “1=true,” and “0=false.” All items were recoded to reflect a positive direction and were summed together; a higher score indicates a higher level of neighborhood cohesion. The coefficient alpha for the measure is .84.

As for the *informal social control* variable, the scale includes three items about how likely neighbors were to intervene in certain situations, such as “if a group of neighborhood children were skipping school and hanging out on a street corner,” “if some children were spray-painting graffiti on a local building,” and “if a child was showing disrespect to an adult.” Both the primary caregiver and target children report these items. The response format for all these items ranged from 1 (very unlikely) to 4 (very likely). Thus, a higher composite score shows a higher level of informal social control. Internal reliability of seven items, as measured by Cronbach’s alpha, was .70. Finally, these two dimensions were standardized and summed to form a measure of collective efficacy in neighborhoods.

Supportive parenting. The scale of supportive parenting has been used in numerous papers and has strong reliability and validity (see Simons et al., 2006). Nine items involved parental support concerning how often primary caregiver was aware during the previous year, including “spend time with children,” “really cares,” “listen carefully,” “appreciates,” “loves,” “understand children feeling,”

and “monitoring.” Respondents were asked to report how much they do (1=never, 4=always). Scores were summed to form a measure of supportive parenting, and high scores represent good parental behavior. Cronbach’s alpha for this measurement is .81.

Harsh parenting. Like supportive parenting, the harsh parenting discipline was developed from the Iowa Youth and Families Project (IYFP) and has been examined to have high validity and reliability (see Simons et al., 2006). The target children in the study reported on the extent to which their primary caregiver engaged in various harsh parenting practices during the previous year, such as “get angry,” “get mad,” “shout or yell,” “slap or hit,” “criticize,” “throw things,” and “spank.” The response format for all these items ranged from 1 (never) to 4 (always). High scores on all items indicated negative parental behavior. Scores were summed to form a measure of harsh parenting. Cronbach’s alpha for this measurement is .74.

The variables of neighborhood structure. This study has two variables used to define neighborhood structure. One is neighborhood gender equality. Another is neighborhood types. Data for these two variables come from the U.S. census tracts. Generally, a census tract includes about 3,000 to 8,000 individuals. Many previous studies have used census tracts as a method to define neighborhoods (Leventhal et al., 2004).

The measure of gender equality. Consistent with prior studies (Vicaitis et al., 2002; Martin et al., 2006), this study assesses gender equality based on four different socio-economic dimensions: education, employment, occupation, and income. Data for the gender equality indicators were collected from the U.S. census STF3A data (Summary Tape File 3), including 1) the number of dual-income families in census tracts, 2) the female and male ratio of 16 years and older employed in management, professional, and related occupation, 3) the female and male ratio of 25 years and older with 4 or more years of college education, and 4) the female and male ratio in median annual

income (in 1999 dollars). Finally, factor scores from the principal component analysis are used to form the measure of gender equality. Using confirmatory factor analysis, all of the 4 indicators have one factor loading of .60 or greater (eigenvalue = 1.55 > 1). The measure of gender equality, therefore, has high internal construct validity.

Neighborhood types. In order to compare disadvantaged with advantaged neighborhoods, neighborhood types are defined by cluster analysis. Three indicators are drawn from U.S. census tracts. Concentrated disadvantage is the first indicator used to determine communities with weak social and economic resources. Concentrated disadvantage is assessed with 2000 census STF3A for the census tract data. In this study, the 678 respondents resided in 277 census tracts. Following previous studies, the scale include six items, such as average per-capita income, the percentage of working-class residents, the percentage of residents without 4 or more years of college education, the percentage of residents below the poverty threshold, the percentage of female-headed households, and the percentage of those receiving public assistance. To provide equal weight for each item, per capita income was recoded and each item score was standardized before summing them. The coefficient alpha for the measure was .81.

The second and third indicators are related to the racial composition of neighborhoods. In general, African-Americans more likely than other racial groups to reside in disadvantaged neighborhoods, and several studies have indicated that the level of delinquency is the highest among adolescents in the black-dominated neighborhoods. In order to reduce measurement error, this current study not only includes the measure of concentrated disadvantage, but also includes percentage of non-Hispanic whites and non-Hispanic blacks as second and third indicators.

Using cluster analysis with these three indicators and controlling the variation of individual variables, the study uses BIC (Bayesian Information Criterion) to determine number of classes.

Finally, the study identifies two types of neighborhoods: 1) advantaged neighborhoods; and 2) disadvantaged neighborhoods. Table 1 presents descriptive statistics for neighborhood characteristics by these two types of neighborhoods. Disadvantaged neighborhoods have a larger percentage of residents who are African Americans, female headed households, below the poverty level, receiving public assistance, working-class, and without a college diploma than advantaged neighborhoods. Consistent with Odgers et al. (2009), disadvantaged neighborhoods tend to have the highest percentage of concentrated disadvantage and black residents, whereas advantaged neighborhoods show the lowest percentage of concentrated disadvantage and the highest percentage of white residents. In other words, disadvantaged neighborhoods are more likely to suffer poverty and concentrated minorities than advantaged neighborhoods.

Table 1. Neighborhood Census Characteristics by Two Types of Neighborhoods

Neighborhood Census Characteristic <i>Mean (SD)</i>	Neighborhood Type		<i>t-value*</i>
	Disadvantaged (n=235)	Advantaged (n=443)	
Index of concentrated disadvantaged	3.69 (3.67)	-1.97 (3.36)	20.20
Percentage of single mom family	43.97	21.28	19.98
Percentage without college diploma	87.28	81.08	6.82
Percentage of working-class residents	80.36	73.30	8.54
Percentage of families below poverty line	23.39	12.61	14.44
Percentage of households receiving public assistance	6.87	3.09	15.23
Per capita income	15268.15	30479.94	675.54
Racial composition			
Percentage of non-Hispanic whites	31	84	-36.56
Percentage of non-Hispanic blacks	54	10	24.35

* Statistically different between neighborhoods

Control variables. This study includes two control variables that may influence the relationships between neighborhoods structure and delinquency. Data for the control variables are also taken from the 2000 U.S. Census (Summary Tape File 3), including sex ratio and level of urbanization in census tracts.

7.3. ANALYTIC STRATEGIES

Leventhal et al. (2000) indicated that neighborhood-based designs and multi-site large studies are two useful designs. The first approach is designed to have a range of neighborhood clusters that include enough individuals to insure reliability. Many studies are conducted by cluster analysis according to census data and proximity places. The benefit of this approach is to consider cluster effects and to reduce multicollinearity in neighborhood measures. However, neighborhood-based designs are generally problematic if the proximity placements are not properly identified, such as when there is a great distance between the sites or when a small number of clusters are separated by multiple groups.

The second approach concerns samples from multi-sites that are limited to a few individuals per community site. Thus, the cluster effect cannot be estimated by the multilevel approach because there are too few cases per neighborhood. Nevertheless, multi-site samples offer enough samples to calculate mediating and moderating models. This study uses multi-site samples to estimate the study models. However, the multi-site samples are not independently selected by a certain placement. If samples were directly estimated by a general regression model, the non-independent samples would over-estimate the results (Muthen & Satorra, 1995).

MacKinnon (2007) indicated a complex sampling design to estimate multi-site samples that incorporates the clustering of observations within units for all variables. The benefit of the complex sampling design is that it “provides a general adjustment for clustering in the data analysis for very complex mediation or moderation models (p.261).” The disadvantage of this method is that it is limited to estimating path parameters rather than the cluster-level random effect parameters. Previous studies have employed the complex sampling design model to examine neighborhood effects and delinquency (e.g. Odgers et al., 2009).

If the study uses the traditional regression model, it will violate the Ordinary Least Squares assumption of uncorrelated errors because individuals are nested within sampling units. Since this study will test individual-level behaviors and will not attempt to explain the cluster-level parameters, this study uses the complex sample design (*Mplus* 6.0, TYPE=COMPLEX function, Muthen & Muthen, 2010) to fit multilevel models with a log-transformation delinquency (Asparouhov, 2005). The method of estimation is a restricted maximum-likelihood ratio (MLR) estimator.

In order to have a common scale, this study employs standardized regression weights in which all independent variables were standardized (a mean of 0 and a standard deviation of 1) before the interaction terms are calculated. Some benefits of the standardized weights in the interaction model include making coefficients easier to interpret, reducing multicollinearity, and making the simple slope easier to test (Dawson & Richter, 2006).

The current study tests the first and second hypotheses using a two-way ANOVA with a 95% confidence interval. The third and fourth hypotheses use a multivariate regression model to test moderating effects. If the interaction is significant, this interaction is further probed using a post-hoc simple slope analyses (Aiken & West, 1991) and slope difference tests (Dawson & Rishter, 2006).

On the other hand, the hypotheses five to eight in this study employ the mediated-moderation model and the *Mplus* 6.0 (Muthen & Muthen, 2010) statistical software to examine collective efficacy and parenting practices as mediator of the three-way interaction effect of gender, types of neighborhoods, and gender equality (G x N x E) on adolescent delinquency. The mediated-moderation model is simultaneously combined with traditional mediated and moderated models (Muller et al., 2005; Morgan-Lopez et al., 2006). In this model, the interaction effect of “G x N x E” is indirectly related to delinquency through mediating variables such as collective efficacy and parenting practices. In addition, the direct effect of the interaction term and dependent variables will

be significantly reduced. In other words, the logic of the mediated-moderation model is similar to traditional mediated models, but this model focuses only on the relationship among an interaction term, mediators and outcomes rather than other independent variables (Muller et al., 2005). To assess model fit in the mediated-moderation model, Steiger's Root Mean Square error of approximation (RMSEA), the comparative fit index (CFI), and the chi-square are used. The CFI is truncated to the range of 0 to 1 and values close to 1 indicate a very good fit and a RMSEA indicates a close fit smaller than .05 (Bentler, 1990; Browne & Cudeck, 1992). Finally, the testing of the mediating effect option in *Mplus* is used to estimate and examine all direct and indirect effects (see detailed in Mallinckrodt et al., 2006).

CHAPTER EIGHT

RESULTS

The correlations among the study variables for girls and boys are shown in Table 2. As expected, the correlation between types of neighborhoods and delinquency are moderately high for both girls ($r=.35, p<.01$) and boys ($r=.30, p<.01$), consistent with previous studies that adolescents who live in disadvantage neighborhoods are more likely to perpetrate delinquency than in more advantaged neighborhoods (Leventhal et al., 2000; Brody et al., 2001; Odgers et al., 2009). For girls, delinquency at age 16 and 17 is significantly associated with collective efficacy ($r=-.13, p<.05$), supportive parenting ($r=-.24, p<.01$), and harsh parenting ($r=.25, p<.01$). Similarly, boys' delinquency is significantly correlated with collective efficacy ($r=-.16, p<.01$), supportive parenting ($r=-.17, p<.01$), and harsh parenting ($r=.18, p<.01$). On the other hand, collective efficacy is positively related to supportive parenting for girls and for boys, whereas harsh parenting is only negatively associated with collective efficacy. All these relationships are similar for girls and boys. As these results indicate, the direction of all the relationships is similar to prior studies (e.g. Simons et al., 2005; Sampson, 2006; Chung et al., 2006).

In addition, disadvantaged neighborhoods are correlated with high levels of neighborhood gender equality because both girls and boys have more limited access to resources and opportunities in disadvantaged than advantaged neighborhoods. That is, gender differences in neighborhood socio-economic status may be less pronounced in disadvantaged neighborhood than in advantaged neighborhoods.

Furthermore, two structural variables, types of neighborhoods and gender equality, are not significantly associated with collective efficacy and parenting practices. Not incidentally, the zero order correlation depends on a “model-base” rather than a “sample-base.” As mentioned previously, these two structural variables are derived from 277 census tracts, which are the sample-base. Clearly, the Pearson correlation may not correctly reflect the relationship between structural variables and individual-level variables. Thus, a complex sampling design to adjust standard error estimates is reasonable.

Mean and standard deviations for the study variables are presented separately for girls and for boys. On average, boys have slightly higher rates of delinquency and lower supportive parenting than girls. Harsh parenting, however, is not significantly different between boys and girls. This result is consistent with previous studies indicating that girls report lower levels of delinquency than boys (e.g. Chesney-Lind & Pasko, 2004; Belknap, 2007), and girls to have more monitoring and supportive parenting than boys from their parents (e.g. Kim et al., 1999; LaGrange & Silverman, 1999; Kroneman et al., 2004). The results of the multivariate analyses are shown below.

Table 2. Correlations among Types of Neighborhoods, Gender Equality, Collective Efficacy, Parenting Practices, and Delinquency for Girls (above the diagonal, n=372) and Boys (below the diagonal, n=306).

	1	2	3	4	5	6	<i>Mean (girls)</i>	<i>SD (girls)</i>
1. Types of neighborhoods (1=disadvantaged)	—	.35 **	.01	.02	-.03	.07	.31	.46
2. Measure of gender equality	.30 **	—	-.07	-.01	-.04	.02	-.01	.99
3. Collective efficacy	-.06	.03	—	.18 **	-.09	-.13 *	-.05	1.75
4. Supportive parenting	-.07	.02	.19 **	—	-.23 **	-.24 **	26.54	4.84
5. Harsh Parenting	.09	.03	-.13 *	-.06	—	.25 **	15.52	3.79
6. Delinquency at age 16 and 17	.33 **	.01	-.16 **	-.17 **	.18 **	—	.05	.15
<i>Mean (boys)</i>	.40	-.02	.06	25.62	15.55	.07		
<i>SD (boys)</i>	.49	.98	1.73	4.78	3.70	.17		

† $p \leq .10$, * $P \leq .05$, ** $P < .01$ (two-tailed test).

8.1. Analysis 1: Does delinquency differ across disadvantaged versus advantaged neighborhoods? Do boys and girls differ in delinquency within same type of neighborhoods?

To understand how gender effects may vary across or within neighborhood structure, the current study based on cluster analysis identifies two subgroups: disadvantaged neighborhoods and advantaged neighborhoods. In contrast to advantaged neighborhoods, disadvantage neighborhoods are characterized by high poverty and mostly African American residents. These two types of neighborhoods are used to examine all my hypotheses.

For hypothesis 1a, this study uses a two-way ANOVA to compare disadvantaged and advantaged neighborhoods. The main effect of the two types of neighborhoods is significant ($F_{1,677}=29.89, p<.01$). As shown in Figure 3, disadvantaged neighborhoods have higher delinquency than advantaged neighborhoods. On the other hand, the results also show that there are interactions between gender and the two types of neighborhoods ($F_{1,677}=14.19, p<.01$) on adolescent delinquency. Therefore, boys living in disadvantaged neighborhoods (95% confidence intervals CI: .11-.16) have significantly higher levels of delinquency than boy who live in advantaged neighborhoods (CI: .00-.04). Among girls' delinquency, no differences are observed between disadvantaged (CI: .05-.10) and advantaged neighborhoods (CI: .03-.07). In other words, boys, but not girls, who live in disadvantaged neighborhoods have higher rate of delinquency than those living in advantaged neighborhoods. The result is partially consistent with hypothesis 1a.

Furthermore, the current study examines a pattern between girls and boys in delinquency across different types of neighborhoods and finds that boys ($\bar{x}_{diff}=.12$) have significantly a higher mean difference score between disadvantaged and advantaged neighborhoods than girls ($\bar{x}_{diff}=.02$). The result is consistent with hypothesis 1b to state that boys are more sensitive to neighborhood effects than girls. Compared disadvantaged with advantaged neighborhoods, in other words, girls

and boys have different patterns of neighborhood effects. In particular, the magnitude of the neighborhood effects is significantly stronger for boys than for girls.

To test gender differences in delinquency within the same type of neighborhoods, statistical comparisons for each group are made by a two-way ANOVA with 95% confidence intervals. Using a two-way ANOVA with Post-hoc analysis (see Figure 3), this is consistent with hypothesis 2 that there are no gender differences in advantaged neighborhoods, whereas girls are less delinquent than boys even if they live in disadvantaged neighborhoods. In short, the results support gender differences in delinquency within disadvantaged neighborhoods.

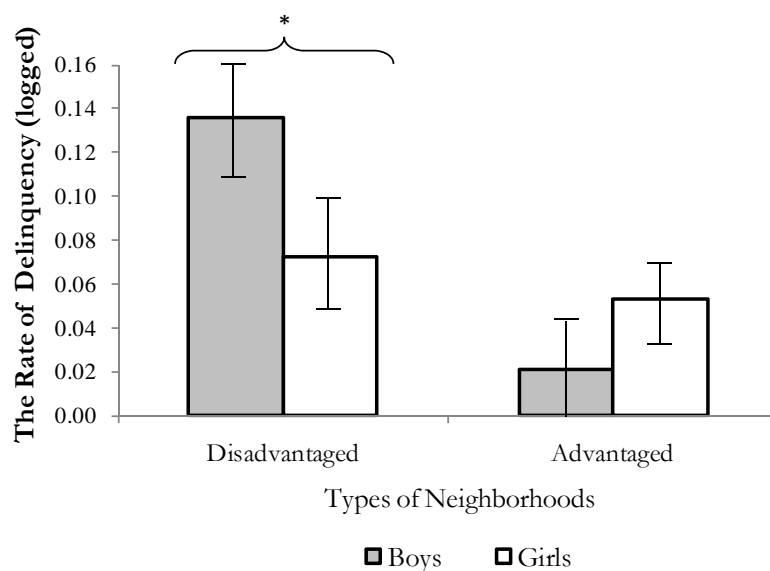


Figure 3. The Rate of Delinquency for Gender by Types of Neighborhoods.
Note: * $p \leq .05$ (two-tails test). Solid error bars represent the 95% confidence intervals.

8.2. Analysis 2: How do gender differences in delinquency vary by the measure of gender equality in different types of neighborhoods?

To reduce measure error, the COMPLEX option in *Mplus* and robust maximum likelihood estimator is used to correct for clustering bias. Using multivariate regression models with complex sampling design, Model 1 of Table 3 includes gender, types of neighborhoods, and gender equality as independent variables to predict adolescent delinquency even after controlling for all control variables. In general, the results are similar to zero-order correlation coefficients when the standard errors have been corrected by a complex sampling design.

In the second model of Table 3, which includes three two-way interaction terms, the coefficients on these interaction terms indicate that there is only an interaction between gender and different types of neighborhoods on delinquency ($\beta=.10, p<.01$). The finding is consistent with a two-way ANOVA analysis and reveals that neighborhood effects are stronger for boys than for girls, and boys living in a disadvantaged neighborhood have higher delinquency than girls. In other words, the results of gender differences in the relationship between neighborhood effects and delinquency are very robust.

Model 3 of Table 3 adds the three-way interaction term among gender, types of neighborhoods, and the measure of gender equality (G x N x E) to examine how the measure of gender equality in certain types of neighborhoods affects gender differences in delinquency. As expected, the three-way interaction of “G x N x E” is statistically significant ($\beta=-.06, p<.05$). To illustrate this finding, Figure 4 displays separately for disadvantaged and advantaged neighborhoods, and the measure of gender equality is defined as high (75 percentiles) and low (25 percentiles). Compared with advantaged neighborhoods, both girls and boys who live in disadvantaged neighborhoods have high rates of delinquency.

Table 3. Multivariate Regression Models with Complex Sampling Design Predicting African-American Adolescents' Delinquency.

<i>Dependent Variable: Delinquency at age 16 and 17</i>	Model 1	Model 2	Model 3
<i>Independent Variables</i>			
Gender (1=boys, 0=girls)	.01	-.04 **	-.03 **
Types of neighborhoods (1=disadvantaged, 0=advantaged)	.08 **	.04 †	.03
Measure of gender equality	-.01 †	.00	-.01 †
<i>Two-Way Interaction</i>			
Gender x Types of neighborhoods		.10 **	.11 **
Gender x Gender equality		-.01	.01
Types of neighborhoods x Gender equality		-.01	.02
<i>Three-Way Interaction</i>			
Gender x Types of neighborhoods x Gender equality			-.06 *
<i>Control Variables</i>			
Delinquency at age 10 and 11	.05 *	.05 *	.04 *
Neighborhood sex ratio	-.01 *	-.01 *	-.01 *
Neighborhood level of urbanization	-.01	-.01	-.01
<i>Intercept</i>	.03 **	.05 **	.05 **
Adjusted R ²	.07	.09	.10
N	678	678	678

** $p \leq .01$; * $p \leq .05$, † $p \leq .10$ (two-tailed test).

On the other hand, following the simple slope procedure (Aiken & West, 1991), the study found that the simple slope for boys living in disadvantaged neighborhoods is significantly different from zero ($\beta = -.04$, $p < .05$). Neighborhood gender equality is significantly negative related to boys' delinquency when boys live in disadvantaged neighborhoods; in contrast, no slope differences are observed in girls living in disadvantaged neighborhoods ($\beta = .01$, $p > .10$) and adolescents living in advantaged neighborhoods (boys: $\beta = .00$, $p > .10$; girls: $\beta = -.01$, $p > .10$).

Furthermore, the slope difference tested of the three-way interaction (Dawson & Rishter, 2006) shows that the two slopes of disadvantaged neighborhoods differ significantly from each other ($t = -1.98$, $p < .05$). As these results, boys who live in disadvantaged and gender-inequality neighborhoods present more delinquency than girls. Hypothesis 3 is supported.

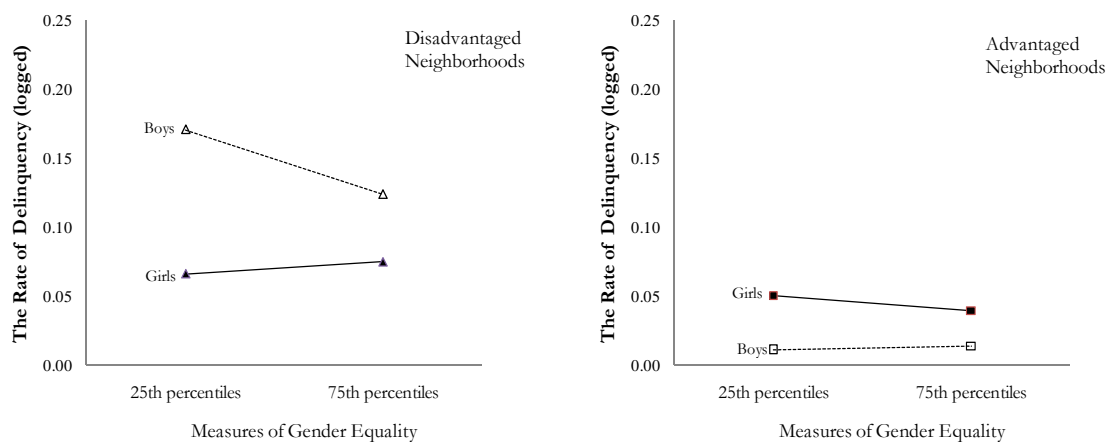


Figure 4. Interaction between Gender and Gender Equality Predicting Delinquency for Disadvantaged and Advantaged Neighborhoods based on the Result in Table 3.
Note: The broken line is boys; the solid line is girls.

More importantly, boys, but not girls, in disadvantaged and neighborhoods present the highest levels of delinquent behaviors, whereas gender gaps in delinquency narrow within gender-equality neighborhoods. The results, therefore, support the hypothesis 4b rather than hypothesis 4a. This hypothesis claims that the narrowed gender gap in gender-equality neighborhoods is because boys' delinquency scores decrease while girls' delinquency remains relatively stable. In other words, the effect of neighborhood gender equality on delinquency is greater for boys than for girls.

8.3. Analysis 3: Do gender differences in collective efficacy exist? How are the relationships among GxNx E, collective delinquency and delinquency?

With neighborhood collective efficacy as a dependent variable, the two-way interaction of “gender x types of neighborhoods” is significant at the .05 level. As expected, boys living in advantaged neighborhoods have a slightly higher level of neighborhood collective efficacy than those living in disadvantaged neighborhoods, whereas girls who live in disadvantaged neighborhoods report higher collective efficacy than those living in advantaged neighborhoods (hypothesis 5).

According to similar procedure of testing gender differences in delinquency, the three-way interaction of “G x N x E” is included to examine gender differences in collective efficacy. The three-way interaction for neighborhood collective efficacy is statistically significant. Following Aiken and West’s (1991) procedure, the measure of gender equality is not related to collective efficacy for girls ($\beta=.09, p>.10$) and for boys ($\beta=.02, p>.10$) within advantaged neighborhoods. By contrast, boys living in disadvantaged neighborhoods, the measure of gender equality is positively associated with collective efficacy ($\beta=.23, p<.05$). For girls living in disadvantaged neighborhoods, gender equality is negatively related to collective efficacy ($\beta=-.53, p<.05$). Furthermore, these two slopes differed significantly from each other ($t=-2.29, p<.05$).

To better understand the effects of the three-way interaction, this study uses low (25 percentiles) versus high (75 percentiles) as cut points of neighborhood gender equality and reports results for the relationship between gender and gender equality on delinquency separately by disadvantaged and advantaged neighborhoods. This can be seen in Figure 5. Within disadvantaged neighborhoods, girls living in gender-inequality neighborhoods have higher collective efficacy than boys, whereas there are no gender differences in collective efficacy when both girls and boys live in

gender-equality neighborhoods. Hypothesis 6 is therefore supported. Compared Figure 4 with 5, the pattern of delinquency is very similar to the pattern of collective efficacy.

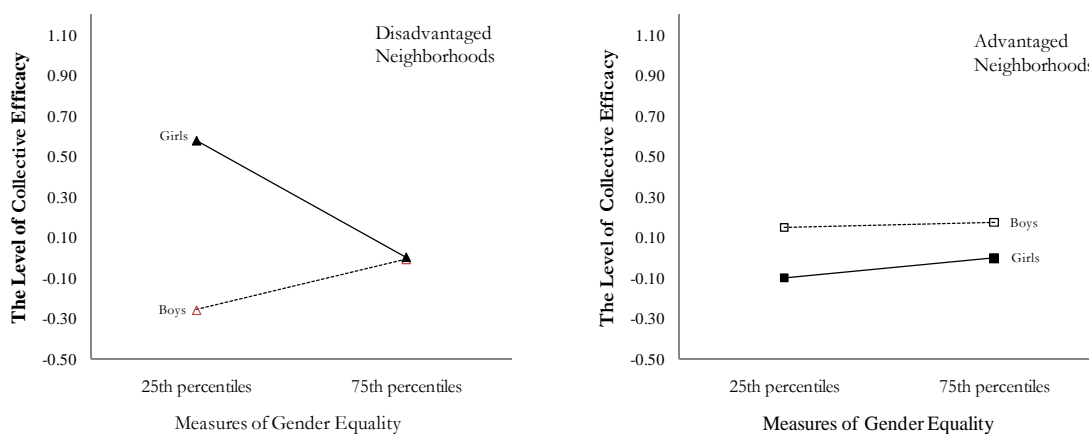


Figure 5. Interaction between Gender and Gender Equality Predicting Collective Efficacy for Disadvantaged and Advantaged Neighborhoods.
Note: The broken line is boys; the solid line is girls.

As the above results indicate, girls and boys live in disadvantaged neighborhoods and different levels of neighborhood gender equality, which in turn lead to different rates of collective efficacy. To indicate the mechanism of “G x N x E” on delinquency, the study adds adolescent delinquency as a dependent variable and uses collective efficacy as a mediator (see the third conceptual model). Using the mediated-moderation model, Table 4 presents that collective efficacy mediates the association between “G x N x E” and delinquency. Using the fit indexes, the model shows a good fit to the data [$\chi^2_{(2)}=1.94, p=.38$].

As seen in Table 4, the association between “G x N x E” and collective efficacy is significant ($\beta=-.64, p<.05$); and collective efficacy is significantly negatively associated with the rate of delinquency ($\beta=-.01, p<.01$). In contrast to Model 3 of Table 3, when the mediator of collective efficacy is added, the relation between “G x N x E” and delinquency is reduced to non-significance ($\beta=-.05, p>.10$). Post-hoc probing confirms the significance of this mediating effect and the

mediator of collective efficacy accounts for about 15% of “G x N x E” effect on delinquency.

Consistent with hypothesis 7, these findings suggest that collective efficacy significantly mediates the effect of “G x N x E” on delinquency.

Table 4. Mediated-Moderation Model with Complex Sampling Design Predicting African-American Adolescents’ Delinquency through collective efficacy (N=678).

	Collective Efficacy	Delinquency (age 16-17)
<i>Independent Variables</i>		
Gender (1=boys, 0=girls)	.20	-.03 **
Types of neighborhoods (1=disadvantaged, 0=advantaged)	.32	.03
Measure of gender equality	.05	-.01
<i>Two-Way Interaction</i>		
Gender x Types of neighborhoods	-.61 *	.10 *
Gender x Gender equality	-.03	.01
Types of neighborhoods x Gender equality	-.64 *	.01
<i>Three-Way Interaction</i>		
Gender x Types of neighborhoods x Gender equality	.81 *	-.05
<i>Control Variables</i>		
Delinquency at age 10 and 11		.04 †
Neighborhood sex ratio		-.01 *
Neighborhood level of urbanization		-.01
<i>Mediator</i>		
Collective efficacy		-.01 **
Chi-Square (<i>df</i>)	1.94 (<i>p</i> =.38, <i>df</i> =2)	
CFI	1.00	
RMSEA	.00	
Adjusted R ²	.12	

***p* ≤ .01; **p* ≤ .05, †*p* ≤ .10 (two-tailed test).

8.4. Analysis 4: How are the relationships among gender, gender equality, types of neighborhoods, collective efficacy, parenting practices, and delinquency?

Following the above research models, Table 5 also uses the mediated-moderation model to test hypothesis 8 that collective efficacy and parenting practices have a mediating effect on the relationship between a three-way interaction (gender x types of neighborhoods x gender equality) and delinquency. The fourth conceptual model (see Figure 2.4) has shown that this model includes the effects of “G x N x E”, collective efficacy, two dimensions of parenting practices, and adolescent delinquency.

The fit indexes in Table 5 show a relatively good fit for the model, with value of .93 for the CFI, and a value of .04 for the RMSEA. When the model includes all mediators, results from this analysis indicate that: 1) unlike Table 3, the direct effect of “G x N x E” on delinquency is not significant ($\beta = -.04, p > .10$) in Table 5; and 2) collective efficacy is only marginally related to delinquency in Table 5 as compared to Table 4. In other words, the above two effects may be mediated by collective efficacy and parenting practices.

The first and second mechanism proposed that the effects of “G x N x E” on delinquency is mediated by parenting practices. Table 5 shows that the effects of “G x N x E” is not significantly associated with supportive parenting ($\beta = 1.41, p > .10$) and harsh parenting ($\beta = -.75, p > .10$), but these two dimensions of parenting practices are significantly related to delinquency. In other words, parenting practices is not a mediator of “G x N x E” effects on delinquency. These two mechanisms are not supported.

Table 5 also presents the mediated-moderation model to examine hypothesis 8: the effects of “G x N x E” influence delinquency through the mediators of collective efficacy and parenting practices. Specifically, the relationships between “G x N x E” and parenting practices are mediated

by collective efficacy; and parenting practices is a mediator of collective efficacy and delinquency (see Figure 2.4). As shown in Table 5, the effects of “G x N x E” is significantly related to collective efficacy, and this pattern is similar to Figure 5. Furthermore, collective efficacy is positively associated with supportive parenting and negatively related to harsh parenting, which in turn influence adolescent delinquency.

Finally, results for the testing of mediating effect are summarized in Table 6. Based on a Post-hoc analysis of these indirect effects, the current study finds that there is a significant indirect effect of a three-way interaction (G x N x E) on delinquency through collective efficacy and supportive parenting (mechanism 3). This mediator accounts for about 13% of “G x N x E” effects on delinquency. Consistent with hypothesis 8b, girls and boys have difference experiences of neighborhood collective efficacy based on different types of neighborhoods and different levels of neighborhood gender equality. After that, neighborhoods with high collective efficacy are increase in the level of supportive parenting that, in turn, decreases the likelihood of adolescent delinquency.

Table 5. Mediated-Moderation Model with Complex Sampling Design Predicting African-American Adolescents' Delinquency through collective efficacy, supportive and harsh parenting (N=678).

	Collective Efficacy	Supportive Parenting	Harsh Parenting	Delinquency (age 16-17)
<i>Independent Variables</i>				
Gender (1=boys, 0=girls)	.20	-.73	-.16	-.03 **
Types of neighborhoods (1=disadvantaged, 0=advantaged)	.32	.64	-.27	.04 *
Measure of gender equality	.05	.47 †	-.35	-.01
<i>Two-Way Interaction</i>				
Gender x Types of neighborhoods	-.61 *	-1.31	.90	.09 *
Gender x Gender equality	-.03	-.21	.46	.01
Types of neighborhoods x Gender equality	-.64 *	-1.63 **	.60	.00
<i>Three-Way Interaction</i>				
Gender x Types of neighborhoods x Gender equality	.81 *	1.41 †	-.75	-.04
<i>Control Variables</i>				
Delinquency at age 10 and 11				.04 †
Neighborhood sex ratio				-.01 †
Neighborhood level of urbanization				-.01
<i>Mediator (1)</i>				
Collective efficacy		.47 **	-.22 *	-.01 †
<i>Mediators (2)</i>				
Supportive parenting				-.01 **
Harsh parenting				.01 **
Chi-Square (<i>df</i>)		20.32 (<i>P</i> =.02, <i>df</i> =9)		
CFI		.93		
RMSEA		.04		
Adjusted R ²		.16		

** $p \leq .01$; * $p \leq .05$, † $p \leq .10$ (two-tailed test).

Table 6. Direct, Indirect, and Total Effects on Delinquency

<i>Mechanisms</i>	Predictor	Mediator (1)	Mediator (2)	Outcome	Estimate	S.E.	<i>P-value</i>
Direct effect	G x N x E			→ Delinquency (age 16-17)	-.047	.033	.162
Indirect effect							
1.	G x N x E →		Supportive parenting →	Delinquency (age 16-17)	-.008	.005	.108
2.	G x N x E →		Harsh parenting →	Delinquency (age 16-17)	-.005	.005	.270
3.	G x N x E →	Collective efficacy →	Supportive parenting →	Delinquency (age 16-17)	-.002	.001	.047
4.	G x N x E →	Collective efficacy →	Harsh parenting →	Delinquency (age 16-17)	-.001	.001	.129

Note: G x N x E refer to Gender x Types of neighborhoods x Gender equality.

CHAPTER NINE

CONCLUSION AND DISCUSSION

Social disorganization theory emphasizes an ecological explanation of delinquency and assumes that neighborhood structure and processes can explain neighborhood differences in delinquency. The main argument is that people residing in a neighborhood with high concentrated disadvantage and a low level of collective efficacy are more likely to engage in delinquency. Nevertheless, the argument of SDT models uses neutral terms, such as people, children, or individuals, to explain neighborhoods' effects on delinquency. Although many previous studies tend to assume no gender differences in neighborhood structure, the current study addresses limitations of extant researches by examining a gender-invariance hypothesis of SDT models. Using longitudinal data from the FACHS, several main contributions and findings emerged from my effort.

This study extends social disorganization theory on gender differences in delinquency by examining across- and within- neighborhood variation. Although previous studies have indicated that both girls and boys residing in disadvantaged neighborhoods have higher rates of delinquency than those residing in more advantaged neighborhoods (Ingoldsby & Shaw, 2002; Zahn & Browne, 2009), the present data suggest that boys, but not girls, living in disadvantaged neighborhoods have a higher probability of engaging in delinquency than those living in advantaged neighborhoods. In addition, boys have a higher mean difference between disadvantaged and advantaged neighborhoods than girls. Boys, thus, are more sensitive to neighborhood effects than girls. It may be the fact that

boys spend more time in their neighborhoods than girls (Leventhal & Brooks-Gunn, 2000; Chesney-Lind & Pasko, 2004; Kroneman et al., 2004).

On the other hand, previous studies rarely have examined gender differences in delinquency within the same type of neighborhoods. The most striking result from the present study is that there are gender differences in delinquency within disadvantaged neighborhoods. Girls display fewer delinquent behaviors than boys when they live in disadvantaged neighborhoods. Nevertheless, there is no evidence of gender differences in delinquency within advantage neighborhoods. In other words, gender differences in delinquency are more pronounced among disadvantaged neighborhoods.

Based on my findings, delinquency is unevenly distributed across or within neighborhoods between girls and boys. These findings are consistent with the feminist approach. This approach indicates that neighborhood context is a gender-stratified environment (Miller, 1998; Cobbina et al., 2008). For example, several previous studies reveal that fear of sexual violence or crime is a powerful mechanism of social control for girls living in disadvantaged neighborhoods (Campbell, 2005; Belknap, 2007). In other words, traditional SDT ignores girls' unique life experiences.

On the other hand, the first SDT model emphasizes the relationship between neighborhood structure and delinquent behaviors. However, this version of the SDT model includes only a measure of concentrated disadvantage as the concept of neighborhood structure. The limitation here is that concentrated disadvantage is an absolute SES index. The SDT model might ignore an index of relative inequality. The current study, therefore, incorporates a measure of gender equality into the first version of SDT model.

Generally speaking, living in disadvantaged neighborhoods has deleterious effects on delinquency. However, this study reveals that these effects are moderated by different levels of

neighborhood gender equality. Within disadvantage neighborhoods, boys living in gender-inequality neighborhoods have higher rates of delinquency than those living in gender-equality neighborhoods. By contrast, girls living in disadvantaged neighborhoods report low levels of delinquency, regardless of levels of neighborhood gender equality. Thus, gender differences in delinquency will be reduced when girls and boys live in equalitarian neighborhoods. In addition, the study also finds that there are no gender differences in delinquency within advantaged neighborhoods, regardless of levels of gender equality.

Based on the results, this study supports the alternative hypothesis of gender equality (Morash & Chesney-Lind, 1991; Steffensmeier & Allan, 1996). This hypothesis claims that gender inequality refers to hierarchical power relationships between men and women in which men are privileged (Whaley & Messner, 2002; Miller & Mullins, 2009), and patriarchal neighborhoods tend to emphasize patriarchal gender systems and conceptions of masculinity and femininity. In particular, delinquent boys living in disadvantaged gender-inequality neighborhoods may have been seen as strong and masculine. Consistent with previous studies (Messerschmidt, 1993; Jefferson, 1997), a high level of gender equality reduces adolescent delinquency because boys residing in equalitarian societies may have their sense of masculinity altered. In other words, different levels of neighborhood gender equality influence boys' masculinity, which in turn affects the likelihood of boys' delinquency. In contrast, although some dark side of liberal feminists claim that greater gender equality is related to higher rates of girls' delinquency, the findings of this study do not support this approach. In short, these findings suggest that gender equality in neighborhoods may be effective for reducing boys' delinquency. Thus, the effects of neighborhood structure are gender-specific rather than gender-invariant.

In addition, the current study offers evidence that the definition of neighborhood structure should be focused on both an absolute and a relative index of neighborhood socioeconomic conditions. Future studies should consider the possibility that an index of relative inequality in neighborhoods influence girls and boys differently.

The model of collective efficacy emphasizes how neighborhood structure affects adolescent delinquency through neighborhood collective efficacy. The findings in this current study parallel those of previous studies, which have shown that collective efficacy is an important protective factor for children who live in disadvantaged neighborhood (Odgers et al., 2009).

Furthermore, the most interesting finding from this study is the evidence that the effects of neighborhood collective efficacy on adolescent delinquency differ by gender. Within disadvantaged and gender-inequality neighborhoods, girls have higher neighborhood collective efficacy than boys. By contrast, there are no gender differences in collective efficacy when they live in disadvantaged and gender-equality neighborhood. These findings are important. The effects of collective efficacy depend not only on either affluent or poor neighborhood structures, but also on the conditions of gender and neighborhood gender equality. In other words, levels of neighborhood gender equality are an important conditional factor, through neighborhood collective efficacy, to reduce likelihoods of adolescent delinquent behaviors. As these results indicate, there are gender differences in neighborhood experiences.

Traditionally, feminists share the key research question of “when, how, and why gender matters?” (Miller & Christopher, 2006b). Zahn and Browne (2009) also noted that a few studies have examined gender differences in the mechanisms among neighborhood effects, parenting practices, and delinquent behaviors. In addition, several previous studies have indicated that the relationship between parenting practices and children behaviors varied by their residency in different

types of neighborhoods (Leventhal et al., 2000; Simons et al., 2002; Garnier et al., 2002; Kroneman et al., 2004; Simons et al., 2005). According to feminists' approach and previous studies, the current study includes supportive and harsh parenting as mediators and proposes four mechanisms to explain SDT models.

The findings in this study support the mechanism that neighborhood structure is indirectly related to the likelihood of adolescent delinquency through collective efficacy and supportive parenting. Specifically, boys who live in patriarchal disadvantaged neighborhoods experience low levels of collective efficacy, which in turn relate to low levels of supportive parenting. Low supportive parenting is subsequently associated with high level of boys' delinquency. In contrast, girls residing in patriarchal disadvantaged neighborhoods are less often delinquent than boys because they are exposed to higher levels of collective efficacy and supportive parenting.

Moreover, both girls and boys perceive high neighborhood collective efficacy and supportive parenting when they live in advantaged or equalitarian neighborhoods, which in turn result in their low probability of engaging in delinquency. These results are consistent with a relatively narrow gender gap in delinquency when girls and boys live in advantaged or equalitarian neighborhoods. The present study, thus, highlights circumstances in which equalitarian neighborhoods are beneficial for boys residing in disadvantaged neighborhoods.

In summation, within gender-inequality disadvantaged neighborhoods, boys are more susceptible to delinquency than girls because girls tend to perceive more collective efficacy and supportive parenting than boys. The effects of high collective efficacy and supportive parenting for girls is likely due to the fact that parents who live in patriarchal disadvantaged neighborhoods are more likely to fear their daughters becoming crime victims than their sons (Cobbina et al., 2008; Miller et al., 2009) because girls residing in neighborhoods may be seen as weak and in need of

adults' protection. In contrast to girls, boys in gender-inequality societies are taught to be strong and aggressive men. Within disadvantaged neighborhoods, girls tend to be supervised more closely by their parents and spend more time at home than boys, thus reducing their exposure to neighborhood risk factors (Kroneman et al., 2004). Therefore, girls are more resilient than boys because they experience better supportive parenting and strong neighborhood collective efficacy.

Overall, the current results are noteworthy in that the combination of neighborhood gender equality and neighborhood poverty, through collective efficacy and supportive parenting, are highly salient factors in determining the likelihood of girls' and boys' delinquency. In particular, neighborhood gender equality plays a key role in gender differences in collective efficacy and delinquency. Through my findings, the current study implies that girls' and boys' delinquency possess more differences than similarities based on different neighborhood and family effects.

Specifically, girls and boys have different experiences in their neighborhoods, and the mechanisms of neighborhood effects are very different between girls and boys. Thus, gender is differentially predictive of rates of delinquency depending on where people live and play, and the relationship between people and place is a mutually reinforcing process (Cummins et al., 2007) rather than an independent process. Indeed, there is good evidence supporting that gender is more than an individual-level independent variable or a simple control variable. The results of this study consistently support previous studies (Chesney-Lind, 1989; Steffensmeier & Allan, 1996). Those studies indicated that the SDT model is based only on male samples and focuses on the exclusion of women's experience of crime or delinquency. Moreover, the result is consistent with most feminist studies (Kroneman et al., 2004; Cobbina et al., 2008). These studies noted that neighborhood studies should be considered gender-specific rather than gender-invariant, and research cannot assume that neighborhood effects will be equal for girls and boys. In other words, traditional SDT models

overlook gender differences in the relationship between neighborhood effects and delinquency that may result in inappropriate conclusions and policies. In fact, the mechanisms of gender differences in social disorganization theory provides abundant alternative theoretical basis. Future studies should elaborate on social disorganization theory within a gender-specific framework.

Finally, I suggest that future work should further elucidate how gender differences in neighborhood effects influence other adolescent well-being such as depression, violent behaviors, sexual behaviors, substance use, deviant peers, and academic achievement. In addition, they can be conducted to assess different demographic groups in neighborhood structure, such as different racial and age groups. Future studies can examine and uncover different demographic groups' experiences in neighborhood structure and answer how these groups' different neighborhood structures and processes influence their rates of delinquency. The social disorganization traditional argument should be continuously reexamined.

Although this study offers several important findings to reexamine SDT models, some limitations must be noted. First, some studies have argued that the fact that families select themselves into neighborhoods is a main confounder for general survey data (Leventhal et al., 2000). Unfortunately, this possible selection bias is not easy to rule out in non-experimental dataset and analysis. Simons et al. (2005) have used a non-recursive model to examine the relationship between neighborhood and family effects. They suggested that neighborhood effects tend to influence family effects, whereas family effects have no effect on neighborhood effects. Although the researchers could not control for neighborhood selection in their model, the result indirectly indicated that neighborhood selection is relatively weak for the FACHS survey data. Moreover, adolescent delinquency at age 10 to 11 has been controlled for in all models in this study in order to reduce

neighborhood selection bias and time effects. Future studies might try to measure and directly control this selection-bias effect.

Second, another limitation is the boundaries of neighborhoods. This study identifies two types of neighborhoods, disadvantaged and advantaged neighborhoods. However, these two neighborhoods may not have physical proximity. Despite this limitation, this study can effectively examine gender differences in delinquency across two types of neighborhood or within the same neighborhoods. In addition, this method is consistent with recent studies (Odgers et al., 2009) that examine the effect of collective efficacy based on affluent versus deprived neighborhoods.

Third, gender equality in this study is only defined by neighborhood per se and measured by census data. Some previous studies have noted the impact of domestic gender equality on individual well-being (e.g. Hagan et al., 1986; Hagan et al., 1987). Future studies should pay more attention to the interaction between neighborhood and domestic gender equality on adolescent delinquency.

Fourth, Darling et al. (1997) found that, compared with their counterparts in more advantaged neighborhoods, adolescents who live in disadvantaged neighborhoods experience high levels of social cohesion that predict increased affiliation with deviant peers and more adolescent delinquency. Several studies have noted that affiliation with deviant peers in disadvantaged neighborhoods is another main factor related to the relationship between neighborhood effects and delinquent behavior (Simons et al., 2005; Chung et al., 2006; Cobbina et al., 2008). In addition, the mechanisms of gender differences in the relationship between affiliation with deviant peers and neighborhood effects are unclear (Kroneman et al., 2004). Unfortunately, the current study has not included affiliation with deviant peers as an explanatory variable. Future research might benefit from taking into account neighborhood effects on peer effects in delinquent behavior.

Fifth, this study offers evidence that the measure of collective efficacy may have gender differences. However, I do not directly assess collective efficacy by each item. In other words, little is known about impact of differential item functioning (DIF) (Zieky, 1993; Clauser et al., 1998) on gender differences in collective efficacy. Future studies should reexamine each item of the scale of collective efficacy through the DIF method and answer whether the constructs of collective efficacy are the same for girls and boys.

Finally, the sample in this study focuses upon African-American families living Iowa and Georgia. The results should be replicated only with a sample of African Americans. In addition, the findings in this study imply that gender differences in the relationship between neighborhood structure and delinquency may be particularly salient to understanding the life experiences of girls as well as boys. However, the study uses only quantitative methods to reexamine SDT model and may not clearly understand life experiences for girls versus boys. Future studies should conduct qualitative research that may help to clearly demonstrate the intersections of gender and neighborhood interactions in everyday life.

Despite these limits, this current study extends previous findings by showing that people living in different types of neighborhood structures tend to experience different levels of collective efficacy and use different supportive parenting techniques for girls and boys that, in turn, result in gender differences in delinquency. The results provide strong evidence that the causal model and the measures of social disorganization theory are different for girls and boys, and girls and boys have unique experiences in their neighborhoods.

CHAPTER TEN

IMPLICATIONS

Criminologists and policy makers have long been concerned about neighborhood effects on individual well-being. Some previous intervention programs have supported the effectiveness of neighborhood intervention in reducing the likelihood of adolescent delinquency (IOM, 1994). Unfortunately, early intervention programs ignored gender differences in neighborhood experiences. According to my results, I have some suggestions for intervention and prevention programs.

First, previous studies examined collective efficacy based on across-level neighborhoods, and indicated that collective efficacy mediates the relationship between neighborhood structure and delinquency. Many studies argue that neighborhood poverty is associated with lower collective efficacy that, in turn, increases adolescent delinquency. Unfortunately, these approaches are meaningless for neighborhood prevention programs because they cannot clearly demonstrate how neighborhood effects affect children living in disadvantaged neighborhoods. By contrast, this current study focuses on variations within the same neighborhoods and provides support for neighborhood collective efficacy which is an important informal social control in protecting children residing in disadvantaged neighborhoods (Odgers et al., 2009). In other words, prevention programs should be designed to promote neighborhood cohesion and encourage informal social control in economically disadvantaged neighborhoods.

Second, neighborhoods and parenting practices do not exist in a vacuum but are influenced by each other. Results of the present study indicate that neighborhood structure and collective efficacy intersect with gender and parenting practices. In addition, the findings indicate that

supportive parenting not only has great effects on the reduction of delinquency for girls but also for boys. In particular, the combination of collective efficacy and supportive parenting plays an important role in reducing the likelihood of adolescent delinquency. Therefore, this study suggests multifaceted intervention programs instead of traditional programs. For example, Perry et al. (1996) suggested that combined neighborhood and school interventions decreased prevalence rates of adolescent smoking and alcohol use. Future intervention programs should consider multiple protective factors that include public spaces, neighborhoods, schools, and families.

Third, the results in this study support the hypothesis that neighborhoods' gender equality, through collective efficacy and supportive parenting, decreases the likelihood of boys engaging in delinquency. The evidence is clear: Equalitarian neighborhoods are important for boys as well as for girls. According to these results, this study suggests policy implications necessary for ensuring that neighborhood gender equality is enhanced. For instance, prevention programs should design courses for girls and for boys to understand gender equality. In addition, programs that educate parents about good parenting practices and gender equality and provide girls better educational and economic opportunities.

Finally, the results of the study indicate gender differences in neighborhood effects and experiences. Gender-specific neighborhood intervention programs should be developed. Thus, understanding gender differences in the relations between neighborhood effects and delinquency is essential for developing appropriate strategies for prevention and intervention. Furthermore, the neighborhood poverty alleviation policy should consider the fair distribution of economic and social resources by different groups such as gender, racial, and different age groups. In other words, intervention programs must take into consideration differential effectiveness with different population groups.

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