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The International Journal of Conflict and Violence (IJCV) is a new peer-reviewed periodical for scientific exchange and public dissemination of the latest academic research on conflict and violence. The subjects on which the IJCV concentrates have always been the subject of interest in many different areas of academic life. Consequently, the journal encompasses contributions from a wide range of disciplines including sociology, political science, education, social psychology, criminology, ethnology, history, political philosophy, urban studies, economics, and the study of religions. The IJCV is open-access: All text of the IJCV is subject to the terms of the Digital Peer Publishing Licence. The IJCV is published twice a year, in spring and in fall. Each issue will focus on one specific topic while also including articles on other issues.

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Editorial

Letter from the editors

The *International Journal of Conflict and Violence* (IJCV) is entering its second year of existence—many thanks to our authors and readers for making the journal the success it has become.

This time our focus section has guest editors for the first time. Miles Hewstone (University of Oxford, UK) and Douglas S. Massey (Princeton University, USA) have put together an impressive collection of contributions addressing the field of neighbourhood and violence.

The experience of working with guest editors who are well-known experts in a particular field of conflict and violence research has been very positive, and we have decided to apply the concept in forthcoming issues. Steven F. Messner (University at Albany, USA) and Helmut Thome (University of Halle-Wittenberg, Germany) have agreed to serve as guest editors for this years autumn issue focusing on anomie/anomia and violence, while the guest editors for the spring 2009 issue (IJCV 3, no. 1) concentrating on the theory of violence will be Susanne Karstedt (Keele University, UK) and Manuel Eisner (Cambridge University, UK).

We intend to extent a general invitation to researchers in relevant fields who would like to guest-edit a focus section. Details will be appearing on our website soon.

Calls for papers for upcoming issues can be found at www.ijcv.org.

June 2008

Wilhelm Heitmeyer Douglas S. Massey Steven Messner James Sidanius Michel Wieviorka

IJCV: Vol. 2 (1) 2008, pp. 4 – 5
Guest Editorial

Guest Editorial

Miles Hewstone, University of Oxford, UK
Douglas S. Massey, Princeton University, USA

The study of neighbourhoods is well and truly on the research agenda of social and behavioural scientists, including anthropologists, criminologists, demographers, economists, political scientists, psychologists, and sociologists. This research activity has emphasized not only that neighbourhoods matter, but that their study raises a number of specific theoretical and methodological issues, which require a sophisticated and eclectic approach if we are to approach a full understanding of myriad 'neighbourhood effects'. In this Special Issue of the International Journal of Conflict and Violence we focus specifically on neighbourhood effects on violence, studied in a rich array of contexts.

The first two articles make use of extensive survey data available from the United States of America. Ami M. Lynch's article uses nationwide data on U.S. cities and their residential segregation levels (Lynch 2008). There is an extensive literature on the consequences of racial segregation, but her paper focuses on whether hate crime and neighbourhood conflict are important factors in perpetuating residential segregation. Using sophisticated statistical analyses, she concludes that they indeed are. As hate crime increases, white/black segregation increases; thus race-based violence influences where racial minorities can and cannot live, and is used by some majority group members as a way to defend their neighbourhoods from 'racial infiltration'.

David J. Harding (2008) analyses survey data from a national study of adolescent health in the U.S. to examine the relationship between neighbourhood violence and adolescent friendships. Using complex multi-level models, he reports no evidence that violence and the fear of victimization systematically impact on the closeness of adolescent friendships for boys or girls. But, more subtly, and especially for boys, these factors are associated with friendships outside of school, probably with older individuals, which can help them to stay safe.

The next two articles each focus, albeit on very different research questions and in very different ways, on aspects of violence in one specific city. Katharina Schmid and colleagues investigate the impact on ethno-religious prejudice of living in segregated and mixed neighborhoods in Belfast, Northern Ireland (Schmid et al. 2008). Using adult data from a cross-sectional survey, they report that living in mixed neighborhoods was associated with reduced ingroup bias and fewer offensive action tendencies. These effects were partially mediated by positive intergroup contact. However, their analysis also shows that respondents living in mixed neighborhoods also reported higher exposure to political violence and higher perceived threat to physical safety. These findings demonstrate the importance of examining both social experience and threat perceptions when testing the relationship between social environment and prejudice.

Celina Del Felice's article describes and analyses youth criminality in the city of Rosario, Argentina, and includes an analysis of direct, structural, and cultural forms of violence (Del Felice 2008). She draws on a range of qualitative approaches (including observations, semi-structured interviews, and analysis of policy documents) to consider how the structural adjustment policies imposed in many Latin American economies during the 1990s affected levels of public violence. She highlights the link between social, political and economic exclusion and crime involving urban youth (with some violent offenders as young as 8 years).

The last two papers in this Special Issue address somewhat more subtle, perhaps even unexpected, effects of neighbourhood violence. Netsayi M. Mudege and colleagues – using data from two slum areas of Nairobi, Kenya – assess how perceptions of personal security can affect whether children are registered for and attend school (Mudege et al. 2008). Feelings of insecurity can arise in relation to the journey that must be undertaken to get to school (where girls sometimes fear rape), what goes on at school itself (including relations with both teachers and other students), and in their homes. Qualitative data gleaned from individual interviews and focus groups reveal the negative impact of insecure neighbourhoods on whether schooling is taken up, and whether students complete schooling, or drop out.

Finally, Emily Moiduddin and her coauthor investigate the effect of neighbourhood violence on the birth weight of newborns (Moiduddin/Massey 2008). Using data from a large-scale survey of a birth cohort of parents and children in 20 U.S. cities, they report that the effect of structural neighbourhood conditions on birth outcomes is not, however, direct. Rather, it occurs via their immediate effect on mothers' perceptions of neighbourhood danger. Mothers who live in an unsafe neighbourhood are more likely at risk of a raised allostatic load, and are more likely to smoke cigarettes and use illegal drugs as coping devices; these behaviours themselves were strongly associated with reduced birth weight.

As a whole, these six articles address a range of social and psychological consequences of neighbourhood violence. Some analyse data from large, multi-site surveys, others focus in on one specific city. They start from a variety of theoretical approaches, and employ a wide range of methodologies, from survey methods using sophisticated multivariate analyses, to more qualitative approaches, which emphasize different experiences and interpretations of violence. They also embrace cities in both the developing and developed world. One common theme is that the magnitude of neighbourhood effects may not always be large, and effects are sometimes indirect and subtle, rather than direct and obvious. Nonetheless, there clearly are relationships between neighbourhood measures and a variety of types of violence, and these effects have been found in a diverse collection of settings, ranging over several countries and continents. Finally, this collection of articles contains many implications for policy, some explicitly drawn out by authors, some more implicit.

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Hating the Neighbors: The Role of Hate Crime in the Perpetuation of Black Residential Segregation

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Hating the Neighbors: The Role of Hate Crime in the Perpetuation of Black Residential Segregation

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Grounded in group conflict theory and the defended neighborhoods thesis, this nationwide empirical study of cities and their residential segregation levels examines the occurrence of hate crime using data for all U.S. cities with populations over 95,000 and Uniform Crime Reporting data for hate crime, in conjunction with 2000 census data. Hate crime is any illegal act motivated by pre-formed bias against, in this case, a person's real or perceived race. This research asks: Do hate crime levels predict white/black segregation levels? How does hate crime predict different measures of white/black segregation? I use the dissimilarity index measure of segregation operationalized as a continuous, binary, and ordinal variable, to explore whether hate crime predicts segregation of blacks from whites. In cities with higher rates of hate crime there was higher dissimilarity between whites and blacks, controlling for other factors. The segregation level was more likely to be "high" in a city where hate crime occurred. Blacks are continually multiply disadvantaged and distinctly affected by hate crime and residential segregation. Prior studies of residential segregation have focused almost exclusively on individual choice, residents' lack of finances, or discriminatory actions that prevent racial minorities from moving, to explore the correlates of segregation. Notably absent from these studies are measures reflecting the level of hate crime occurring in cities. This study demonstrates the importance of considering hate crime and neighborhood conflict when contemplating the causes of residential segregation.

1. Introduction

Despite the successes of the civil rights movement and the Fair Housing Act, housing segregation continues to exist and is a social issue with significant consequences. In homogeneous white segregated communities, the presence of new racial minority residents may be seen by whites as racial trespassing. These areas are ripe for hate crime to occur. Massey and Denton's seminal work on residential segregation, *American Apartheid* (1993), helped inform much of today's research on segregation by Logan, Iceland, Weinberg, Welch, and others, and contended that segregation plays a major and oft-forgotten role in minority poverty/disadvantage. Just as Massey and Denton demonstrated that segregation was the missing link in the debate on poverty, this research asserts that race-based violence plays an often-overlooked role with regard to segregation.

Although the patterns of segregation are relatively clear, the explanations of segregation's persistence are not. Most literature locates the cause and perpetuation of segregation in one of three arenas: individual choice, residents' lack of finances, or discriminatory actions that prevent racial minorities from moving. The existing research does not include the forgotten role of race-based violence, also known as hate crime, in maintaining segregation. Hate crime is any illegal act motivated by pre-formed bias against, in this case, a person's real or perceived race. Hate crime's relative infrequency is overshadowed by the potency of its social implications. This study asks whether hate crime perpetuates segregation. Might residents commit hate crime in an effort to defend their neighborhoods from racial infiltration? Do whites use hate-motivated violence to restrict blacks' neighborhood choices and promote segregation? This study aims to better understand what, if any, hate crime factors promote segregation and to postulate why. The study is grounded in the contention that hate crime perpetuates residential segregation and prevents black residents from leaving their segregated neighborhoods, while

staying in segregated neighborhoods denies housing rights and other economic opportunities to African Americans.

The study investigates just how the occurrence of hate crime against blacks may affect white/black racial segregation levels. This cross-sectional analysis asks: Do hate crime levels predict white/black segregation levels? How does hate crime predict different measures of white/black segregation? Prior studies of residential segregation have not investigated the level of hate crime occurring in cities. This study demonstrates the importance of considering hate crime and neighborhood conflict when contemplating the causes of residential segregation.

2. Background

2.1. Segregation

Segregation, or the isolation or separation of people or things into distinct groups, can occur in housing, neighborhoods, schools, workplaces, churches, and elsewhere. Residential segregation is the intentional isolation (by policy or by choice) of residents into particular areas, often referring to racial minorities in comparison to whites. Residential segregation has real-world effects on the segregated residents. In the case of black Americans, these residents, who are already marginalized, are kept from resources in jobs, housing, employment, and schools, and are surrounded by those in a similar situation. Various authors refer to racial segregation as the structural linchpin of American race relations (Bobo 1988; Bobo, Schuman, and Steeh 1986; Massey and Denton 1993; Schuman and Bobo 1988; Schuman, Steeh, and Bobo 1985).

Numerous studies have documented the distinct racial and ethnic residential location patterns in the United States (Frey and Farley 1996; Glaeser and Vigdor 2001; Logan, Stults, and Farley 2004; Massey and Denton 1993). Residential patterns result from a variety of causes, including disparate economic resources; preferences of residents; community zoning laws that discourage economic integration; and a long history of discriminatory practices by lending institutions, real estate agents, political elites, and neighbors (Frey and Myers 2002; Turner et al. 2002). It is widely agreed that black housing segregation came about through organized efforts to ghettoize blacks in the early twentieth century (Doob 2005; Massey and Denton 1993). As late as the early 1960s, discrimination against blacks seeking to live in white areas was nearly universal. But two changes, laws that banned most forms of housing discrimination and white attitudes shifting to be sharply against the practice of blatant housing discrimination, led to greater tolerance of housing integration (Doob 2005).

While segregation between whites and blacks has decreased, it has done so mostly in newer cities with relatively small black populations while holding firm in older, industrial areas where the black population remains concentrated (Iceland and Weinberg 2002).[1] Fair housing legislation in the 1960s and the enforcement of these laws in conjunction with the emergence of a large black middle-class population contributed to a slight decline in black segregation levels in the 1990 Census from 1980 levels (Frey and Myers 2002). Even so, the segregation levels of 1990 were such that, on average, 6 out of 10 blacks would have had to change neighborhoods to be distributed in the same way that whites were (Frey and Myers 2002). By 2000, while there were declines in black segregation compared to 1980, residential segregation was still higher for blacks than for Latinos/as and Asians (Iceland and Weinberg 2002). In 2000, the majority of blacks would still have had to move to match the neighborhood distribution of whites (Iceland and Weinberg 2002). Cities in the south and southwest with new construction and recent in-migration tended to have the lowest levels of segregation, but these areas of high growth are where segregation measures are increasing the most for Asians and Latinos while decreasing the most for blacks (Frazier, Margai, and Tettey-Fio 2003).

The 2000 Census indicates that the number of blacks grew in the previous two decades from 26.5 million (11.7 percent of the U.S. population) in 1980 to 30.0 million

1 Black and African American will be used interchangeably, although black (with or without capitalization) is a better term because it indicates that this is about perceived race and notes that not all blacks are African American (meaning not necessarily of African descent).

(12.1 percent) in 1990. In the 2000 Census, there were 36.4 million blacks (12.9 percent of the U.S. population). According to Iceland and Weinberg (2002), segregation decreased for blacks in metropolitan areas. From 1980 to 2000 segregation of African Americans declined across all indices but was still higher for African Americans than for all other groups (Iceland and Weinberg 2002). Measuring the dissimilarity index at the city level indicates more mixed results. Residential segregation varied by the percentage (expressed in quartiles) of the population that is black. Although overall there was a pattern of decreasing residential segregation over time, three of the five indices showed a pattern of higher segregation in places with a higher percentage of blacks in 2000. As the black percentage of the population increased, blacks were less likely to be evenly spread across the metropolitan area (dissimilarity index), less likely to share common neighborhoods (isolation index), less concentrated in dense areas (delta index), less likely to be centralized (absolute centralization index), and more likely to live near other blacks (spatial proximity index). Blacks remain segregated and highly disadvantaged, no matter how we measure segregation.

Numerous national studies compared segregation patterns across metropolitan areas (Glaeser and Vigdor 2001; Logan 2001). Logan's analysis identified segregation between non-Hispanic whites, non-Hispanic blacks, non-Hispanic Asians, and Hispanics. Black segregation from whites remained higher than Asian and Hispanic segregation from whites, but black segregation declined slightly in most areas while Asian and Hispanic segregation increased to a small extent (Logan 2001). Logan's study revealed the relative lack of change in the high segregation levels observed for larger, northern metropolitan areas where most blacks continue to live. Glaeser and Vigdor (2001) demonstrated that black segregation declined the most in the south and west regions, which are also the areas experiencing rapid growth in their black populations. But no studies have looked at city-level segregation levels.

African Americans experience segregation from whites as a result of discrimination (Galster 1992). Blacks and whites live separately from one another, experience little contact, and do not have the opportunity to get to know each other, so they rely on salient characteristics and stereotypes to assess one another. Segregation is reinforced by barriers to social intercourse. Many whites believe that blacks are a nuisance, are prone to criminal behavior, prefer welfare over work, and embody other negative stereotypes (Charles 2001; Farley and Colasanto 1980; Farley, Fielding, and Krysan 1997; Feagin and Sikes 1994; Feagin and Vera 1995; Schuman and Bobo 1988; Schuman, Steeh, and Bobo 1985). Some whites, feeling vulnerable to minority encroachment at any time and assuming such harmful characteristics about blacks, may use methods of coercion, intimidation, violence, and other tools of bias to send messages to blacks that they are not wanted in white neighborhoods.

Oftentimes, moving into areas with better education, jobs, and other resources means moving into white neighborhoods. All-white neighborhoods, while symbolizing economic, educational, and occupational opportunities, may come with hefty warnings and risks. Hate crime, which I am positing is used by whites to defend neighborhoods, is the outgrowth of such hostility, so in many cases blacks' fears or concerns about white neighborhoods are grounded in real danger. In her study Ellen (2000), argues that blacks, when moving to a new neighborhood, typically avoided census tracts with fewer than one in ten blacks. The absence of blacks in an area may send a signal to other blacks to avoid that neighborhood (Ellen 2000; Feagin and Sikes 1994) or that they can not financially access the neighborhood. Throughout history, whites have successfully used various racialized messages of "you're not wanted" (Meyer 2001). While whites claim to fear encroachment and a loss of property value, segregated blacks just want equal access and improvement of their living circumstances.

Segregation affects blacks across classes. Some say people are segregated by class and not by race, but blacks' segregation across classes speaks against this (Zubrinsky Charles 2001). Segregation's persistence cannot be attributed to the black middle class moving out. Whether or not class segregation persists, residential segregation between blacks and whites builds. Poverty concentrates into the residential structure of the black community and guarantees that poor blacks have fewer advantages (Massey and Denton 1993). William Clark cited racial preferences and economic factors as accounting for large portions of racial segregation (Clark 1991; Clark 1993). Various authors (e.g. Dreier et al.

2001) have stated that economic factors transcend racial ones when it comes to segregation. To the extent that economic discrimination affects people's lives, it is certainly not exclusive of racial discrimination. Blacks have multiple disadvantages (Krivo and Peterson 1996; Parker and McCall 1999) and are more likely to experience discrimination in economic arenas (Parker and McCall 1999). A study by Yancey Choi (2003) discovered that when asking whites if they would buy a home in a neighborhood with low, moderate, or high black, Hispanic, or Asian percentages, as the non-white population increased, whites were less likely to buy the home, even controlling for crime rate, property value, and educational quality. Race clearly matters. There is a question of the influence of race versus class on issues of crime, employment, wealth, family stability, and education, but with segregation, race clearly has an independent effect.

2.2. Hate Crime

From Native American genocide to slavery, and still today, race-based violence is inseparable from the United States' colonialist history. A particularly noteworthy example is lynching, a common practice of whites against blacks dating back to the seventeenth century. Blacks were hanged or burned, beaten, or shot to death, and sometimes also castrated, for such minor offenses as being "saucy" to whites (Petrosino 1999), trying to register to vote, participating in labor union activities (Turner et al. 1982), or, like Emmett Till, having "the nerve to flirt" with a white woman (Orr-Klopfer 2005). The hate crime of today is analogous to the lynching of yesteryear (and lynching even still occurs in some instances today) (Tolnay and Beck 1995). Violent sanctioning continues against those who trespass into "white space." Such trespassing may occur when racial minorities attempt to move into places deemed white neighborhoods, white educational institutions, white jobs, or white social spaces. The sentiments expressed through lynching in centuries past are manifested contemporarily through racially motivated hate crime.

In the category of race, *Hate Crime Statistics*, 2006 indicated that blacks were the primary targets of hate crime and whites were the chief perpetrators (United States Department of Justice 2007). Nearly 67 percent of all anti-race hate crime had black victims, although blacks comprise only 12.9 percent of the population, and nearly 60 percent of the known perpetrators were white (United States Department of Justice 2007). The largest percentage of hate crime occurs in neighborhoods in or near residences.

2.2.1. Perpetrators

Many people falsely assume that hate groups such as the Ku Klux Klan commit most hate crime (Kennedy 1990; Levin 2002; MacLean 1994; Weller 1998). However, Levin and McDevitt (2001) laid out three hate crime perpetrator typologies, of which the least frequent type of offender is the mission perpetrator or hate group member. The thrill-seeking offender, the next most likely to commit hate crime, attacks people or places on a whim using bias as a selection mechanism. Thrill-seeking perpetrators seek to cause trouble and look for a target (such as a black or gay person) to commit the crime against. The most common offender is the reactionary offender. Reactionary offenders respond to what they see as an intrusion—an intrusion into physical space, social circles, jobs, or even the country (Levin and McDevitt 2002). I posit that reactionary perpetrators are most likely to commit the anti-black hate crime on which this study focuses.

Shanika Williams' case serves as an example of the hate crime discussed here. Ms. Williams, a black woman, moved into an all-white neighborhood with her children and had her home firebombed (Flint 2004). The perpetrators did not have an issue with Ms. Williams herself; they had an issue with Ms. Williams' skin color and anyone else with that skin color that was to move into the neighborhood. While this example may be extreme, it demonstrates the reality for many blacks in majority-white neighborhoods.

The hostility from whites may depend on the degree to which their identity is tied to the composition of their neighborhood (Flint 2004; Levin 2002; Perry 2001). With race-based hate crime, white people are not typically drawn out of their neighborhoods to go kill, harass, or assault blacks in other areas (Levin and McDevitt 2002). Rather, they "defend" their homes. These defenses are in response to "invading" minority group members. Hate manifests itself and is exacerbated when any previously segregated minority group attempts to secure the same resources as the majority group, which this study posits as including the minority family's choice of a neighborhood (Olzak 1992). Whites seek to protect their status, investments, and living environments

by resisting integration of those they see as the embodiment of negativity. Segregation benefits these whites. When we ask why segregation persists we must acknowledge the benefits whites believe it provides them. The opportunities associated with these neighborhoods are known by residents and non-residents alike, and as the population of racial minorities increase in the United States and they attempt to secure a "piece of the pie," whites may restrict access (Lieberson 1980).

2.2.2. Targets of Hate Crime

Those victimized or potentially victimized by hate crime are referred to as hate crime targets.[2] All racial minorities are potential targets of racially motivated hate crime (Perry 2001).[3] Rarely does the actual target matter. Any member of the attacked group feels vulnerable because the target was chosen based on the target's presumed group affiliation, not something changeable by the target (Perry 2001). That hate crime has greater physical and emotional impact and attacks an entire community through an individual because of an immutable characteristic is what leads some researchers to explain that hate crimes "hurt more" (Iganski 2001).

2.3. Segregation and Hate Crime Together, the Missing Link

Research by the Mumford Center offers informative analyses of segregation and its causes and costs, but fails to include an analysis of violence as a possible precipitator of segregation. This same lack of analysis is found in the Census Bureau's own report by Iceland and Weinberg (2002), which demonstrates segregation's continued presence in the United States, and Green, Strolovich and Wong's study of hate crime and neighborhood population proportions in New York City (1998). To date, no studies analyze segregation and race-based hate crime. Racial segregation and racial violence must be studied in tandem. The hate crime study by Green et al. (1998) is the only one to include population change as a key variable (but it relies only on a select section of New York City and was predicting hate crime, not looking at segregation). The authors' chief finding was that demographic change may predict racially motivated crime directed at minorities. Flint (2004) explained that maintaining spaces that contain and protect established or desired social relations is common. I contend that one way to maintain this space is through the use of race-based violence. The segregation levels of neighborhoods matter and are influenced by race-based violence, and this study contributes to the missing research on this topic.

3. Theoretical Mechanism

3.1. Group Conflict Theory

Group conflict theory (Blau 1977; Bobo 1988; Vold 1985) asserts that groups who must share resources will compete for them. The group that believes it possessed the resources first is likely to attempt to protect them from other groups. Various manifestations of conflict arise from this competition. The theory derives from the principle that any group will attempt to sustain itself by maintaining its place and position in a constantly changing society (Aldrich 1999; Blalock 1957; Blalock 1967; Blau 1977; Collins 1975; Levine and Campbell 1972; Massey and Denton 1987; Meyer 2001; Suttles 1972). Group conflict theory posits that groups see each other as adversarial, and because their resources seem threatened, conflict will arise. In this research, groups are defined as races, and whites are the assumed dominant or primary group.

The proportion of group members of different races is critical regarding conflict in neighborhoods because these distributions determine the likelihood of social interaction between groups (Blau 1977). Racial heterogeneity determines the likelihood of contact between persons of different groups (Wadsworth and Kubrin 2004). "Blau and Blau posit that racial inequality creates strong pressures to commit violence and that this process derives from the inherent contradiction between ascriptive inequality and democratic values" (Wadsworth and Kubrin 2004, 651). The authors were not referring specifically to race-motivated violence, but this logic motivates a study on hate crime and residential segregation.

3.2 Defended Neighborhoods Thesis

In a study of hate crime in New York City, Green, Strolovich, and Wong (1998) argued the "defended neighborhoods thesis," which suggests that in a white neighbor-

2 Some choose to say "hate crime victim" but I opt for "target."

3 And according to federal law anyone, including whites, can be targeted.

hood, residents will defend themselves from non-white newcomers in order to protect their resources, including property value, political power, or simply the maintenance of white homogeneity. This defense, in the form of hate crime, may keep neighborhoods segregated. The defended neighborhoods theory suggests that whites will feel threatened by the presence of racial minorities in their predominantly white neighborhood and hence will defend their neighborhoods in an effort to prevent minorities from moving in or "invading" (Green et al. 1998). Defended neighborhoods thesis applies group conflict theory specifically to an area experiencing demographic change and notes the importance of a dominant group. However, while Green et al. (1998) examined racial population proportion, they did not refer to the vast literature on segregation and therefore did not discuss the social costs of segregation and the compound effects of hate crime on segregation. Using their theoretical basis, this study seeks answers to many of the questions left unasked by Green et al. (1998).

The defended neighborhoods theory (Green et al. 1998) would hypothesize that predominantly white neighborhoods, particularly those experiencing an increase in or a new presence of a minority population, may have more frequent racially motivated crime. In the case of mostly white neighborhoods, an attempted change to the racial homogeneity of the neighborhood may spawn hate crime. Whites see this demographic change and have three options: acceptance, resistance (by joining with other whites to slow the influx of new residents), or self-segregation by moving to whiter areas (Swain 2002). Option two is where hate crime would come in. The defended neighborhoods theory contributes causal propositions for white *fight* (instead of, or before, "white flight") in neighborhoods experiencing a transition from racial homogeneity. Instead of simply quitting the neighborhood by fleeing, some whites fight the perceived invasion first. When racial minorities move into white neighborhoods, the conflict over housing, schools, businesses, and the accompanying qualities of life may spawn hate crime. The defended neighborhoods theory holds that hate crime committed by whites against racial minorities would influence racial segregation or racial change, because whites living in residentially homogeneous neighborhoods feel particularly vulnerable in the presence of minority groups, especially blacks, and may choose to employ hate crime to protect their turf. This hate crime may prevent blacks from moving to or staying in neighborhoods deemed "white." Hate crime sends clear messages to racial minorities that their presence is not wanted in the areas, and hence, hate crime may well aid in the perpetuation of segregation.

4. Data and Methods

Asking if the occurrence and/or number of hate crimes in a city has a statistically significant effect on segregation, the study consisted of a national cross-sectional analysis that examined the relationship between various measures of segregation in cities in 2000 and the occurrence of race-based hate crime and hate crime in general (since hate crime in general may create a climate of intolerance), examining white/black segregation levels. Violent hate crime and sex-based hate crime were tested for their effects on levels of white/black segregation.

4.1. Measures and Models of Segregation

Segregation measures at the city level were obtained from the Lewis Mumford Center. This unit of analysis is consistent with past research (Wadsworth and Kubrin 2004; Parker 1989).[4] The index of dissimilarity has become the standard indicator of racial segregation between pairs of groups within cities with non-Hispanic whites as the reference group (Massey and Denton 1993). The index is calculated for small neighborhood-like areas (census tracts) for which data are available only from decennial U.S. censuses. In any given city, this index examines the extent to which racial and ethnic minority groups are segregated from whites. With a range of 0–100, the dissimilarity index measures the evenness with which whites and the minority group are distributed throughout the neighborhoods, relative to the city as a whole (Iceland and Weinberg 2002). If the city as a whole has a racial distribution of 10 percent black and 90 percent white, then an even distribution in

4 While cities can also be very heterogeneous, Parker (1989) supports the use of cities over metropolitan statistical areas (MSAs) and suggested that the city was the most appropriate level of aggregation since MSAs can be very heterogeneous.

each neighborhood throughout the city is 10 percent black and 90 percent white. The dissimilarity index calculates the deviation each neighborhood has from the city's 10 percent black and 90 percent white distribution. The dissimilarity index is included as a continuous variable and, using determinations of high, moderate, and low segregation by Massey and Denton (1993) and Iceland and Weinberg (2002), each measure was also constructed into one of three dichotomous variables indicating low, moderate, or high levels of segregation and also an ordinal variable indicating the same.

4.2. Measures of Hate Crime

Hate crime data were obtained from the Uniform Crime Reporting (UCR) *Hate Crime Statistics* for 1998, 1999, and 2000 and hate crime case data requested from the UCR headquarters.[5] The UCR's *Hate Crime Statistics* report, produced annually since 1993, is the only source of national hate crime data available. Each annual edition of *Hate Crime Statistics* provides data regarding incidents, offenses, victims, and offenders in reported crime motivated in whole or in part by a bias against the victim's perceived race/ethnicity, religion, sexual orientation, or disability.[6]

The UCR covers over 95 percent of the United States population (United States Department of Justice 2007). Yet, the UCR data are almost certainly an undercount of hate crime, since extensive validation of hate crimes is required before reporting (Herek and Berrill 1992; Levin and McDevitt 2002). This does not necessarily mean that crimes themselves are going unreported (though many are because of fear of secondary victimization at the hands of law enforcement (Bowling 2003; Herek and Berrill 1992)), but that reported crimes are often not correctly coded as bias crimes (Bell 2002; Nolan, Akiyama, and Berhanu 2002). Also, many victims of hate crime do not report the incidents to the police and have little confidence that officials can or will do anything to apprehend the persons responsible (Torres 1999). Researchers using UCR data can be confident that they are not overestimating the hate crime problem. The UCR is the most widely used source of crime count information available in the United States.

Given the relative rarity of hate crime, I aggregated data from 1998 to 2000 in order to increase the number of hate crimes with different motives and types of crime, a common practice in crime literature (Morenoff and Sampson 1997; Wadsworth and Kubrin 2004). This was necessary, as creating the measure from fewer years would result in many cities having few or no recorded hate crimes, thus skewing the distribution toward zero.[7] The data were also broken down by type of hate crime, such as anti-race or anti-black, and whether or not the crimes were violent or sexual. The variable of total hate crime occurring in the city was frequently used because a climate of intolerance is created when hate crimes are occurring, which is in line with my theoretical explanation of why this variable is assumed to be a strong predictor of segregation levels. This also provides for a more robust measure.

In other models, specifically anti-black hate crime as opposed to total hate crime was used in order to explore the effects of specifically targeted hate crime numbers. These total and race-specific measures are count measures.[8] A binary variable for whether or not hate crime occurred in a city was also completed to test whether just the occurrence of hate crime can have an effect on segregation as opposed to the degree of hate crime occurring in the city. Additionally, total violent hate crime and sex-based hate crime were explored separately to see if there is a unique effect of these

5 The UCR program is a city, county, and state law enforcement program that provides a nationwide assessment of crime generated from the submission of statistics by law enforcement agencies throughout the country.

6 Mandated for five years by the Hate Crime Statistics Act, and permanently mandated by the Church Arson Prevention Act of 1996, annual hate crime statistics are assembled by the U.S. Attorney General from local law enforcement.

7 Granted, hate crime is not the dependent variable, but aggregating the measure makes it more robust.

8 For some areas where it appears that no hate crime occurred, one only knows that none were reported. This could reflect a particularly hostile environment where targets fear reporting hate crime or a more tolerant one where hate crime is not occurring.

particularly egregious types of assaults. It was suspected that violent and sex-based hate crime would have larger effects on segregation. Hate crime in general is known to exhibit signs of overkill and tends to be more violent than non-bias assaults (Berk, Boyd, and Hamner 1992; Gerstenfeld 2004; Iganski, Burney, and Institute for Jewish Policy Research 2002; Levin 2002).[9] The level of sexual assaults occurring with hate crime is also higher because of ways that sexual assault motivations can be complicated by a combination of gender and race biases (Gelber 2000; McPhail 2002).

To account for white perpetrators, only measures for hate crime with white perpetrators were initially used, but research shows that a large proportion of unknown race perpetrators are most likely white (Green et al. 1998). Green et al. (1998) used all white and unknown perpetrators as white because there is a correspondence between racially motivated crimes committed by whites and the number committed by known perpetrators. In their study (1998), Green et al. discovered correlations between and only between racially motivated crimes perpetrated by whites and those committed by an unidentified perpetrator (see Table 1 a). For example, the correlation between the number of anti-black crimes committed by whites and the number committed by unknown offenders was .82 across the sample. The correlation between the number of anti-black incidents committed by Latinos correlated at -.05 with anti-black hate crimes committed by unidentified perpetrators. They discovered that "one cannot reject the null hypothesis that the parameters that generate incidents by white offenders also generate incidents by unknown offenders. The parameters themselves look very similar after the data are disaggregated by perpetrator, although the smaller number of incidents in each perpetrator category makes for greater sampling variability" (Green et al. 1998, 382). Like Green et al. (1998), I ran a sensitivity analysis, and in order to maximize the precision with which I estimate my models, I focused my attention on all incidents involving white or unknown perpetrators (see Table 1 b). Note that this does not come into play with all hate crime variables. Other studies recommend not separating out the race of the perpetrator since the majority of perpetrators are white; the environment of intolerance that hate crime creates may also be more important than making sure each perpetrator was white. Total hate crime, for instance, is all hate crime, regardless of perpetrator, as explained earlier.

Table 1a: Table of correlations between racially motivated crimes with known and unknown perpetrators, from Green et al. (1998, 382)

	Incidence of racially motivated crime committed by unknown perpetrators		
Race of known perpetrators	Black victims	Latino/a victims	Asian victims
White	.82*	.66*	.82*
Black	–	–.12	.07
Latino/a	–.05	–	.03
Asian	–.07	.00	–

N = 51
* Significant at p < .05. Entries are Pearson correlations. The .82 correlation in the upper left-hand corner depicts the statistical association between the number of anti-black attacks by unknown perpetrators and the number of anti-black attacks by white perpetrators.

Table 1b: Pearson correlations between racially motivated crimes with known and unknown perpetrators

	Incidence of racially motivated crime committed by unknown perpetrators		
Race of known perpetrators	Black victims	Latino/a victims	Asian victims
White	.75 **	.612**	.71*
Black	–	.07	.08
Latino/a	–.06	–	.06
Asian	–.02	.01	–

N = 12,852
* p < .05 ** p < .001

4.3. Control Variables

Information on demographic and structural characteristics of each city comes from the 2000 Census. The measures

9 Overkill means additionally desecrating the target by using more violence than would have been necessary just to injure or kill.

include the following classes of variables described below: population by race, economic characteristics (including median income, percentage of female-headed households, and poverty rate), workforce characteristics (including unemployment rate and percentage in the manufacturing industry), mobility, and geographic location (what region in the country the city is located) (see Table 2).[10]

Population variables controlled for the percentage of blacks in the overall population of the city. According to the threat hypothesis (Blalock 1967) as well as the theoretical grounding of this study, the larger the proportion of the population that is black, the more likely are discrimination against blacks and segregation. This variable has been included in other models but is not always found significant. I also used the percentage of whites in all models.

As a measure of the neighborhood instability used in many studies, this study controlled for the percentage of female-headed households.[11] Economic and employment control variables, including income, poverty rate, unemployment rate, and percentage of the workforce in manufacturing are signs of white economic vulnerability and were held constant. Median income was used in previous research and found significant (Farley and Frey 1994). With respect to labor market participation, researchers have suggested that higher rates of labor market involvement can lead to more opportunities for interracial interactions (Messner and South 1992). The variable "percentage of the workforce in the manufacturing sector" was used in other segregation research and was found highly significant as theorized by Wilson (1987). This study controlled for geographic region using the four-region approach (United States Census Bureau 2004) as done by other researchers on segregation

Table 2: Basic statistics and correlations, white/black dissimilarity models

	1	2	3	4	5	6	7	8	9	10
1. WBDISSIM	1.00	.319**	−.235**	−.237**	.961**	.324**	.241**	−.537**	.591**	−.375**
2. TOTHC		1.00	−.111	−.092	.300**	−.109	.115**	.035	.114	−.122
3. PCWHITE			1.00	.274**	−.188**	−.047	−.165*	−.157	−.585**	.069
4. MOBIL				1.00	−.302**	.125	−.225**	.191**	−.259**	−.165**
5. PMFMANU					1.00	.271**	.277**	−.549**	−.267**	−.323**
6. SOUTH						1.00	−.213**	−.589**	.106	−.263**
7. NEAST							1.00	−.320**	.401**	−.032
8. WEST								1.00	−.329**	.109
9. DISADVAN									1.00	−.267**
10. WBDISS90										1.00
X	41.56	66.93	54.1	52.82	.075	.2802	.10	.47	0	45.39
SD	17.89	164.52	20.4	6.41	.036	.45	.31	.50	1	19.46

**p < .01 ***p < .001
Variable abbreviations:
WBDISSIM: white/black dissimilarity in the city; TOTHC: total hate crime in the city; PCWHITE: percent white population in the city; MOBIL: measure of mobility in the city; PMFAMU: percent population employed in manufacturing sector; SOUTH: 1 if city located in the southern United States; NEAST: 1 if city located in the northeastern United States; WEST: 1 if city located in the western United States; DISADVAN: disadvantage index variable; WBDISS90: white/black dissimilarity measure from 1990 Census.

10 These data were compiled previously into an SPSS database by Dr. Charis Kubrin, and this database was used for a study on suicide in black youth (Kubrin et al. 2006).

11 Though I also recognize that merely not having a man in the house does not indicate an unstable household and there are many ways in which this measure is biased.

(Cutler, Glaeser, and Vigdor 1999; Frey and Farley 1996; Ovadia 2003).

All variables were checked for multicollinearity prior to running regression models. After running collinearity diagnostics, and guided by previous research (Messner and Golden 1992; Parker and McCall 1999; Wadsworth and Kubrin 2004), I determined that including many of these variables as independent predictors in the models would add significant bias due to the high correlations between them.[12]

Another approach for exploring the causal process by which hate crime influences segregation is to examine the influence of these characteristics on whether or not an area is segregated (binary dependent variable) and also to what level it is segregated (ordinal dependent variable for low, moderate, or high segregation). Logistic regression was used because ordinary least squares assumes a normal distribution that includes numbers other than 0 and 1, the only choices for our binary dependent variable (Menard 1995). The logistic model, unlike the continuous model, does not envision a steady and even change in segregation. According to the rules of multiple regression, a one-degree change in hate crime has the same effect on segregation whether the hate crime occurrences increase from 1 to 2 or from 200 to 201. Because the continuous model hides some of these effects, we can tease out extremes better in the logistic models.

Ordinal logistic regression performs a similar function to logistic though it allows for white/black dissimilarity with the choices of low, moderate, and high.[13]

4.4. Analysis Plan

This study posits that segregation is a function of hate crime such that:[14]

$$\text{segregation} = f(\text{Hate crime, control variables})$$
$$\text{segregation level} = ß_0 + ß_{\text{hatcrim}}\text{hatcrim} + ß_{\text{control}}\text{controlvariables} + \mu$$

Clearly there is a dynamic process at work between hate crime and segregation. But there may well be a reciprocal relationship between hate crime and segregation, where the segregation produced by hate crime keeps blacks and whites separated and further exacerbates the lack of understanding and fear that whites have of blacks. Because of these effects, which are a result of segregation, segregation in turn may lead to hate crime because whites do not understand and do not have exposure to blacks. When minorities move into a white neighborhood, whites receive exposure to those whom segregation has heretofore kept isolated (Massey 1995). This possible reciprocal relationship is taken into account in the study. Hate crime is suspected of being endogenous with the error term because of a potential reciprocal relationship between segregation and hate crime. In order to handle the autocorrelation suspected in this model, I used an earlier segregation measure as a lag variable.[15] The method of using a lag variable can account for reciprocity. Using 1990 segregation measures is a way to account for this reciprocal relationship by acknowledging that 1990 segregation has a large effect on 2000 segregation levels (because the best predictor of future segregation is past segregation). Lagging the variable is also grounded in theory: the measurable difference in the segregation of the area related to hate crime would be captured in the lag variable instead of remaining in the error term of the model (Green, Glaser, and Rich 1998).

12 I also tested many interaction variables reported in the findings. To control for multicollinearity in the interaction variables, I used centered measures of each variable (meaning the mean is set to 0) and then multiplied the centered independent variables.

13 This ordinal variable was predicted using SPSS PLUM (Borooah 2001) and Ordinal Logit in STATA (which occasionally reports coefficients with the same sign though different magnitude than SPSS).

14 This study used SPSS 13.0 for logistic, ordinal, and multiple linear regressions. STATA was also used on logistic regressions because its algorithm may more accurately predict coefficients for logistic regressions but found no significant differences.

15 A lag variable was developed so that the ordinary least squares estimates would not be biased and inconsistent.

5. Findings

Findings of this study demonstrate a significant relationship between hate crime and segregation.[16] Means, standard deviations, and bivariate correlations for all variables used in the analyses are presented in Table 2. All cities have populations of greater than 95,000 and a mean of 350,000. Segregation levels as measured by the dissimilarity index for white/black were the dependent variables in all models. Each score represents the segregation score for a city based on population totals of census tracts in 2000. The mean segregation score is 41.6 (white/black dissimilarity). The average three-year counts for hate crime in each city are 66.93 (all hate crime), 26.02 (anti-race), and 20.24 (anti-black). The average racial distribution of the cities is 14.76 percent black (compared to the national average of 12.3 percent), 21.11 percent Hispanic (12.9 percent), 7.34 percent Asian (3.6 percent), and 54.1 percent white. Of the 177 cities, 46.7 percent are located in the western region, 28 percent in the southern region, 14.8 percent in the central region and 10.4 percent in the eastern region.

Consistent with existing research, disadvantage-related variables were highly associated with one another and loaded on the same factor in factor analysis. The means of the variables that comprise the black disadvantage index were as follows: percentage of the population that is living in poverty (14.77); percentage unemployed (6.77); percentage of the population that is black (14.76);[17] percentage of female-headed households (19.89); median family income ($49,647); and percentage of the population 25 or older with a high school diploma or more (79.32), as shown in Table 3.[18] Specifically, principal components analysis was performed using the varimax rotation method.[19] Factor analysis of these variables yielded one factor with an eigenvalue above the conventional thresh-

Table 3: Correlations of variables in factor analysis for black disadvantage

	1	2	3	4	5	6
1. % population living in poverty	1.00	.807**	.484**	.716**	−.807**	−.609**
2. % population unemployed		1.00	.536**	.715**	−.703**	−.695**
3. % population that is black			1.00	.807**	.455**	−.215**
4. % female-headed household				1.00	−.652**	−.387**
5. Median family income					1.00	.623**
6. % of the 25+ population with a high school diploma or more						1.00
X	14.77	6.77	14.76	19.89	49646.84	79.32
SD	5.87	2.50	15.33	11.02	11975.65	9.27

**p < .01

16 All reported results for white/black segregation are only for models where performing hierarchical regression and adding the hate crime variable increased the R2 of the model. Tests were run in three iterations. Iteration 1 included the dependent variable and all control variables. Iteration 2 added the lag variable. Iteration 3 added the hate crime variable.

17 Percentage of the population that is black is included in the index because of the strong loading exhibited by this variable.

18 I checked for skewness in all variables. For all variables, outliers were searched for with the intent of excluding outliers where appropriate, but since this did not significantly affect any of the models, outliers were included.

19 The varimax rotation method is a method of orthogonal rotation that simplifies the factor structure by maximizing the variable of a column of the pattern matrix.

old of 1.00 (as shown in Table 4), which generated one index that captures disadvantage for my models measuring white/black segregation. The factor, labeled disadvantage, had an eigenvalue of 4.113 and exhibited high loadings (factor loadings follow in parentheses) for percentage of the population living in poverty (.904), total percentage unemployed (.905), percentage of the population that is black (.696), percentage of female-headed households (.865), median family income (-.863), and percentage of the population 25 or older with a high school diploma (-.707). Using factor analysis greatly reduces levels of collinearity among the independent variables and addresses many of the data analysis and statistical inference problems.

Table 4: Varimax rotated factor patterns (loadings > .60) in 180 U.S. cities; black disadvantage index

Variable	Factor loading
Black disadvantage index	
% population living in poverty	.904
% population unemployed	.905
% population that is black	.696
% female-headed households	.865
Median family income	.863
% of the 25+ population with a high school diploma or more	.707
Eigenvalue: 4.113	
Percent variance explained: 68.553	

Table 5: Multiple regression models 1

		White/black dissimilarity	
Variable	Total hate crime variable	Anti-black hate crime variable	Yes/no hate crime variable
Disadvantage index	−.733	−.832	−.902
	(.587)	(.584)	(.576)
Mobility	13.148*	12.742*	14.325*
	(6.245)	(6.276)	(6.299)
Northeastern city	−1.740	−1.596	− 1.526
	(1.448)	(1.449)	(1.461)
Southern city	.742	.759	.421
	(1.268)	(1.274)	(1.264)
Western city	−2.747*	−2.668*	−2.442
	(1.323)	(1.324)	(1.324)
% population in manufacturing sector	−35.023**	−35.914**	−32.774**
	(11.125)	(11.148)	(11.025)
White % of the population	− 9.777***	−10.049***	−10.014***
	(2.564)	(2.565)	(2.524)
White/black dissimilarity in 1990	.829***	.833***	.853***
	(.028)	(.028)	(.026)
Hate crime variable	.005*	.017*	5.742**
	(.002)	(.009)	(2.130)
CONSTANT	5.978	6.194	−1.266
	(4.287)	(4.315)	(4.208)
Adj. R^2	.929	.939	.937
*p < .05	**p < .01	***p < .001	

Entries are unstandardized coefficients followed by standard error in parentheses.
Note: All variables are measured at the city level. Mobility is the measure of mobility in the city.

Table 5 shows which factors are significantly associated with white/black segregation as measured through the dissimilarity index. Looking first at 1990 segregation, as in most models, nothing predicted 2000 segregation levels better than 1990 segregation measures (WBDISS90) with a beta of .902 ($p < .001$). Due to the inclusion of 1990 segregation levels, these models can be deemed conservative, and yet for those where hate crime is significant, we can be sure there is a hate crime effect due to the increase in the R2 of the model. Our independent variable of interest, hate crime, as a measure of all hate crime that occurred in the city, is significant ($p < .05$) and positive. In contrast, while one would expect the disadvantage variable to be significant in predicting segregation, it is not ($p = .214$). This may be because of the 1990 segregation level effects. The percentage of the population that is in the manufacturing sector is significant and negative. Mobility (percentage of the population that moved in the last five years) was significant and positive. Examining the role of region, with central left out for comparison, location in the west region significantly decreased segregation. The model explained 94 percent of the variance. In sum, cities with higher rates of hate crime, greater mobility, more whites, segregation in 1990, and a location in the northeast or south region had higher levels of white/black dissimilarity.

For models altering the hate crime measure from all hate crime to hate crime against the specific group for which segregation is being measured, 94 percent of the variance was explained. Hate crime, measured as all anti-black hate crime, was significant and positive, indicating that the more hate crime that occurs, the higher the dissimilarity index or the more segregated the city. The 1990 dissimilarity level was highly significant and positive with a beta of .905. Disadvantage was again not significant. Percentage white was highly significant and negative, as was percentage of the population in the manufacturing sector. West was significant and negative in comparison with the central region. Mobility was significant and positive. For cities with higher hate crime, greater mobility, lower percentages in the manufacturing sector, lower percentage white, segregation in 1990, and located in the northeast or south, white/black dissimilarity was likely to be higher.

When hate crime is operationalized as a dummy variable for whether or not hate crime occurred in the city (1 = yes, 0 = no) we see that the occurrence of hate crime affects levels of black/white segregation. For the white/black dissimilarity index model, the hate crime dummy variable was significant and positive, as was 1990 dissimilarity, percentage white, and mobility, while the percentage in the manufacturing sector was significant and negative. Disadvantage and region remained not significant. This indicates that in cities where hate crime occurs and the percentage of whites is higher, the percentage in the manufacturing sector is lower, and there is more mobility, then white/black dissimilarity will likely be higher.

In Table 6 hate crimes are operationalized to specifically mean sex-based hate crime or violent hate crime. This was done because these particularly egregious hate crimes may have varying effects on degrees of segregation. For white/black dissimilarity, sex-based hate crime was significant and positive. The dissimilarity measure for 1990 was significant and positive. Percentage in manufacturing and percentage white were both significant and negative. Violent hate crimes were borderline significant (p = .065) and positive when predicting white/black dissimilarity. The dissimilarity measure for 1990 was significant and positive while percentage in manufacturing and percentage white were both significant and negative. For both an increase in violent hate crime and sex-based hate crime, cities with higher 1990 segregation rates, lower percentages of whites, and lower percentages of workers in the manufacturing sector were likely to be more highly segregated. Disadvantage was not significant in either model.

Table 6: Multiple regression models 2

	White/black dissimilarity	
Variable	Sex-based hate crime variable	Violent hate crime variable
Disadvantage index	− 1.128	−.945
	(.652)	(.662)
Mobility	10.109	11.059
	(7.096)	(7.070)
Northeastern city	−.930	−1.796
	(1.665)	(1.649)
Southern city	.929	.930
	(1.414)	(1.417)
Western city	−1.882	−2.486*
	(1.415)	(1.416)
% population in manufacturing sector	−34.460**	−32.157
	(12.680)	(12.677)
White % of the population	−9.627**	−9.605**
	(2.803)	(2.809)
White/black dissimilarity in 1990	.851***	.839***
	(.029)	(.031)
Hate crime variable	2.220*	.007^
	(1.135)	(.004)
CONSTANT	6.203	6.299
	(4.857)	(4.686)
Adj. R^2	.9367	.936

^p < .07 *p < .05 **p < .01 ***p < .001

Entries are unstandardized coefficients followed by standard error in parentheses.
Note: All variables are measured at the city level. Mobility is the measure of mobility in the city.

While we lose some explanatory power in a binary dependent variable model, it does demonstrate that in the extremes, hate crime affects segregation. Table 6 demomstrates the likelihood of high white/black dissimilarity through logistic regression. When measuring

high white/black dissimilarity, the model chi-square was 80.729 (*N*=178., p<.001). Total hate crime was significant and positive, as was disadvantage, and mobility and percentage in the manufacturing sector were significant and negative. A one-unit increase in hate crime results in a 267-percent increase in the odds of high white/black segregation (.267=1-exp(.009)).

The model in Table 7 also measures the likelihood of low white/black dissimilarity. When predicting low white/black dissimilarity, the model chi-square was 121.070 and -2 log likelihood is 108.188. Pseudo R2 is .682 (*N*=178, p<.001). Hate crime was significant and negative, indicating that a one-unit increase in hate crime led to a decrease in the likelihood of low segregation by 3.1 percent; this means that segregation was likely to be higher rather than lower when hate crime was occurring. Disadvantage was significant and negative, as were the percentage in the manufacturing sector and the west region compared with the central region.

Now I will discuss ordinal regression, for the model in Table 8, estimating the level of white/black dissimilarity. When hate crime was operationalized as anti-black hate crime, the effect on segregation was significant and positive, indicating that the likelihood of white/black dissimilarity increases with the occurrence of anti-black hate crime. White/black dissimilarity also increases with an increase in disadvantage, a decrease in the percentage in the manufacturing sector, an increase in mobility, and the city's location in the western region of the United States. Hate crime was also significant and positive when operationalized as total violent hate crimes. With this model, disadvantage was also significant and positive.

In sum, my findings suggest that among the measures that have been hypothesized to influence segregation, hate crime, but not disadvantage, was an important predictor of segregation in U.S. cities in 2000. Cities with high rates of hate crime had significantly higher levels of segregation, controlling for other factors. However, the findings also suggest that the effect of previous segregation on continuing segregation is due to the masked disadvantage contained therein.

Table 7: Logistic regression models: high and low white/black dissimilarity

	High white/black Dissimilarity	Low white/black Dissimilarity
Variable	Total hate crime variable	Total hate crime variable
	b S.E. Exp (b)	b S.E. Exp (b)
Disadvantage index	1.470** .508 4.350	−.958* .473 .384
Mobility	−16.195** 6.184 .000	2.341 5.154 10.387
Northeastern city	−1.743 1.103 .175	1.415 1.608 4.118
Southern city	.583 .907 1.792	2.034 1.329 7.648
Western city	−2.324^ 1.227 .098	5.031*** 1.401 153.310
% population in manufacturing sector	−26.346* 12.631 .000	34.334*** 9.584 8.14 E+14
White % of the population	1.301 2.386 1.009	3.541 2.083 34.512
White/black dissimilarity in 1990	009** .003 3.672	−.032*** .010 .969
CONSTANT	7.155 3.507 1280.610	−9.013 3.184 .000
χ^2	80.729	121.07
P	.000	.000
−2 LL	80.369	108.188
Pseudo R^2	.613	.682
^p < .07	*p < .05 **p < .01 ***p < .001	

Note: All variables are measured at the city level. Mobility is the measure of mobility in the city.

Table 8: Logistic ordinal regression models

	White/black dissimilarity level	
Variable	Anti-black hate crime variable	Violent hate crime variable
Disadvantage index	1.238***	1.307***
	(.322)	(.343)
Mobility	−7.754*	−4.813
	(3.548)	(3.738)
Northeastern city	−1.428	−1.424
	(.819)	(.869)
Southern city	−.146	.029
	(.686)	(.737)
Western city	−2.976***	−2.970***
	(.721)	(.745)
% population in manufacturing sector	−29.529***	−27.690***
	(7.029)	(7.359)
White % of the population	−.426	−.058
	(1.398)	(1.449)
Hate crime	.038***	.015***
	(.010)	(.004)
WBDISSLV=0	−8.771	−7.005
	(2.211)	(2.317)
WBDISSLV=1	−4.230	−2.382
	(2.087)	(2.203)
X^2	157.960	131.894
P	.000	.000
−2 LL	203.310	178.664
Pseudo R^2	.437	.425

*p < .05 **p < .001

Entries are unstandardized coefficients followed by standard error in parentheses.

6. Discussion

The aim of this study was to examine whether hate crime levels affected segregation levels. Prior research has found that the proportion of non-whites in an area most likely influences the level of hate crime (Green et al. 1998), but has not investigated the reverse role that race-based violence plays in segregation. This study questioned whether the defended neighborhoods thesis held true and whites defended their neighborhoods from racial minorities with hate crime. In short, whether segregation is influenced by hate crime and race-based violence influences where racial minorities can and cannot live.

We see a clear effect of race-based violence on the segregation of blacks from whites. The 1990 segregation level was often the strongest predictor of white/black segregation, as expected. Despite the large effect previous segregation had, we learn that the bias violence occurring in a city affects the segregation level between whites and blacks. Hate crime in general in the city increased the segregation level, as did hate crime specifically targeting blacks. Even controlling for the previous segregation measure, which added robustness to the model, we see the importance of the effects of race-based hate crime. Although the relationship is not particularly strong, as hate crime increases, white/black segregation increases. Blacks are most likely forced to quit neighborhoods where hate violence is occurring; whites may eventually quit the neighborhood, but in most cases it will be after white fight (hate crime). Presumably whites want to hold on to "their" neighborhood and identity. Because the dissimilarity index indicates how dissimilar census tracts are from the city overall and uses whites as the reference group, any increase in dissimilarity indicates more blacks in some census tracts than were there before, particularly since whites are not likely to easily abandon their neighborhoods. Whites are more likely to move after racial minorities have established a certain level of presence in the neighborhood if the area was previously homogeneously white. Cities with more hate crime have higher white/black dissimilarity.

With white/black segregation it may be the fact that race-based violence is occurring at all, more than to what degree it occurs, that affects where people live since the hate crime dummy variable had a strong relationship with white/black dissimilarity. When hate crime occurs at all, it causes an increase in the white/black dissimilarity index. We see a stronger relationship between the occurrence of any hate crime and segregation than any other controlling variable. With the history of race-based violence against blacks, the message may be sent to blacks that "there is more crime where that came from"; for black residents, even one hate crime happening does not seem like an outlier, because it rarely is. There is an extensive history of anti-black violence used to control blacks. If segregation increases when any

hate crime occurs and even more so the more hate crime happens, then census tracts become more dissimilar to the racial proportions of the city as a whole, which suggests that blacks do not move out of the city but to another census tract in the same city. The census tracts they moved to and the ones they moved from both become more dissimilar from the overall city proportions.

While black residents may choose to move, even if they have some agency in determining where they move, the term of "voluntary choice" in moving is not appropriate here. Some researchers argue free choice in the neighborhood decisions of blacks (Patterson 1997; Thernstrom and Thernstrom 1997), but how is there free choice when one may be moving to avoid race-based crime? Blacks' moving may be due to fear of and intimidation by whites. These factors, which are push factors, may be stronger than the pull factors of black neighborhoods. And the existing pull factors may be rooted in the reason for leaving the more white area – there will be less race-based violence against blacks in areas with more black residents, mostly because there are fewer whites. We would not expect whites to travel to largely black neighborhoods to commit hate crime. Whites are expected to commit hate crime to push minorities into neighborhoods deemed "minority neighborhoods," which often have higher levels of economic and educational disadvantage.

Sex-based hate crime and violent hate crime lead to more white/black dissimilarity. Sex-based hate crimes are strongly related to white/black dissimilarity. The particularly heinous nature of these crimes appears more likely to cause segregation. There may be increased desperation to avoid these crimes. Sex-based crimes function to demonstrate power over the (usually female) victim in a highly racialized way, harkening back to times of slavery. The message tends to be one of race and gender in the symbolism of the sexual entitlement of the white man (Healey 2003; McPhail 2002). This demonstrates the intersectionality at work in hate violence (meaning that race or gender, for instance, rarely operate independently), an area needing more research. The expected psychological effects on victims, families, and communities are even higher for sex-based hate crime than for other hate crime.

Violent hate crimes also increase white/black segregation, although the increase is not as strong and significance is borderline. These crimes of assault and homicide tend to show signs of excessive violence and are also rare. The low effect may be due to the level of harassment that typically leads up to violent hate crime; this harassment may have already motivated people to move. This is important to consider. Since harassment is less likely reported to the police, and intimidation, if reported, is rarely classified as hate crime this could contribute to lower coefficients in some models.

Hate crime increases the likelihood of high white/black dissimilarity. Hate crime does not just mean that the segregation level may rise, as indicated in the continuous measure, but the occurrence actually increases the potential for *highly* segregated areas. This is important to understanding how hate-based violence functions and builds strength for the arguments made earlier based on the models with continuous measures of segregation. Similarly, when lower numbers of hate crimes occur, there is an increased likelihood of low segregation. This seems to point to one possible method that will assist in integrating our cities: decrease the hate crime levels. Similarly, when examining the likelihood of having low, moderate, or high white/black dissimilarity, anti-black hate crime and violent hate crime in particular increase the likelihood of an increase in categories of segregation. The violence and direct targeting of these hate crimes cause extreme increases in segregation levels.

When hate crime occurs, white/black segregation increases. Hate crime also increases the likelihood of categorical jumps in segregation, rather than increases of just a few percentage points. Hate crime clearly has an effect on controlling the living choices and options of blacks, and in pushing them into greater disadvantage.

What becomes evident from this study is that blacks continue to be a highly disfavored group in America. Blacks are disproportionately targeted for hate crime and feel the effects in their neighborhoods more than Latinos/as or Asians. But why is this? One reason is that in a racist country, darkness of skin and a history of white racism targeting blacks makes blacks acceptable victims to those who might

commit hate crime. There is symbolism in the desecration of black bodies linked to a colonialist history. Blacks are the most dehumanized of racial minority groups and, although nowadays vocal vehement racism may be frowned upon in society, this does not stop the actions related to such racism from happening.

Neighborhood identity and home ownership have historically been symbols of "making it in America" (Crump 2004). Crump explained that, "The efforts of African Americans to breach the boundaries of the urban ghettos and end housing segregation threatened the sense of white racial identity reflected in home ownership" (2004, 229). In homogeneous white neighborhoods the presence of blacks may symbolize a threat to life as whites know it. While in urban areas the chance of criminal victimization for blacks is already great, the threat of violence from hate crime makes their risk even greater. Because of the belief that blacks are violent, segregation gives whites a strong incentive to maintain the status quo and perpetuate the black ghetto for fear of such violence. The irony is that some whites use the very criminality and violence they fear, in the form of hate crime, to keep blacks segregated. Clearly blacks, Hispanics, and Asians are not segregated in the same way nor are they affected by hate crime in the same way, but this racialized violence still influences where both groups can live. The most recent national hate crime statistics available (for 2004) document the continuation of race-based violence and the predominance of crimes against blacks (See Table 1b). But violence against Hispanic and Asians at the hands of whites still functions to influence where people live.

6.1. Theory Implications

Studies have suggested that hate crime will be most frequent when minorities constitute a small share of the population (Green et al. 1998). While this may seem contrary to the threat hypothesis, it may be that whites perceive a threat no matter how many individuals from racial minorities are present. It may also be key to investigate how long the minority and white populations have resided in a neighborhood; the timing of minority arrival may be more important than the numbers of new arrivals, but my study cannot measure this. The defended neighborhoods thesis posited that whites would attempt to maintain white homogeneity by defending themselves from non-white incomers. This thesis acknowledges the importance of a threat to white homogeneity. It also predicts that hate crime may diminish when significant numbers of minorities move into a neighborhood. The models did not allow for measuring the exact time that the minority population arrived in the city, though the models do document an accelerated relationship between hate crime against blacks and segregation of blacks. Between whites' choices of acceptance, resistance, or leaving the neighborhood, whites rarely choose the acceptance option unless the city already contains segregated areas. We can say that the occurrence of hate crime appears to cause more segregation, and although a city-level test cannot determine this, I predict that the hate crimes are occurring in census tracts with more white residents in an effort to cluster the minorities into census tracts away from whites. Hate crime leading to more dissimilar census tracts within a city and less exposure of whites to minorities seems to support this argument. Whites defend their neighborhoods from minorities with hate crime and hence increase segregation.

In terms of group conflict theory, in a city that is highly segregated and in a census tract within that city that is mostly white or all white, white residents may feel less threatened by the presence of very few non-whites than they would in an area that has a markedly increasing number of non-whites. When whites are newly exposed to minority residents, particularly if it is more than one new household, they begin to feel threatened and may use hate crime as their weapon of choice. Whites may react and try to prevent future increases in the non-white population. White fight does in fact happen. We see that hate crime targeting specific racial groups influences segregation levels, but so does hate crime in general. Racial minorities can get messages in school, at work, at play, and at home to indicate white disdain for their presence. More research, particularly qualitative research, is needed on this topic.

7. Future Research and Conclusions

This study seeks to marry two literatures previously separated from one another. Segregation disproportionately affects blacks and has consequences beyond the location of housing. This research asked about the unique ways these racial minorities may experience hate crime and segrega-

tion. The segregation literature neglects the role of race-based violence, and neighborhood population composition is rarely incorporated into hate crime discussions. Understanding the role violence plays in perpetuating segregation will lead to a more complete understanding of the dynamics of segregation and continued white racism by which blacks are prevented by whites from achieving social standing. This study breaks the silence in the literature on the ways segregation and hate crime interact.

This national cross-sectional analysis examines the relationship between various measures of segregation in cities in 2000 and the occurrence of race-based hate crime and hate crime in general, examining white/black segregation levels, operationalized as the dissimilarity index. Data used in this study are the best-available and most widely used. Models take into account the nuances of hate crime and segregation measures. The models in this study are conservative: where they demonstrate a hate crime effect we can be certain this does exist.

Continued and expanded research is needed in the area of hate crime and segregation. In-depth interviews with hate crime perpetrators will provide additional insight into the motivations behind hate violence. Interviews with perpetrators should involve those who vandalized property as well as those who committed homicide so researchers can tease out the real motivations at multiple levels of such violence. Measures of how much the perpetrator values a homogeneous white neighborhood should be investigated to determine whether whites are consciously committing hate violence with the intent of removing racial minorities and whether perpetrators intended to make minorities fear for their safety. Additionally, we could discover to what degree minority movement is due to fearing for their safety.

Future studies should also explore additional populations such as women, American Indians, Jews, same-sex couples, and transgendered individuals, who may experience violence based on their new presence in neighborhoods, schools, and/or jobs. In addition, looking at smaller cities could enable an additional assessment of factors not readily apparent when only looking at large cities.

Clearly, race is still a salient issue in this country, and the violent manipulation tools of the pre–civil rights era are still being used in an attempt to keep the master's home and neighborhood free of racial minorities. Hate crime, alone and in combination with other factors, assists in limiting the residential opportunities of racial minorities in U.S. cities. Blacks clearly remain a highly disfavored group, experiencing a strong relationship between hate crime and segregation and being disproportionately targeted for hate crime more than any other group. We also notice that hate crime is patterned. Hate crime is not a random act by a lone individual (even if it looks like it is). Hate crime is strongly tied to location and intrinsically linked to the social forces of the neighborhood. Because of this we may be able to predict in the future where hate crime might occur.

While the magnitude of my effects may not be large, the important point is that clearly there is a relationship between hate crime and segregation.[20] There are limits to the claims I can make from the data but there are clear correlations. A previously undocumented relationship, between hate crime and segregation, has been documented. Although my study does not measure the social psychological assumptions in which group conflict theory and the defended neighborhoods thesis are grounded, it contributes to the debate by attempting to provide an alternative explanation for changes in segregation in cities. Most important for this study was that segregation and hate crime variables clearly are related and provide us with an interesting finding. Given that the theory grounding this study also points us to a relationship where hate crime influences segregation, it would be even harder to make a reverse causal relationship argument.

We cannot suggest ending segregation without acknowledging the important role played by race-based violence in

10 . While one may wonder how I can posit that hate crime is happening in the same places segregation is increasing, it is important to remember that research documents that hate crime is committed close to home (Flint 2004; Perry 2002, 2001). It is therefore plausible that hate crime is occurring in places that people live.

perpetuating segregation. Race matters in neighborhoods. It matters who is subjected to violence and persistent disadvantage. All-white neighborhoods must not represent the pinnacle of success for whites and drive them to be so determined to maintain this privilege that they use race-based violence to segregate minorities.

Nowhere is the use of hate crimes to maintain racial superiority and spatial separation more obvious than in the residential structure of the U.S. city. African Americans move beyond existing racial boundaries and are met with violent opposition. As documented in the background, racial violence was initially viewed as a *cause* of segregation along with formal real estate methods and policy strategies. Now, such violence can be viewed as *assisting in maintaining* segregation. This research has documented that hate violence and/or intimidation play/s a role in neighborhood defense. We know that hate crime intimidates racial minorities, affects entire communities beyond the initial victims, has long-lasting effects, creates fear within and even of a community, and contributes to an environment of racial hostility, so it makes sense that hate crime would cause further segregation of racial minorities and perpetuate homogeneous white areas.

Hate crime is not a random act; it is part of a pattern of discrimination and deprivation unleashed on our nation's minorities. While some racial minorities do choose minority neighborhoods, we do not know how often racial minorities are concerned about racially motivated violence, only that it exists and affects segregation. Ignoring the role of violence in studies of segregation is a disservice to all involved. While many may not want to admit that race-based violence is a continuing problem, we see from this research that it is.

"So long as black ghettos exist, entombing black souls within their pathology, white Americans will fear the entry of blacks, *any blacks*, into their communities. And so long as that is the case, America's black-white problem will continue to afflict the nation" (Polikoff 2006, 390). The fear which Polikoff reminds us of is what motivates hate violence in our communities and continues the segregation of blacks. As we work to decrease hate crime, increase opportunities and remove the concentrated disadvantage of segregation, we can move in the direction of a nation that truly has liberty and justice for all.

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Neighborhood Violence and Adolescent Friendships

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This paper investigates the social consequences of neighborhood violence. Using ego-centered friendship network data from the National Longitudinal Study of Adolescent Health, a survey of adolescents in the United States in the mid-1990s, it examines the relationship between neighborhood violence and the quantity, closeness, and composition of adolescent same-sex friendships. Though neighborhood violence is unrelated to quantity and closeness net of individual and family characteristics, it predicts boys' friendships with individuals who no longer attend school (who are presumably older or have dropped out of school) and predicts boys' and girls' friendships with individuals who attend other schools. These results are consistent with the theory that violence and fear of victimization focus adolescents' social attention on their neighborhoods and lead them to develop friendships with individuals who can help them to stay safe. By structuring who adolescents interact with, neighborhood violence may play a role in determining the cultural messages and ideals to which they are exposed.

1. Introduction

Violence is a highly spatially organized social phenomenon (Morenoff, Sampson, and Raudenbush 2001; Sampson and Morenoff 2004; Massey 2001), and youth from high poverty neighborhoods are exposed to high rates of crime and violence (Centers for Disease Control 1997; American Academy of Pediatrics 2000). Considerable research has examined the causes of high rates of violence in some neighborhoods, focusing on why structurally disadvantaged neighborhoods have higher rates of violent crime and disorder (e.g. Sampson, Raudenbush, and Earls 1997; Sampson and Raudenbush 1999; Sampson and Groves 1989). Yet we know considerably less about the consequences of growing up in a violent neighborhood. Psychologists have linked exposure to violence to a number of developmental and psychological effects on youth (see Margolin and Gordis 2000 for a review), and physiological responses to the chronic stress of living in a violent neighborhood may lead to health problems and emotional and cognitive impairment (Massey 2004). However, the impact of neighborhood violence on the social lives of residents is less understood, particularly for youth.

Friends have long been thought to influence adolescent decision-making and behavior, and recent research has found peer effects on outcomes ranging from crime and

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delinquency to sexual behavior, drug and alcohol use, and academic achievement (e.g. Matsueda and Anderson 1998; Bearman and Bruckner 1999;, Haynie 2001; Maxwell 2002; Haynie and Osgood 2005; Duncan, Boisjoly, and Harris 2001; Akers 1990; Akers et al. 1979; Matsueda 1992; Heimer and Matsueda 1994; Warr and Stafford 1991). Yet little recent work has addressed the connection between neighborhoods and friendships.[1] This paper seeks to advance the understanding of peer group formation by examining how neighborhoods influence the composition and characteristics of friendship networks.

This study examines the relationship between neighborhood violence and two characteristics of an adolescent's friendship network – (1) number of friends and (2) closeness of friendships – as well as two aspects of the composition of an adolescent's friendship network – (3) proportion of friends who attend the adolescent's school and (4) proportion of friends who are not enrolled in school at all. I draw upon survey data from the National Longitudinal Study of Adolescent Health, which is nationally representative of adolescents in the United States in the mid-1990s. Results show that, controlling for individual, family, and school characteristics, neighborhood violence is unrelated to number of friends or friendship closeness among both boys and girls, but among boys and girls neighborhood violence is a strong predictor of friendships with peers from different schools, and among boys, neighborhood violence is a strong predictor of friendships with individuals not enrolled in school.

2. Previous Research on Consequences of Neighborhood Violence

The consequences of neighborhood violence have been studied from psychological, physiological, and social organization perspectives. Psychological perspectives emphasize the developmental consequences of exposure to high rates of violence. Witnessing and being victimized by violence have been linked to post traumatic stress disorder, anxiety, depression, and aggressive behavior, and are thought to disrupt the developmental trajectories of children (Margolin and Gordis 2000; Garbarino, Kostelny, and Dubrow 1991; Aneshensel and Sucoff 1996; Bingenheimer, Brennan, and Earls 2005). Community violence and recurring episodes of violence lead to heightened arousal or hyper-vigilance, as well as a perception by the child or adolescent that he or she is not worthy of being kept safe (Margolin and Gordis 2000). The results of such exposure to violence may be slowed cognitive development, poor academic achievement, or trouble forming relationships with peers and others (Margolin and Gordis 2000).

Massey (2004) draws upon physiological research on biological responses to stressors such as neighborhood violence to develop a biosocial model of racial stratification. Socioeconomic inequality combined with residential segregation leads to geographically concentrated poverty. This concentration of poverty leads to the concentration of other social problems, particularly crime and violence. Long-term experience of chronic stress created by exposure to violence and threat of victimization can have physiological consequences, one of which is "allostatic load," persistently high levels of production of adrenaline and cortisol. In addition to long-term physical health effects, allostatic load can influence cognitive functioning by inhibiting the formation of connections between neurons in the brain and by impairing memory. Allostatic load can also lead to greater aggressiveness, impulsivity, anger, and susceptibility to substance use (see Massey 2004 for a review). The stresses associated with growing up in a violent neighborhood can extend beyond the immediate threat of victimization, as negative experiences of family members also cause further stress (Charles, Dinwiddie, and Massey 2004; Massey and Fischer 2006).

While the psychological and physiological perspectives emphasize individual-level effects of neighborhood violence, a social organization perspective suggests community-level effects may exist as well. Social organization theory focuses on community capacity for social control, arguing that neighborhood structural disadvantages such as pov-

1 One exception is Anderson (1991, 1999), who shows how peer "street" cultures in disadvantaged neighborhoods promote teenage pregnancy.

erty, ethnic heterogeneity, and residential turnover lead to difficulties establishing and maintaining order (Park and Burgess 1925; Shaw 1929; Shaw and McKay 1942).[2] Collective efficacy, defined as "social cohesion among neighbors combined with their willingness to intervene on behalf of the common good," mediates the relationship between concentrated disadvantages (residential instability, ethnic or racial heterogeneity, and poverty) and violence (Sampson et al. 1997). Thus, the violence that is endemic to disadvantaged neighborhoods can be understood as a direct consequence of the lack of social organization in these neighborhoods, which limits the capacity of local residents to create and maintain order.

However, violence itself may also affect the social organization of local communities, as individuals respond to fears of victimization and engage in adaptive behaviors necessary for survival (Skogan 1992; Venkatesh 2000). In a violent neighborhood, individuals are often cautious about intervening in conflicts or monitoring other people's children for fear of retribution. Residents keep to themselves rather than interacting with neighbors, resulting in thinner social networks and weaker capacity for cooperative behavior. Violence engulfs public spaces such as sidewalks, parks, or commercial areas, depriving adult residents of the opportunity to socialize with neighbors and thereby build the networks needed to marshal resources in support of a common goal or public good (Anderson 1999; Venkatesh 2000). As a result, adult residents may find it increasingly hard to monitor and control the behavior of community members, especially young people, leading to higher rates of problem behavior such as teenage pregnancy or high school dropout.

3. Hypotheses: Neighborhood Violence and Adolescent Friendships

Though there is no prior research that examines the effects of neighborhood violence on adolescent friendship networks, such effects may also be important consequences of neighborhood violence. To the extent that friends serve as an important form of socialization for adolescents, other outcomes may be influenced by the capacity of neighborhood violence to structure peer networks. In this section, I develop hypotheses concerning the impact of neighborhood violence and the fear of victimization on the *characteristics* and *composition* of adolescents' peer networks.

A social organization perspective suggests that high levels of violence in a neighborhood may reduce attachments to those outside of the family, resulting in fewer friendships or friendships that are characterized by lower levels of closeness. As discussed above, when violence takes over public spaces people may retreat from public life and reduce their interactions with non-kin out of fear and distrust of neighbors (Skogan 1992; Venkatesh 2000). Without safe community spaces for social interaction, residents are less able to form and maintain social ties. Adolescents may spend less time with their friends, leading to lower closeness of friendships as well. These predictions suggest the first two hypotheses this paper will examine:

Hypothesis 1a: Higher levels of neighborhood violence will be associated with having fewer friends among adolescents.

Hypothesis 2a: Higher levels of neighborhood violence will be associated with friendships characterized by less closeness among adolescents.

On the other hand, this perspective assumes that adolescents respond to neighborhood violence and fear of victimization in a similar way as adults. It also focuses exclusively on the level of violence, ignoring the ways in which violence is socially organized in poor neighborhoods. An alternative perspective, which emphasizes the social organization of violence among adolescents, suggests that violence may increase number and closeness of friendships.

Efforts to understand the organization of violence in inner city communities have focused on gangs (e.g. Thrasher 1927, Short and Strodtbeck 1965, Sanchez-Jankowski 1991), the interpersonal dynamics of reputation (Anderson

2 This classic Chicago School model has been criticized for overemphasizing the importance of structural factors like economic status, for failure to differentiate black neighborhoods from other ethnic neighborhoods, and for reliance on the over-simplified concentric zone model of the city (Sampson and Morenoff 1997).

1990, 1999; Dance 2002), or neighborhood-based group rivalries (Suttles 1968; Horowitz 1983; Harding 2005). Suttles (1968) sees the youth gang as one of many groups composed of individuals of similar age, gender, ethnicity, and "territory" that make up the "ordered segmentation" of inner city communities. Conflict between these age-segmented groups is structured by gender, age, ethnicity, and territory. While fights among male groups of the same age and ethnicity are common, different age groups also join forces to combat groups of other ethnicities, and groups of different ethnicities will collaborate in conflicts with youth from other territories. While Horowitz (1983) also observed gender and age-segregated groups, she argues that such segmentation has cultural rather than structural roots, particularly the "code of honor" that governs respect and retribution. Harding (2005) argues that neighborhood-based rivalries structure the organization of much of the youth violence in Boston's poor inner-city communities.

To the extent that youth violence is organized by conflicts between gangs, neighborhoods, or other groups, violence may actually serve to increase the number of friendships adolescents have or to strengthen those relationships, creating greater closeness, as adolescents must rely on friends for support and protection. First, friends become a strategy for dealing with fear and reducing the threat of victimization, and adolescents in more violent neighborhoods may seek out more friends as a protection strategy. Second, shared experiences with violence as well as group-, gang-, or neighborhood-based rivalries may strengthen adolescent friendships among those on the same side of violent conflicts with individuals from other groups or territories. This leads to two hypotheses that run counter to those above:

Hypothesis 1b: Higher levels of neighborhood violence will be associated with having more friends among adolescents.

Hypothesis 2b: Higher levels of neighborhood violence will be associated with friendships characterized by more closeness among adolescents.

The social organization of violence may also structure the composition of adolescent friendship networks: the types of individuals with whom adolescents seek out and create friendships. When violence or the threat of violence is based on membership in local groups or residence in particular neighborhoods, an adolescent's friendship group may be more likely to be based on these geographic groupings than on interactions in other contexts such as schools, where rival groups are forced to mix (Harding 2005). In contrast, in safer middle-class neighborhoods, school will be the context in which friendships are developed and maintained. This leads to another hypothesis that this paper will examine:

Hypothesis 3: Higher levels of neighborhood violence will be associated with fewer friendships with adolescents who attend the same school.

Protection may also come in the form of peers who have high status in the street culture. Among the adolescents who most often perpetuate and are most often victimized by violence, neighborhood violence has the potential to change status hierarchies and affect peer groupings and interactions. For instance, the gang literature has emphasized the role of violence in structuring leadership and status hierarchies (Thrasher 1927; Short and Strodtbeck 1965; Sanchez-Jankowski 1991). According to Thrasher (1927), conflict with other gangs is a central element in gang life, and "gang warfare" erupts over status as well as over economic assets, territory, and the safety of members. Short and Strodtbeck (1965) argue that gang conflict is also a part of status management within the gang, as individuals use violence among gang members and between rival gangs to establish and maintain leadership roles. Violence may also serve to increase the status of specific types of individuals, those whose "street" experience and knowledge allows them to navigate the neighborhood's dangers (Anderson 1999). Because of their high status in the local street culture, others will seek them out for protection. These high status peers are more likely to be older and are more likely to be involved in the underground economy to such an extent that they have dropped out of school. Harding (2005) argues that forming relationships with peers who can provide protection is a survival strategy among adolescents in violent neighborhoods, an adaptation to the high risk of victimization such adolescents

face. This line of reasoning suggests this study's fourth hypothesis:

Hypothesis 4: Higher levels of neighborhood violence will be associated with more friendships with those who do not attend school.

In addition to being highly spatially organized, violent victimization and perpetuation of violence is also highly gendered. Because violent behavior and violent victimization on the streets are more common among males, the friendship dynamics described above may be specific to boys, though there is some evidence that such violence is increasing among girls (Ness 2004). In addition, previous research on peer effects has found gender differences (Heimer and De Coster 1999; Hallinan and Williams 1990; Storvoll and Wichstrom 2002; van Roosmalen and McDaniel 1989). Finally, there may be gender differences in the associations between other covariates and the characteristics of friend networks. For these reasons, all models will be estimated separately by gender, although gender is not a primary focus of this study. I now turn to the data and methods that will be used to examine these relationships.

4. Data and Methods

I use data from the National Longitudinal Survey of Adolescent Health (Addhealth; Harris et al. 2003). The Addhealth survey initially sampled a set of high schools and their feeder schools, resulting in about 150 middle schools, high schools, and junior high schools clustered one or two to a community. The first wave of data collection was in 1994–95, the second wave in 1996, and the third wave in 2001–02. This study uses the wave one data. Students were in grades 7 to 12 in wave one. This wave includes a school administrator questionnaire about school characteristics and policies, an in-school questionnaire completed by almost every eligible student (n ~ 90,000) in the sample schools, and longer in-home student and parent interviews with a subsample of about 20,000 students. Structural neighborhood characteristics from the 1990 census are available for in-home respondents in waves 1 (and in wave 2). In these data, students are nested within neighborhoods which are nested within communities (defined by the sampled high schools and their feeder schools).

Approximately one-third of wave one Addhealth respondents were asked a short series of questions about their closest male and closest female friends. Each respondent in this subsample was able to nominate up to five male and five female friends. I use these respondents for this analysis and restrict my analysis to same-sex friendships (in order to limit the analysis to a reasonable scope). A series of questions are asked about each friend, the first of which is whether the friend is currently enrolled in school (or was enrolled at the end of the last school year if the interview was conducted during summer vacation). If that friend is enrolled in any school, the respondent is also asked whether the friend is enrolled in the same school as the respondent. Unfortunately, no other information about a friend's characteristics is available in the Addhealth data if that friend is not enrolled in one of the sampled schools (i.e. if the friend is not in the sample). The friends module also asks a series of questions about how often the respondent interacts with each nominated friend. These items are combined to form a friendship closeness scale, as described below. While the information about each friend in Addhealth is limited, it is the only nationally representative dataset that includes information on adolescents' friends, neighborhoods, and experiences with violence.

Variables

Neighborhood and individual violence scales: Neighborhoods are measured as the census tract of residence at the time of the wave one in-home interview, most of which were conducted in spring and summer of 1995. The neighborhood violence scale measures the amount of perceived violence in a census tract by aggregating multiple survey responses from Addhealth respondents who live in the same tract.[3] The individual violence scale uses multiple

3 Administrative crime data are not available at the census tract level for the Addhealth data. Mean tract size is 8.4 respondents. The number of respondents per tract varies from one to over 200, and thus the neighborhood violence scale varies considerably in reliability across tracts (mean = 0.48 and standard deviation = 0.28). In the models below, I weight the neighborhood level equations by the tract-specific reliability of the neighborhood violence scale to reduce the impact of this measurement error. Thus, neighborhoods with higher reliabilities are given more weight in the analysis.

measures of the respondent's own violent behavior aggregated to the individual level. The individual violence scale is used to control for the individual's own violent behavior in the regression models. Without this control, an association between neighborhood violence and characteristics of friendships could be due to reverse causality. For example, those who have more out-of-school friends may engage in more violent activities, thereby making the neighborhood more violent and causing neighbors to report more fear of violence.

The individual and neighborhood violence scales are constructed using methods based on the Rasch model that are presented in Raudenbush and Sampson (1999) and Raudenbush, Johnson, and Sampson (2003). The individual violence scale includes seven self-reported measures of one's own violent behavior: fighting, pulling a knife or gun on someone, shooting or stabbing someone, getting into a serious physical fight, injuring someone severely enough to require medical treatment, using or threatening to use a weapon, and participating in a group fight. The neighborhood violence scale includes six reports of violence observed or experienced by the respondent: witnessing a shooting or stabbing, having a weapon pulled on them, being shot, being stabbed, being jumped, and being injured in a fight, and three subjective measures of personal safety: whether or not the neighborhood is safe, the chances that one will be killed, and the parent's assessment of whether the neighborhood has a problem with drugs.[4] In each scale, the items are weighted by their severity, as measured by the inverse of their frequency among all respondents, and variation due to the age and gender of the respondent is removed. Both violence scales are standardized to have mean zero and standard deviation one. Data from all wave one respondents are used to construct the individual and neighborhood violence scales, not just those in the sample selected for the friends module. More details on the construction of these scales are provided in Appendix B.

Number of same sex friends: This variable is the number of same-sex friends the respondent nominates. It ranges from zero to five and is modeled using a Poisson model with over-dispersion and equal exposure. Over-dispersion relaxes the assumption of equal mean and variance in the Poisson distribution by modeling the variance. Approximately 3 percent of respondents report zero friends. Since their outcomes for the other friendship variables are undefined, they are dropped from this study's analysis sample. To the extent that the five friend maximum limits variation in the number of friends, this limit may attenuate the effects of predictor variables on number of friends.

Friendship closeness: Friendship closeness is measured using a scale of five items about each friend the respondent nominates, aggregating all items and all friends to the respondent level. The five items are (1) went to friend's house in past seven days, (2) met friend after school to hang out in past seven days, (3) spent time with friend last weekend, (4) talked to friend about a problem in the past seven days, and (5) talked to friend on the telephone in past seven days. Note that these are all behavioral measures of friendship closeness and not based on subjective impressions. As described in further detail in Appendix B, the model from which this scale is generated includes controls for the order in which a friend was nominated and the total number of friends a respondent nominated and is also adjusted for the "severity" of the item. The scale can be interpreted as the mean closeness measure for each respondent's mean friend. It has no inherent metric but has been standardized to have a mean of zero and a standard deviation of one. Because it is a continuous variable, the friend closeness scale is modeled using a linear model.

Same sex friends not enrolled in respondent's school: This variable is the number of same-sex friends who are enrolled in school but do not attend the same school as the respondent. It ranges from zero to five and is modeled using a Poisson model with over-dispersion. The exposure is the number of friends enrolled in school, so the outcome can be interpreted as the percentage of school-attending friends who attend a different school from the respondent.

Same-sex out of school friends: This variable is the number of friends who the respondent reports are not

4 Removing the three subjective measures of neighborhood violence lowers the reliability of the neighborhood violence scale.

enrolled in school. This measure varies from zero to five. Some respondents nominate less than five friends, so in the Poisson models I include the total number of same-sex friendship nominations as the exposure.

Neighborhood disadvantage: As is the convention in neighborhood effects research (e.g. Sampson et al. 1997), neighborhood disadvantage is measured by a scale constructed from a series of highly correlated neighborhood structural characteristics. Here the neighborhood disadvantage scale is the mean of the following standardized items: the census tract's family poverty rate, percent single mother households, percent youth, male unemployment rate, percent black, percent of those over 25 who are college graduates, percent of workers in managerial or professional occupations, and percent affluent families (those with incomes above $75,000 per year), with the last three reversed in polarity. These data come from the 1990 census. The average inter-item correlation for this scale is 0.52 and Cronbach's alpha is 0.90.

The structural neighborhood disadvantage scale (hereafter, neighborhood disadvantage) measures the economic and social characteristics of the families that make up the neighborhood and which are thought to lead to negative outcomes for youth. Five of these variables (poverty, single-mother households, percent youth, male unemployment, and percent black) indicate the presence of disadvantaged families. Percent youth roughly captures the number of adults per child possibly available to supervise or monitor. The remaining three (college graduates, managerial and professional workers, affluent families) indicate the absence of middle class families since their polarity is reversed. While some researchers (e.g. Brooks-Gunn et al 1993) have argued that the absence of middle class families is more important than the presence of disadvantaged families, there are high inter-item correlations across all eight variables in these data. This suggests that these two sets of measures capture the same underlying neighborhood SES concept but simply focus on the presence of families at opposite ends of the SES distribution as indicators of a neighborhood's position in that distribution. Because of the strong relationship between neighborhood violence and neighborhood disadvantage, it is necessary to control for neighborhood disadvantage in models in which neighborhood violence is the key predictor of interest. Otherwise, the coefficient on neighborhood violence may be biased by other characteristics of disadvantaged neighborhoods.

Unexcused school absences: The mean number of unexcused school absences per month is used as a behavioral measure of school attachment. In wave one, each respondent reports the number of days he or she has been absent from school without an excuse in the current or previous school year. This value is divided by the number of months in the school year that have passed at the time of the interview. I use this variable as a control in the models for out of school friends and friends enrolled in different schools, to prevent spurious association due to low school attachment.

Individual/family controls: Measured at wave one, these controls include race and ethnicity indicators, age, gender, adolescent immigrant status, language spoken at home, log family income, single parent household, step-parent or other household, mother's age at birth, low birth weight, and for the primary parent (mother or female caregiver if available, father or male caregiver if not) immigration status, education, professional/managerial occupation, disability, and welfare receipt. These variables are described in more detail in Appendix A.

Community/school controls: These controls include indicators for private school, Catholic school, and rural/suburban/urban, and measures of school size, as well as percent of students in a college preparatory program and the cumulative dropout rate. For students attending middle or junior high school during wave one, the characteristics of the high school into which their current school feeds are used. These variables are also described in more detail in Appendix A.

Several control variables have missing values.[5] Rather than drop cases with missing values, I impute missing values using chained equations in Stata (Royston 2004). Continuous variables are grand mean centered in the models below.

5 Variables with missing values include parent's education, occupation, disability, immigrant status, and welfare receipt (all less than 2 percent missing). About one-quarter of cases have missing values on family income and mother's age at birth, and about one-sixth of cases have missing values on low birth weight.

Multi-level models

I use multi-level models to examine the relationships between each outcome (Y) and neighborhood violence and neighborhood disadvantage net of individual, family, and school control variables. If we index individuals with i, neighborhoods with j, and schools with k, we can write a three-level model (Raudenbush and Bryk 2002). The individual level equation is:

$$Y_{ijk} = \pi_{0jk} + \pi_{1jk} X_{ijk} + e_{ijk}$$

The link function for Y depends on the type of outcome being modeled (e.g. linear for friendship closeness scale or Poisson for number of friends). X is a set of control variables measuring individual and family characteristics (and π_1 is a vector of coefficients). There is one neighborhood level equation:

$$\pi_{0jk} = \beta_{00k} + \beta_{01k} D_{jk} + \beta_{02k} V_{jk} + r_{jk}$$

This equation models the intercept from the individual level model as a function of neighborhood disadvantage (D) and neighborhood violence (V). β_{02k} is a key coefficient of interest here, as it captures the conditional association between neighborhood violence and the outcome. Finally, there is a school level equation that serves to control for a set of high school characteristics, Z:

$$\beta_{00k} = \gamma_{000} + \gamma_{001} Z_k + u_k$$

Though schools are not of analytical interest here, school is included as a level in the model because of the structure of the data and to allow school characteristics to be used as control variables. Models are estimated using maximum likelihood in HLM 6.2 software (Raudenbush et al. 2004). To allow covariates to have different effects by gender, all models are estimated separately by gender.[6] All models are weighted using the wave one Addhealth weight at the individual level and the reliability of the neighborhood violence scale at the neighborhood level (see note 3 above).

5. Results

Table 1 (see page 101) shows the means of the four friendship variables by gender and by quintiles of the neighborhood violence scale. The most violent neighborhoods are in quintile five. The standard errors for each mean are included in parentheses and take into account the Addhealth complex sampling design using Stata's "svy" command. (Table C1 in Appendix C shows identical statistics by quintiles of the neighborhood disadvantage scale). Adolescents in more violent neighborhoods nominate fewer friends than their counterparts in safer neighborhoods. These differences are statistically significant for both boys and girls. In contrast, there appears to be no simple relationship between friendship closeness and neighborhood violence, though across the board girls tend to report greater closeness than boys. Turning to the composition of the friendship networks, there is a statistically significant relationship between neighborhood violence and the proportion of friends not enrolled in school at all and between neighborhood violence and the percentage of school-attending friends who go to a different school than the respondent. These unadjusted differences are statistically significant among both boys and girls. The remaining results examine the relationship between neighborhood violence and these friendship characteristics using the multi-level models to control for individual, family, neighborhood, and school characteristics.

Number of friends

Table 2 (see page 101) displays models of the number of nominated same-sex friends by gender, controlling for individual, family, and school characteristics. For boys, whether or not neighborhood disadvantage is controlled, neighborhood violence appears unrelated to number of friends, as its coefficient is small and statistically insignificant.[7] For girls, the coefficient for neighborhood violence is statistically significant but relatively small. It indicates that a one standard deviation increase in neighborhood violence decreases the number of friends (compared to an adolescent in a less violent neighborhood) by only about 3 percent.

6 In other words, estimating a single pooled model for both boys and girls would force all covariates that did not have interaction terms to have the same impact on the outcome for both boys and girls. Such a specification could lead to under-controlling for covariates that actually have different effects among boys and girls.

7 I experimented with many other nonlinear specifications of the neighborhood characteristics, but none produced a different result.

Table 1: Adolescent friendship characteristics by quintiles of neighborhood violence scale

Neighborhood violence	Number of friends nominated		Mean friendship closeness scale		Percentage of all friends who do not attend any school		Percentage of school-attending friends who attend a different school from respondent	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
1st quintile	3.62	3.57	−0.07	0.13	8.7	6.7	15.3	15.1
	(0.13)	(0.10)	(0.05)	(0.06)	(1.3)	(1.0)	(1.5)	(1.4)
2st quintile	3.25	3.56	−0.02	0.00	12.0	9.2	17.5	17.7
	(0.19)	(0.19)	(0.04)	(0.08)	(1.3)	(1.7)	(2.9)	(3.8)
3st quintile	3.13	3.23	−0.15	−0.06	15.2	10.2	22.8	18.0
	(0.15)	(0.16)	(0.07)	(0.05)	(2.0)	(1.7)	(2.2)	(2.0)
4st quintile	3.17	3.22	−0.12	0.13	20.2*	10.7	22.6	20.2
	(0.17)	(0.21)	(0.06)	(0.08)	(3.5)	(2.7)	(3.3)	(2.9)
5st quintile	2.93*	2.96*	−0.08	0.05	18.3*	15.4*	24.0*	26.5*
	(0.11)	(0.11)	(0.04)	(0.05)	(2.2)	(2.1)	(2.6)	(2.5)
Total	3.34	3.39	−0.081	0.079	12.9	9.3	18.7	18.2
	(0.11)	(0.11)	(0.033)	(0.042)	(1.2)	(1.0)	(1.4)	(1.5)
Unweighted N	3,255	3,048	3,128	2,937	3,128	2,940	3,002	2,846

(Standard error of the mean in parentheses)
Estimates Account for Addhealth Complex Sample Design
* difference from 1st quintile statistically significant at 0.05 level

Table 2: Three-level Poisson models of number of friends nominated

	Boys			Girls		
	(1)	(2)	(3)	(4)	(5)	(6)
Neighborhood violence	−0.020	−0.015	−0.016	−0.030*	−0.020	−0.021
	(0.013)	(0.013)	(0.013)	(0.013)	(0.014)	(0.013)
Neighborhood disadvantage		−0.015	−0.016		−0.035	−0.034
		(0.021)	(0.021)		(0.025)	(0.025)
Individual violence	0.040*	0.040*	0.042*	−0.010	−0.010	−0.010
	(0.007)	(0.007)	(0.007)	(0.011)	(0.012)	(0.014)
Individual violence × neighborhood violence			0.010*			0.003
			(0.004)			(0.012)
Constant	1.242*	1.244*	1.243*	1.068*	1.074*	1.068*
	(0.080)	(0.079)	(0.077)	(0.061)	(0.061)	(0.061)
Variance components						
Neighborhood	0.006	0.006	0.006	0.013	0.013	0.013
School community	0.021	0.020	0.020	0.016	0.014	0.015
N individuals	3254	3254	3254	3045	3045	3045
N neighborhoods	841	841	841	793	793	793
N school communities	80	80	80	79	79	79

Robust standard errors in parentheses
Descriptive statistics provided in Appendix C
Model includes individual, family, and school control variables (coefficients in Appendix D)
* $p < 0.05$

When neighborhood disadvantage is controlled, this coefficient shrinks and becomes non-significant. Models 3 and 6 add a term for the interaction between individual violence and neighborhood violence to test for heterogeneity in response to neighborhood violence. For boys, the coefficient for this term is statistically significant but small in magnitude, and does not appreciably change the results for the neighborhood characteristics. For girls, this term is small and statistically insignificant.

These results indicate that hypotheses 1a and 1b are both unsupported. In addition, neighborhood disadvantage is also unrelated to number of friends. It appears that the neighborhood differences in number of friends observed in Table 1 are the result of individual, family, or school level characteristics rather than neighborhood processes. Among these variables, individual violence (for boys), race, mother's age, family income (for boys), age (for girls), small school (for girls), immigrant status (for girls), parent's education (for girls), and welfare receipt (for girls) are significant predictors of number of friends. Respondents who engage in more violence report having more friends. This may reflect the tendency for adolescent delinquency and violence to occur in groups. In addition, black respondents report fewer friends than whites, respondents with older mothers report more friends, and male respondents from higher income families report more friends. Female respondents who are older, are non-immigrants, have more educated parents, whose families receive welfare, and who attend small schools report more friends (see Table D1 in Appendix D). Caution should be exercised in interpreting these coefficients, however, as they are included in the models only as control variables for the neighborhood effects, and collinearity with other control variables may be influencing their values.

Friendship closeness

Table 3 displays models of friendship closeness by gender, controlling for individual, family, and school characteristics. Whether or not neighborhood disadvantage is controlled, neighborhood violence appears unrelated to friendship closeness, as its coefficient is also small and statistically insignificant in these models. This is the case for both boys and girls and whether or not a term for the interaction between individual violence and neighborhood violence is included. These results imply that both Hypothesis 2a and hypothesis 2b are also unsupported. Though its coefficients are somewhat larger, neighborhood disadvantage is also not a significant predictor of friendship closeness. What, then, predicts friendship closeness? Among both boys and girls, respondents who engage in more violence report more friendship closeness. This also may reflect the tendency for adolescent delinquency and violence to occur in groups, since this study measures friendship closeness through frequency of interaction. In addition, for both boys and girls, age, school type, and parental education are statistically significant predictors of friendship closeness. Among boys, being Asian and having a higher family income predict friendship closeness, and among girls being Native American, an immigrant, low birth weight, and attending an urban school or a small school are significant predictors (see Appendix D, Table D2).

Friends not enrolled in school

Table 4 presents models of number of friends who do not attend school by gender of the respondent. Models (1), (2), and (3) all show that neighborhood violence is a strong predictor of having friends who have dropped out of school (or are too old to attend school) among boys, whether or not neighborhood disadvantage is controlled and whether or not a term for the interaction between individual violence and neighborhood violence is included. The coefficient from model (3) indicates that boys who live in neighborhoods with one standard deviation higher neighborhood violence have 15 percent more friends who are not attending school than those in neighborhoods with less violence. This estimate should be viewed as a conservative one, as these models control for individual violence in order to prevent attribution of effects of individual violence to neighborhood violence. This effectively assumes that none of the effect of neighborhood violence operates through its effect on individual violence. Nevertheless, these results indicate that hypothesis 4 is supported.

As expected, neighborhood violence is related to composition of friendship networks only for boys, as the coefficients in models (4), (5), and (6) are small and

Table 3: Three-level linear models of friendship closeness scale

	Boys			Girls		
	(1)	(2)	(3)	(4)	(5)	(6)
Neighborhood violence	-0.024	-0.011	-0.014	0.022	0.011	0.010
	(0.026)	(0.034)	(0.034)	(0.029)	(0.033)	(0.032)
Neighborhood disadvantage		-0.040	-0.040		0.044	0.044
		(0.042)	(0.042)		(0.049)	(0.050)
Individual violence	0.089*	0.088*	0.090*	0.131*	0.132*	0.133*
	(0.014)	(0.014)	(0.011)	(0.030)	(0.030)	(0.028)
Individual violence × neighborhood violence			0.018			0.006
			(0.012)			(0.029)
Constant	-0.191	-0.185	-0.187	-0.086	-0.090	-0.091
	(0.102)	(0.105)	(0.104)	(0.088)	(0.090)	(0.089)
Variance components						
Individual	0.815	0.815	0.814	0.882	0.881	0.881
Neighborhood	0.062	0.062	0.062	0.057	0.057	0.057
School community	0.004	0.004	0.004	0.003	0.004	0.004
N individuals	3127	3127	3127	2935	2935	2935
N neighborhoods	795	795	795	759	759	759
N school communities	80	80	80	79	79	79

Robust standard errors in parentheses
Descriptive statistics provided in Appendix C
Model includes individual, family, and school control variables (coefficients in Appendix D)
* $p < 0.05$

Table 4: Three-level Poisson models of number of friends who do not attend school

	Boys			Girls		
	(1)	(2)	(3)	(4)	(5)	(6)
Neighborhood violence	-0.146*	0.142*	0.150*	0.068	0.033	0.043
	(0.063)	(0.056)	(0.058)	(0.069)	(0.068)	(0.075)
Neighborhood disadvantage		0.015	0.016		0.125	0.124
		(0.066)	(0.066)		(0.099)	(0.099)
Individual violence	0.221*	0.221*	0.223*	0.177*	0.179*	0.178*
	(0.040)	(0.040)	(0.047)	(0.060)	(0.060)	(0.056)
Individual violence × neighborhood violence			-0.020			-0.026
			(0.021)			(0.050)
Unexcused school absences	0.021	0.021	0.023	0.046	0.048	0.049
	(0.032)	(0.032)	(0.032)	(0.036)	(0.036)	(0.036)
Constant	-2.333*	-2.333*	-2.334*	-2.539*	-2.545*	-2.539*
	(0.155)	(0.156)	(0.160)	(0.231)	(0.229)	(0.227)
Variance components						
Neighborhood	0.130	0.129	0.125	0.261	0.255	0.256
School community	0.001	0.001	0.002	0.085	0.076	0.075
N individuals	3127	3127	3127	2938	2938	2938
N neighborhoods	795	795	795	760	760	760
N school communities	80	80	80	79	79	79

Robust standard errors in parentheses
Descriptive statistics provided in Appendix C
Model includes individual, family, and school control variables (coefficients in Appendix D)
* $p < 0.05$

statistically insignificant among girls. Note also that individual violence is a strong predictor of having friends who do not attend school among both boys and girls. This result is not particularly surprising, as we would expect adolescents involved in violence to have greater likelihood of having older friends or friends who have dropped out of school. Unfortunately, it is not possible to determine from these data whether friends who do not attend school have dropped out or are simply older.

Several of the control variables are also statistically significant predictors of friends who do not attend school. Among both boys and girls, these include age, speaking a language other than English at home, family structure, and attending a private school. Among boys, being black and attending an urban school are both significant predictors, while among girls, parental occupation and low birth weight are significant predictors. (see Table D3 in Appendix D).

Friends attending different school

Finally, Table 5 (see page 105) displays models of number of school-attending friends who attend a different school than the respondent. This is a measure of the degree to which an adolescent's friendship network is centered not on his or her school, but rather on other contexts, such as the neighborhood. Recall that the exposure is the total number of friends enrolled in school, so the coefficients can be interpreted as the percentage difference in the proportion of friends attending a different school. This exposure is chosen rather than the total number of friends to avoid conflating the outcome here with that in Table 4, which measures friends who do not attend school at all.

In model (1) the relationship between neighborhood violence and the outcome is statistically insignificant among boys, but for this outcome neighborhood disadvantage is a suppressor variable – it is positively related to neighborhood disadvantage but negatively related to the outcome. In model (2), in which neighborhood disadvantage is controlled, the neighborhood violence coefficient is larger and statistically significant. The coefficient indicates that individuals who live in a neighborhood with one standard deviation higher neighborhood violence have a nine percent higher proportion of friends who attend a different school compared to an adolescent in a neighborhood with less violence. The coefficients on the neighborhood disadvantage terms indicate that adolescent boys in more disadvantaged neighborhoods tend to have more friends who attend their own school, net of neighborhood violence. At first, this result appears counterintuitive, but it may reflect the lack of other schooling options in poor neighborhoods, where one's peers likely cannot afford to attend private or religious schools and therefore must also attend the local public school.

Model 3 adds a term for the interaction between individual violence and neighborhood violence, and its coefficient is statistically significant and fairly large. This coefficient implies that the relationship between neighborhood violence and friends who attend other schools is even larger among boys who engage in more violence (or alternatively, that the relationship between individual violence and friends from other schools is stronger in more violent neighborhoods). A one standard deviation increase in individual violence increases the impact of neighborhood violence by about 50 percent (or about 5 percentage points).

Turning to the models for girls, there is also a relationship between neighborhood violence and the proportion of friends who attend a different school, though this relationship is not revealed until the interaction term is added. This interaction term takes into account the heterogeneity of response to neighborhood violence depending on individual violence. In model 6, which includes a term for the interaction between individual violence and neighborhood violence, neighborhood violence is a large and statistically significant predictor of friends who attend another school. The interaction term is negative (though not statistically significant), suggesting that more violent girls may be less affected by their neighborhood's level of violence.[8] In sum,

8 Though it is not possible to probe this finding further here, one possible explanation for this gender difference is that violence among girls is more rare than among boys (see Table C5 in Appendix C), and therefore may not be socially organized around neighborhood identities in the same way that male youth violence is (Harding 2005). For boys, the impacts of individual and neighborhood violence on the importance of neighborhoods for friendships may be mutually reinforcing, while for girls, these impacts may work at cross purposes. Though neighborhood violence (largely the result of male actions) increases the importance of neighborhood for girls' friendship networks, girls who also engage in violence may be less affected by their neighborhoods because their violent behavior is less centered around neighborhood identities. Girls involved in violence may form friendships with violent peers in whatever context they find them.

Table 5: Three–level Poisson models of number of school-attending friends who attend a different school from the respondent

	Boys			Girls		
	(1)	(2)	(3)	(4)	(5)	(6)
Neighborhood violence	0.049	0.092*	0.085*	0.058	0.078	0.094*
	(0.034)	(0.039)	(0.039)	(0.043)	(0.044)	(0.046)
Neighborhood disadvantage		−0.128*	−0.131*		−0.066	−0.067
		(0.064)	(0.063)		(0.064)	(0.064)
Individual violence	0.036	0.035	0.038	0.100*	0.100*	0.095*
	(0.026)	(0.026)	(0.026)	(0.046)	(0.046)	(0.040)
Individual violence × neighborhood violence			0.048*			−0.047
			0.017			(0.030)
Unexcused school absences	0.132*	0.132*	0.126*	0.011	0.011	0.011
	(0.039)	(0.040)	(0.042)	(0.038)	(0.038)	(0.037)
Constant	−2.333*	−2.333*	−2.334*	−2.539*	−2.545*	−2.539*
	(0.155)	(0.156)	(0.160)	(0.231)	(0.229)	(0.227)
Variance components						
Neighborhood	0.130	0.129	0.125	0.261	0.255	0.256
School community	0.001	0.001	0.002	0.085	0.076	0.075
N individuals	3127	3127	3127	2938	2938	2938
N neighborhoods	795	795	795	760	760	760
N school communities	80	80	80	79	79	79

Exposure: Total number of friends enrolled in school
Robust standard errors in parentheses
Descriptive statistics provided in Appendix C
Model includes individual, family, and school control variables (coefficients in Appendix D)
* $p < 0.05$

the results in Table 5 generally support hypothesis 3, but also suggest that there is important variation based on the adolescent's own involvement in violence. Of the control variables, immigrant status, and school location (urban/rural) are statistically significant predictors of friends who attend other schools among both boys and girls. In addition, among boys, black, other race, and parental education are significant predictors, while among girls, Native American, household size, family structure, parental occupation, private school, and school dropout rate are significant predictors.

6. Discussion

This paper has investigated the role of neighborhood violence in structuring the social networks of adolescents. In general, the findings are inconsistent with hypotheses that predict neighborhood effects on number of friends or the closeness of friendships (hypotheses 1a, 1b, 2a, and 2b). Both boys and girls in more violent neighborhoods report having fewer friends, though this appears to be the result of individual and family characteristics rather than neighborhood processes, as these neighborhood differences disappear once individual, family, and school covariates are controlled. This study finds no evidence that neighborhood violence systematically impacts the closeness of adolescent friendships for either boys or girls. These results suggest that adolescents do not react to neighborhood violence by retreating from peer social networks, nor do they react with protection strategies involving more friendships or closer friendships.

Instead, the results suggest a different type of effect of neighborhood violence on friendship networks, especially for boys. Rather than affecting number or closeness of friendships, neighborhood violence is associated with the *composition* of peer networks, i.e. the types of individuals adolescents describe as friends. Consistent with hypothesis 4, boys and girls in more violent neighborhoods are more

likely to be friends with peers with whom they do not attend school. This finding is consistent with an account in which neighborhood-based violence focuses adolescents' attention on their neighborhood as an important context for developing friendships, since neighborhood is the other primary context in which they are likely to make friends. In this account (which is purely speculative), neighborhood or other geographically based rivalries restrict opportunities for friendships to neighborhood peers, leading to fewer friends who attend the same school.

In addition, consistent with hypothesis 3, boys (but not girls) in more violent neighborhoods are also more likely to be friends with individuals who are either too old to be enrolled in school or have dropped out of school. This finding is consistent with an account in which boys in violent neighborhoods develop protection strategies that involve friendships with older individuals or individuals who are more connected to the "street culture." This gender difference in the association between neighborhood violence and friends not enrolled in school suggests that girls are subject to different effects of violence than boys. This should not be surprising given higher rates of violence among males more generally and the normativity of violent behavior among adolescent boys. Boys in more violent neighborhoods may have greater need for these protection strategies (whether or not they themselves engage in violence) and may be more likely to have access to older peers who can provide protection due to greater willingness to participate in violence among males. Indeed, were there equal effects for boys and girls on same-sex non-school friends, one might suspect that other unmeasured processes were actually at work. Future work might investigate whether girls turn to opposite-sex friends for similar security strategies.

More broadly, this study suggests that neighborhood violence has not only the developmental and biosocial effects on youth identified in the previous literature but also has social effects, altering the friendship networks of adolescents, especially boys. It shows for the first time that violence, one of the most spatially organized social phenomena, influences individuals' social relationships. For the neighborhood effects literature, these results suggest that neighborhood violence may be an important mechanism of neighborhood effects on adolescents, particularly for social outcomes involving some degree of decision-making or agency. Prior neighborhood effects research has focused on social isolation and social organization. This study suggests that by structuring who boys interact with, violence may play a role in determining the cultural messages and ideals to which they are most frequently exposed (see also Harding 2005). Those adolescents who have dropped out of school are disconnected from a critical institution that connects young people in disadvantaged neighborhoods to mainstream culture. Such adolescents can be expected to be most likely to reject conventional cultural ideals and provide their peers with an alternative source of socialization, one that offers messages different from those of parents, teachers, or religious institutions. Among potential friends from the neighborhood or elsewhere, such adolescents are most likely to spend considerable time hanging on the streets and be most enmeshed in the "street culture" described by Anderson (1999), Dance (2002), and others.

This study also carries implications for the analysis of the Addhealth network data and for future efforts to collect ego-based network data on adolescents. Because adolescents from more violent and more disadvantaged neighborhoods have more friends who are not enrolled in school (or friends not enrolled in the school they attend), friendship network data that rely on school-based samples to link friends together may be inappropriate for these adolescents. The Addhealth friend network data allow researchers to link the data records from friends together to measure friend characteristics from the friends' own data records. However, given that many of the friends of adolescents from violent or disadvantaged neighborhoods are not themselves in the sample (because they do not attend school or do not attend the respondent's school or its "sister" school), this feature of the Addhealth data is of little use to researchers interested in these populations.[9] In addition, researchers who use this feature of the data to study

9 The Addhealth study initially sampled high schools and then attempted to select one middle school or junior high school whose students would likely to attend the sampled high school. These middle schools or junior high schools are called "sister" schools by Addhealth researchers.

peer networks of adolescents among the general population of adolescents should recognize that dropping friends who are not in the school-based sample may bias results. The Addhealth friend data seem to have been collected with a suburban, school-based model of adolescent social networks in mind, in which important friendships are those with school peers. This paper shows that this model does not seem to apply to many adolescents in disadvantaged or violent neighborhoods. For example, Table 1 shows that among boys and girls in the most violent neighborhoods, about one-quarter of friends who attend school go to a different school than the respondent, and about one sixth of all friends do not attend school at all.

In closing, the reader is reminded of some of the key limitations of this study. First, because administrative crime data at the neighborhood level are not available, neighborhood violence is measured by aggregating individual responses to the neighborhood level. Small numbers of respondents in some neighborhoods may lead to considerable measurement error, potentially biasing neighborhood violence coefficients downward. In addition, the sample upon which this aggregation is performed includes only those adolescents enrolled in sampled schools and therefore misses other neighborhood adolescents, particularly those who have already dropped out but also those who attend non-sampled schools. Since dropouts are in all likelihood even more exposed to and involved in violence, measures of perceptions of neighborhood violence may be understated, particularly in the most violent neighborhoods. Second, estimates of the impact of neighborhood violence may also be conservative because individual violence is controlled (both in order to allow for interaction terms and to prevent spurious associations due to individual violence causing greater perception of violence among neighbors). Controlling for individual violence removes any effect of neighborhood violence that operates through individual violence. Third, because of data limitations, this study has examined only a limited set of characteristics of adolescent friendship networks. Hopefully with more available measures, future research will be able to examine a wider set of friend characteristics.

Finally, the possibility of unmeasured sources of spuriousness for the relationships between neighborhood violence and composition of peer networks means that there could be alternative explanations for the associations documented in this study. In particular, if there are additional unmeasured individual, family, school, or neighborhood characteristics that predict both exposure to a violent neighborhood and the composition of peer networks, then the associations emphasized here may be upwardly biased. For example, if parents who are less able or willing to monitor and control their adolescents' friendship networks are also more likely to live in a violent neighborhood, then failure to control for this family characteristic could bias upward estimates of the relationship between neighborhood violence and composition of peer networks. Or if less socially organized neighborhoods had more violence and were less able to monitor cross-age peer interactions (one possible component of friends who do not attend school), then failure to control for this neighborhood characteristic could bias upward estimates of the relationship between neighborhood violence and friends who do not attend school. Given that experimental manipulation of neighborhood violence is not ethically possible and that the prospects for an instrumental variable for neighborhood of residence are slim, only future data sets that include such measures can resolve these types of questions.

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Appendix A: Descriptions of Individual, Family, and School Control Variables (All measured at wave one)

Individual characteristics:
Race/ethnicity: A set of indicator (0/1) variables for the adolescent's race and ethnicity. In Addhealth, the adolescent can self-identify as belonging to one or more categories, including white, black, Native American, Asian, or other race. White is the omitted category in models. I also include an indicator variable for those adolescents who choose more than one category. The adolescent can also choose to identify as Hispanic/Latino or not.
Immigrant: Born outside the United States.
Low birth weight: Less than 88 ounces (2.5 kg).
Mother's age at birth: The age in years of the mother when the adolescent was born.

Family characteristics:
Home language not English
Household size: The number of persons living in the adolescent's household.
Household type: Married, single parent, and other (which includes step-parent families). Married is the omitted category.

Parent variables are based on the primary residential parent who completed the parent questionnaire, usually the biological mother but sometimes the father or other caretaker.
Parent immigrant: Primary parent not born in the US.
Parental education: Primary parent's completed level of education: less than high school, high school graduate, some college or trade school, and college graduate. Less than high school is the omitted category.
Parent professional occupation: Primary parent currently works in a managerial or professional occupation.
Parent disabled: Primary parent is mentally or physically handicapped.
Parent welfare receipt: Primary parent currently receives welfare, either for self or for the adolescent.
Log family income: The natural logarithm of the household's total income in thousands of dollars, as reported in the parent questionnaire.

Community/school characteristics:
Urbanicity: School location urban, suburban, or rural. Suburban is the omitted category.
School size: Number of students at the school; small (< 400), medium (400–1000), and large (> 1000). Medium is the omitted category.
Cumulative dropout rate: The proportion of students who begin the school in its lowest grade who fail to complete its highest grade.
Percent college prep program: The proportion of twelfth graders who are enrolled in an academic or college prep program.
Catholic school
Private school: All other non-public schools.

Appendix B: Individual Violence, Neighborhood Violence, and Friendship Closeness Scales

Construction of the individual and neighborhood violence scales is based on methods described in Raudenbush and Sampson (1999). In the case of the neighborhood violence scale, these methods provide a method for aggregating survey data collected from individual respondents to the neighborhood level. Each scale combines data from multiple indicators of the concept per respondent. There are seven binary indicators for the individual violence measure and nine binary indicators for the neighborhood violence measure (these indicators are described in the main text). The violence scales are constructed using all wave one Addhealth cases, not just those respondents used in this analysis (which is limited to those selected for the detailed module on friendships).

The multiple indicators can be thought of as hierarchically nested in a three level model: items nested within individuals nested within neighborhoods. I modeled these items using three-level logit models. The dependent variable in each model is the value of the particular indicator. The level 1 model includes a constant and dummy variables for each item (minus one to allow for an omitted category). The level two model includes a constant with a random effect and age and gender indicators. These age and gender variables remove age- and gender-based variation from the scale. The omitted category for the age indicators is 15, and the gender indicator is one for male and zero for female. The level three model includes only a constant with a random effect.

Table B1: Multi-level logit model used in construction of individual violence scalew

Term	Coefficient (standard error)
Constant	–2.986 (0.047)
Item-level variables:	
Item 1 (in physical fight)	omitted
Item 2 (pulled knife/gun)	–3.001 (0.041)
Item 3 (shot/stabbed someone)	–4.079 (0.055)
Item 4 (serious fight)	–0.032 (0.022)
Item 5 (caused injury requiring treatment)	–1.058 (0.026)
Item 6 (use or threaten with weapon)	–3.174 (0.043)
Item 7 (in group fight)	–0.957 (0.028)
Individual-level variables:	
Age 11	–0.085 (0.397)
Age 12	–0.140 (0.107)
Age 13	–0.022 (0.056)
Age 14	0.063 (0.052)
Age 15	omitted
Age 16	–0.125 (0.047)
Age 17	–0.297 (0.052)
Age 18	–0.483 (0.054)
Age 19	–0.362 (0.108)
Age 20	–0.366 (0.280)
Age 21	–0.680 (1.028)
Male	1.051 (0.033)
Variance components:	
Neighborhood	0.199
Individual	2.580
N items	142,555
N individuals	20,399
N neighborhoods	2,431

Table B2: Multi-level logit model used in construction of neighborhood violence scale

Term	Coefficient (standard error)
Constant	-2.645 (0.034)
Item-level variables:	
Item 1 (saw shooting/stabbing)	omitted
Item 2 (had weapon pulled)	0.042 (0.031)
Item 3 (shot)	-2.501 (0.065)
Item 4 (stabbed)	-1.098 (0.039)
Item 5 (was jumped)	-0.102 (0.031)
Item 6 (injured in fight)	-0.429 (0.033)
Item 7 (neighborhood not safe)	-0.116 (0.031)
Item 8 (> = 50-50 chance getting killed)	0.262 (0.030)
Item 9 (drug problem in neighborhood)	-0.347 (0.035)
Individual-level variables:	
Age 11	-0.415 (0.532)
Age 12	-0.430 (0.081)
Age 13	-0.356 (0.045)
Age 14	-0.129 (0.040)
Age 15	omitted
Age 16	0.009 (0.035)
Age 17	-0.011 (0.036)
Age 18	-0.028 (0.038)
Age 19	0.070 (0.076)
Age 20	0.241 (0.176)
Age 21	0.100 (0.390)
Male	0.502 (0.022)
Variance components:	
Neighborhood	0.302
Individual	0.775
N items	180,158
N individuals	20,531
N neighborhoods	2,449

After estimating this model, the predicted value of the constant for either the individual (for the individual violence scale) or the neighborhood (for the neighborhood scale) is the measure for the scale in the logit metric (known as empirical Bayes estimates). These values are the sum of the constant and either the individual-specific or neighborhood-specific random effect. The variables are then standardized for easier interpretation. Coefficients on the item indicators can be interpreted as item "severity" relative to the omitted category. The more negative a coefficient, the rarer the indicator. The age and gender indicators capture differences by age and gender in the items, and they allow the resulting scales to be independent of differences across neighborhoods in the age and gender of sampled individuals. An additional advantage of this framework is that individuals with missing data on some items do not need to be excluded from the model as long as they have data on at least one item. Reliability of the individual violence scale has a mean of 0.58 and a standard deviation of 0.14. Reliability of the neighborhood violence scale has a mean of 0.48 and a standard deviation of 0.28 (see Raudenbush and Sampson 1999 on calculating reliabilities).

Table B3: Multi-level logit model used in construction of friendship closeness scale

Term	Coefficient (standard error)
Constant	0.040 (0.017)
Item-level variables:	
Item 1 (went to friend's house in past 7 days)	omitted
Item 2 (met friend after school in past 7 days)	0.511 (0.021)
Item 3 (spent time with friend last weekend)	0.243 (0.021)
Item 4 (talked to friend about problem past 7 days)	-0.030 (0.021)
Item 5 (talked to friend on phone in past 7 days)	0.994 (0.022)
Friend-level variables:	
Friend number: 1	omitted
Friend number: 2	-0.522 (0.023)
Friend number: 3	-0.839 (0.025)
Friend number: 4	-1.046 (0.029)
Friend number: 5	-1.182 (0.033)
Individual-level variables:	
One friend	-0.285 (0.063)
Two friends	-0.152 (0.049)
Three friends	-0.010 (0.042)
Four friends	-0.092 (0.044)
Five friends	omitted
Variance components:	
Friend	0.502
Individual	0.969
N items	112,676
N friends	22,539
N individuals	6,469

The friendship closeness scale is constructed in a similar fashion, except in this scale the binary items are nested within friends which are nested within respondents (these items are described in the main text). Controls are included at the friend level for the order in which the friend was nominated, and controls are included at the respondent level for the total number of friends nominated. This removes from the scale variation in closeness due to nomination order or total number of friends the respondent nominated. Reliability of the friendship closeness scale has a mean of 0.65 and standard deviation of 0.13.

The estimated models used to construct the scales are displayed in Tables B1–B3.

Appendix C: Descriptive Statistics

Table C1: Adolescent friendship characteristics by quintiles of neighborhood disadvantage scale

Neighborhood disadvantage	Number of friends nominated		Mean friendship closeness scale		Percentage of all friends who do not attend any school		Percentage of school-attending friends who attend a different school from respondent	
	Boys	Girls	Boys	Boys	Boys	Girls	Boys	Girls
1st quintile	3.66	3.78	6.8	6.8	6.8	5.5	15.2	17.1
	(0.15)	(0.12)	(1.6)	(1.6)	(1.6)	(1.4)	(2.4)	(2.2)
2st quintile	3.54	3.56	9.3	9.3	9.3	7.8	20.0	17.7
	(0.11)	(0.12)	(1.4)	(1.4)	(1.4)	(1.0)	(2.3)	(2.3)
3st quintile	3.44	3.40	14.3	14.3	14.3	8.3	18.0	16.1
	(0.14)	(0.15)	(1.4)	(1.4)	(1.4)	(1.2)	(2.1)	(2.0)
4st quintile	2.93*	2.98*	18.2*	18.2*	18.2*	14.5	19.7	19.9
	(0.18)	(0.15)	(1.9)	(1.9)	(1.9)	(1.7)	(2.2)	(2.3)
5st quintile	2.85*	2.77*	17.8*	17.8*	17.8*	15.7*	22.3	25.0
	(0.22)	(0.20)	(2.3)	(2.3)	(2.3)	(2.4)	(3.0)	(4.5)
Total	3.37	3.39	12.9	12.9	12.9	9.3	18.7	18.2
	(0.11)	(0.11)	(1.2)	(1.2)	(1.2)	(1.0)	(1.4)	(1.5)
Unweighted N	3,255	3,048	3,128	3,128	3,128	2,940	3,002	2,846

(Standard error of the mean in parentheses)
Estimates Account for Addhealth Complex Sample Design
* difference from 1st quintile statistically significant at 0.05 level

Table C2: Descriptive statistics for variables in Table 2 models

	Boys		Girls	
	Mean	SD	Mean	SD
Individual-level variables:				
Number of friends nominated	3.42	1.56	3.31	1.54
Individual violence scale	0.02	1.08	-0.03	0.92
Age	16.16	1.67	16.00	1.68
Hispanic	0.20	0.40	0.21	0.41
Black	0.18	0.39	0.18	0.38
Native American	0.04	0.19	0.03	0.17
Asian	0.12	0.32	0.11	0.31
Other race	0.12	0.32	0.12	0.32
Multi-racial	0.05	0.22	0.04	0.2
Home language not English	0.14	0.35	0.15	0.35
Immigrant	0.12	0.32	0.12	0.32
Household size	4.68	1.81	4.75	1.81
Single-parent household	0.24	0.43	0.23	0.42
Other household type	0.23	0.42	0.24	0.43
Parent immigrant	0.27	0.44	0.26	0.44
Parental education: high school graduate	0.29	0.45	0.28	0.45
Parental education: some college	0.28	0.45	0.26	0.44
Parental education: college graduate	0.22	0.41	0.23	0.42
Parent professional occupation	0.30	0.46	0.33	0.47
Parent disabled	0.04	0.2	0.05	0.22
Parent welfare receipt	0.09	0.29	0.11	0.31
Log family income	3.51	0.86	3.54	0.84
Low birth weight	0.08	0.27	0.09	0.29
Mother's age at birth	25.68	5.48	25.62	5.48
Neighborhood variables:				
Neighborhood violence scale	-0.05	1.08	-0.03	1.08
Neighborhood disadvantage scale	-0.01	0.94	0	0.98
Community/school variables:				
Urban	0.30	0.46	0.30	0.46
Rural	0.17	0.38	0.18	0.38
Small school size (< 400)	0.17	0.38	0.18	0.38
Large school size (> 1000)	0.47	0.50	0.47	0.50
Cumulative dropout rate	12.31	12.35	12.47	12.35
% College prep program	56.71	28.04	57.09	27.1
Catholic school	0.04	0.19	0.03	0.16
Private school	0.03	0.16	0.03	0.16

Note: See variable descriptions in Appendix A

Table C3: Descriptive statistics for variables in Table 3 models

	Boys		Girls	
	Mean	SD	Mean	SD
Individual-level variables				
Friendship closeness scale	−0.01	1	0	1
Individual violence scale	0.03	1.08	−0.02	0.92
Number unexcused absences	0.45	1.18	0.37	1.13
Age	16.13	1.66	15.98	1.68
Hispanic	0.20	0.40	0.20	0.40
Black	0.18	0.38	0.17	0.38
Native American	0.04	0.19	0.03	0.18
Asian	0.12	0.32	0.11	0.31
Other race	0.12	0.32	0.11	0.32
Multi-racial	0.05	0.22	0.04	0.2
Home language not English	0.14	0.35	0.14	0.35
Immigrant	0.12	0.32	0.11	0.31
Household size	4.67	1.71	4.73	1.73
Single parent household	0.24	0.43	0.22	0.42
Other household type	0.22	0.42	0.24	0.43
Parent immigrant	0.27	0.44	0.26	0.44
Parental education: high school graduate	0.29	0.45	0.28	0.45
Parental education: some college	0.29	0.45	0.27	0.44
Parental education: college graduate	0.22	0.42	0.24	0.43
Parent professional occupation	0.31	0.46	0.33	0.47
Parent disabled	0.04	0.2	0.05	0.22
Parent welfare receipt	0.09	0.28	0.10	0.31
Log family income	3.52	0.85	3.56	0.83
Low birth weight	0.08	0.27	0.09	0.29
Mother's age at birth	25.70	5.48	25.69	5.48
Neighborhood variables				
Neighborhood violence scale	−0.07	1.08	−0.04	1.09
Neighborhood disadvantage scale	−0.02	0.92	−0.02	0.96
Community/school variables				
Urban	0.30	0.46	0.30	0.46
Rural	0.17	0.38	0.18	0.38
Small school size (< 400)	0.17	0.38	0.18	0.38
Large school size (> 1000)	0.47	0.50	0.47	0.50
Cumulative dropout rate	12.31	12.35	12.47	12.35
% College prep program	57.52	27.31	57.09	27.1
Catholic school	0.04	0.19	0.03	0.16
Private school	0.03	0.16	0.03	0.16

Note: See variable descriptions in Appendix A

Table C4: Descriptive statistics for variables in Table 4 models

	Boys		Girls	
	Mean	SD	Mean	SD
Individual-level variables				
Number of friends nominated	3.55	1.43	3.43	1.43
Number of friends not attending school	0.46	0.89	0.31	0.71
Individual violence scale	0.03	1.08	−0.02	0.92
Number unexcused absences	0.45	1.18	0.37	1.13
Age	16.13	1.66	15.98	1.68
Hispanic	0.20	0.40	0.20	0.40
Black	0.18	0.38	0.17	0.38
Native American	0.04	0.19	0.03	0.18
Asian	0.12	0.32	0.11	0.31
Other race	0.12	0.32	0.11	0.32
Multi-racial	0.05	0.22	0.04	0.20
Home language not English	0.14	0.35	0.14	0.35
Immigrant	0.12	0.32	0.11	0.31
Household size	4.67	1.71	4.73	1.73
Single parent household	0.24	0.43	0.22	0.42
Other household type	0.22	0.42	0.24	0.43
Parent immigrant	0.27	0.44	0.26	0.44
Parental education: high school graduate	0.29	0.45	0.28	0.45
Parental education: some college	0.29	0.45	0.27	0.44
Parental education: college graduate	0.22	0.42	0.24	0.43
Parent professional occupation	0.31	0.46	0.33	0.47
Parent disabled	0.04	0.20	0.05	0.22
Parent welfare receipt	0.09	0.28	0.10	0.31
Log family income	3.52	0.85	3.56	0.83
Low birth weight	0.08	0.27	0.09	0.29
Mother's age at birth	25.7	5.48	25.69	5.48
Neighborhood variables				
Neighborhood violence scale	−0.07	1.08	−0.04	1.09
Neighborhood disadvantage scale	−0.02	0.92	−0.02	0.96
Community/school variables				
Urban	0.30	0.46	0.30	0.46
Rural	0.17	0.38	0.18	0.38
Small school size (< 400)	0.17	0.38	0.18	0.38
Large school size (> 1000)	0.47	0.50	0.47	0.50
Cumulative dropout rate	12.31	12.35	12.47	12.35
% College prep program	56.71	28.04	57.09	27.1
Catholic school	0.04	0.19	0.03	0.16
Private school	0.03	0.16	0.03	0.16

Note: See variable descriptions in Appendix A

Table C5: Descriptive statistics for variables in Table 5 models

	Boys		Girls	
	Mean	SD	Mean	SD
Individual-level variables				
Number of friends who attend school	3.23	1.44	3.22	1.43
Number of friends attending different school	0.62	0.99	0.58	0.93
Individual violence scale	0.01	1.07	-0.03	0.92
Number unexcused absences	0.43	1.13	0.36	1.11
Age	16.09	1.65	15.94	1.67
Hispanic	0.19	0.39	0.20	0.40
Black	0.18	0.38	0.17	0.37
Native American	0.04	0.19	0.03	0.18
Asian	0.12	0.32	0.11	0.32
Other race	0.12	0.32	0.11	0.32
Multi-racial	0.05	0.22	0.04	0.2
Home language not English	0.14	0.34	0.14	0.35
Immigrant	0.12	0.32	0.11	0.31
Household size	4.68	1.71	4.73	1.71
Single parent household	0.24	0.43	0.23	0.42
Other household type	0.22	0.41	0.23	0.42
Parent immigrant	0.26	0.44	0.25	0.44
Parental education: high school graduate	0.29	0.45	0.28	0.45
Parental education: some college	0.29	0.45	0.27	0.44
Parental education: college graduate	0.23	0.42	0.24	0.43
Parent professional occupation	0.31	0.46	0.34	0.47
Parent disabled	0.04	0.2	0.05	0.22
Parent welfare receipt	0.09	0.28	0.10	0.30
Log family income	3.53	0.85	3.57	0.84
Low birth weight	0.08	0.27	0.09	0.29
Mother's age at birth	25.74	5.5	25.76	5.47
Neighborhood variables				
Neighborhood violence scale	-0.09	1.08	-0.06	1.10
Neighborhood disadvantage scale	-0.04	0.93	-0.03	0.95
Community/school variables				
Urban	0.30	0.46	0.30	0.46
Rural	0.17	0.38	0.18	0.38
Small school size (< 400)	0.17	0.38	0.18	0.38
Large school size (> 1000)	0.47	0.50	0.47	0.50
Cumulative dropout rate	12.31	12.35	12.47	12.35
% College prep program	56.71	28.04	57.09	27.1
Catholic school	0.04	0.19	0.03	0.16
Private school	0.03	0.16	0.03	0.16

Note: See variable descriptions in Appendix A

Appendix D: Coefficients on Control Variables from Models in Tables 2–5

Table D1: Control variable coefficients from models in Table 2

	(1)	(2)	(3)	(4)	(5)	(6)
Individual / family level variables						
Age	-0.019	-0.019	-0.019	-0.038*	-0.039*	-0.038*
	(0.015)	(0.015)	(0.015)	(0.007)	(0.007)	(0.007)
Hispanic	0.091	0.092	0.089	0.010	0.010	0.010
	(0.051)	(0.052)	(0.051)	(0.040)	(0.040)	(0.040)
Black	-0.093*	-0.090*	-0.090*	-0.115*	-0.105*	-0.105*
	(0.036)	(0.037)	(0.038)	(0.030)	(0.030)	(0.029)
Native American	-0.034	-0.034	-0.030	0.018	0.018	0.019
	(0.050)	(0.050)	(0.049)	(0.053)	(0.054)	(0.057)
Asian	-0.019	-0.018	-0.011	-0.002	0.000	0.001
	(0.047)	(0.047)	(0.048)	(0.034)	(0.033)	(0.033)
Other race	0.022	0.022	0.026	-0.039	-0.039	-0.038
	(0.021)	(0.021)	(0.021)	(0.052)	(0.051)	(0.051)
Multi-racial	0.053	0.052	0.049	0.137	0.134	0.133
	(0.030)	(0.030)	(0.030)	(0.071)	(0.072)	(0.075)
Home language not English	-0.043	-0.042	-0.040	0.011	0.011	0.011
	(0.034)	(0.034)	(0.035)	(0.049)	(0.049)	(0.051)

Table D1: Control variable coefficients from models in Table 2 (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)
Immigrant	−0.009	−0.009	−0.011	−0.143*	−0.142*	−0.142*
	(0.025)	(0.025)	(0.025)	(0.032)	(0.032)	(0.031)
Household size	0.014	0.014	0.014	0.008	0.008	0.008
	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)
Single parent household	0.019	0.019	0.022	0.003	0.003	0.003
	(0.029)	(0.030)	(0.030)	(0.019)	(0.019)	(0.019)
Other household type	−0.006	−0.007	−0.005	−0.041	−0.041	−0.040
	(0.033)	(0.033)	(0.032)	(0.025)	(0.025)	(0.026)
Parent immigrant	−0.049	−0.049	−0.050	0.045	0.044	0.045
	(0.039)	(0.039)	(0.039)	(0.050)	(0.050)	(0.051)
Parental education – high school graduate	−0.063	−0.063	−0.064	0.095*	0.094*	0.094*
	(0.048)	(0.047)	(0.047)	(0.042)	(0.042)	(0.042)
Parental education – some college	−0.020	−0.020	−0.021	0.082*	0.079*	0.080*
	(0.039)	(0.038)	(0.038)	(0.037)	(0.037)	(0.037)
Parental education – college	−0.027	−0.028	−0.031	0.095*	0.091	0.091
	(0.061)	(0.061)	(0.061)	(0.047)	(0.048)	(0.048)
Parent professional/managerial occupation	−0.019	−0.020	−0.020	0.070	0.069	0.069
	(0.033)	(0.033)	(0.033)	(0.039)	(0.039)	(0.040)
Parent disabled	0.065	0.065	0.064	−0.077	−0.077	−0.076
	(0.046)	(0.046)	(0.046)	(0.045)	(0.045)	(0.045)
Family welfare receipt	−0.057	−0.056	−0.059	0.061*	0.062*	0.062*
	(0.053)	(0.053)	(0.052)	(0.025)	(0.025)	(0.025)
Log family income	0.054*	0.054*	0.054*	0.010	0.009	0.009
	(0.021)	(0.021)	(0.021)	(0.020)	(0.021)	(0.021)
Low birth weight	−0.005	−0.004	−0.004	−0.048	−0.049	−0.049
	(0.063)	(0.063)	(0.063)	(0.046)	(0.046)	(0.046)
Mother's age at birth	0.006*	0.006*	0.006*	0.004*	0.004*	0.004*
	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)
School/community level variables						
Urban	−0.085	−0.084	−0.085	−0.002	−0.002	−0.003
	(0.051)	(0.051)	(0.051)	(0.048)	(0.046)	(0.046)
Rural	0.075	0.079	0.078	−0.058	−0.048	−0.048
	(0.072)	(0.071)	(0.071)	(0.064)	(0.064)	(0.064)
Small	0.029	0.031	0.033	0.149*	0.153*	0.153*
	(0.077)	(0.077)	(0.076)	(0.061)	(0.061)	(0.061)
Large	−0.004	−0.009	−0.009	0.006	−0.004	−0.004
	(0.055)	(0.054)	(0.054)	(0.058)	(0.055)	(0.055)
Cumulative dropout rate	0.001	0.001	0.001	0.000	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)
Percent in college prep program	0.001	0.001	0.001	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Catholic school	0.069	0.062	0.062	−0.004	−0.019	−0.019
	(0.065)	(0.064)	(0.064)	(0.063)	(0.058)	(0.058)
Private school	−0.036	−0.040	−0.040	0.060	0.055	0.053
	(0.057)	(0.057)	(0.057)	(0.073)	(0.073)	(0.071)

Robust standard errors in parentheses
* $p < 0.05$

Table D2: Control variable coefficients from models in Table 3

	(1)	(2)	(3)	(4)	(5)	(6)
Individual / family level variables						
Age	0.113*	0.113*	0.113*	0.059*	0.060*	0.060*
	(0.018)	(0.018)	(0.018)	(0.018)	(0.017)	(0.018)
Hispanic	0.019	0.018	0.014	-0.081	-0.079	-0.079
	(0.073)	(0.072)	(0.073)	(0.077)	(0.078)	(0.078)
Black	0.077	0.085	0.086	-0.069	-0.081	-0.082
	(0.071)	(0.067)	(0.066)	(0.077)	(0.078)	(0.078)
Native American	0.240	0.236	0.242	-0.420*	-0.419*	-0.416*
	(0.180)	(0.183)	(0.184)	(0.180)	(0.181)	(0.180)
Asian	0.200*	0.201*	0.213*	-0.069	-0.070	-0.070
	(0.095)	(0.095)	(0.098)	(0.085)	(0.084)	(0.083)
Other race	-0.079	-0.080	-0.074	-0.116	-0.115	-0.115
	(0.082)	(0.082)	(0.084)	(0.088)	(0.087)	(0.086)
Multi-rRacial	-0.120	-0.121	-0.127	-0.041	-0.037	-0.038
	(0.104)	(0.104)	(0.104)	(0.125)	(0.124)	(0.121)
Home language not English	0.088	0.089	0.091	0.038	0.037	0.036
	(0.067)	(0.067)	(0.067)	(0.043)	(0.043)	(0.043)
Immigrant	-0.086	-0.087	-0.089	0.209*	0.208*	0.210*
	(0.057)	(0.058)	(0.055)	(0.086)	(0.086)	(0.082)
Household Size	-0.016	-0.016	-0.017	0.008	0.008	0.008
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Single parent household	0.025	0.024	0.029	0.071	0.070	0.070
	(0.075)	(0.074)	(0.072)	(0.122)	(0.124)	(0.124)
Other household type	-0.016	-0.018	-0.016	-0.083	-0.083	-0.083
	(0.085)	(0.085)	(0.084)	(0.050)	(0.050)	(0.051)
Parent immigrant	0.058	0.057	0.056	-0.013	-0.012	-0.011
	(0.066)	(0.066)	(0.066)	(0.053)	(0.053)	(0.055)
Parental education – high school graduate	0.113	0.111	0.110	0.081	0.082	0.083
	(0.096)	(0.098)	(0.097)	(0.050)	(0.050)	(0.050)
Parental education – some college	0.137*	0.134*	0.132*	0.177*	0.182*	0.182*
	(0.065)	(0.067)	(0.066)	(0.078)	(0.076)	(0.075)
Parental education – college	0.103	0.099	0.093	0.299*	0.306*	0.306*
	(0.083)	(0.086)	(0.084)	(0.095)	(0.096)	(0.095)
Parent professional/managerial occupation	0.065	0.062	0.061	-0.072	-0.070	-0.071
	(0.056)	(0.056)	(0.055)	(0.061)	(0.061)	(0.061)
Parent disabled	-0.037	-0.037	-0.038	0.122	0.122	0.123
	(0.131)	(0.130)	(0.130)	(0.103)	(0.103)	(0.103)
Family welfare receipt	0.029	0.031	0.026	0.135	0.131	0.131
	(0.069)	(0.069)	(0.069)	(0.124)	(0.123)	(0.123)
Low family income	0.072*	0.070*	0.070*	0.054	0.056	0.056*
	(0.030)	(0.030)	(0.029)	(0.030)	(0.030)	(0.028)
Low birth weight	0.085	0.087	0.086	-0.139*	-0.138*	-0.138*
	(0.110)	(0.110)	(0.109)	(0.056)	(0.056)	(0.056)
Mother's age at birth	-0.005	-0.006	-0.006	0.000	0.000	0.000
	(0.005)	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)

Table D2: Control variable coefficients from models in Table 3 (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)
School/community level variables						
Urban	-0.094	-0.088	-0.090	-0.148*	-0.154*	-0.154*
	(0.068)	(0.069)	(0.068)	(0.054)	(0.056)	(0.055)
Rural	-0.135	-0.125	-0.123	-0.096	-0.110	-0.111
	(0.084)	(0.085)	(0.085)	(0.063)	(0.065)	(0.066)
Small	-0.145	-0.138	-0.137	-0.300*	-0.305*	-0.304*
	(0.090)	(0.092)	(0.092)	(0.103)	(0.104)	(0.103)
Large	0.092	0.079	0.079	0.113	0.127	0.127
	(0.082)	(0.084)	(0.084)	(0.076)	(0.080)	(0.079)
Cumulative dropout rate	-0.003	-0.003	-0.002	-0.004	-0.004	-0.004
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Percent in college prep program	0.000	0.000	0.000	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Catholic school	0.506*	0.494*	0.495*	0.424*	0.437*	0.437*
	(0.115)	(0.112)	(0.109)	(0.182)	(0.178)	(0.177)
Private school	-0.494*	-0.496*	-0.497*	0.062	0.061	0.057
	(0.136)	(0.126)	(0.126)	(0.119)	(0.120)	(0.121)

Robust standard errors in parentheses
* $p < 0.05$

Table D3: Control variable coefficients from models in Table 4

	(1)	(2)	(3)	(4)	(5)	(6)
Individual/family level variables						
Age	0.325*	0.325*	0.324*	0.382*	0.383*	0.382*
	(0.045)	(0.045)	(0.045)	(0.035)	(0.035)	(0.035)
Hispanic	0.086	0.086	0.096	0.219	0.220	0.222
	(0.143)	(0.142)	(0.142)	(0.187)	(0.183)	(0.181)
Black	-0.390*	-0.393*	-0.386*	0.068	0.032	0.036
	(0.128)	(0.132)	(0.132)	(0.146)	(0.162)	(0.155)
Native American	-0.120	-0.119	-0.121	-0.348	-0.347	-0.360
	(0.110)	(0.111)	(0.109)	(0.265)	(0.264)	(0.261)
Other race	0.070	0.071	0.072	-0.362	-0.365	-0.367
	(0.115)	(0.117)	(0.114)	(0.194)	(0.192)	(0.193)
Multi-rRacial	0.336*	0.337*	0.332*	-0.129	-0.114	-0.110
	(0.114)	(0.113)	(0.115)	(0.187)	(0.184)	(0.183)
Home language not English	-0.186*	-0.187*	-0.188*	-0.277*	-0.279*	-0.274*
	(0.081)	(0.081)	(0.082)	(0.104)	(0.103)	(0.104)
Immigrant	-0.287*	-0.287*	-0.284*	0.034	0.033	0.028
	(0.134)	(0.133)	(0.128)	(0.119)	(0.121)	(0.119)
Household size	-0.042	-0.042	-0.042	-0.049	-0.050	-0.051
	(0.022)	(0.022)	(0.022)	(0.038)	(0.038)	(0.038)
Single parent household	0.270*	0.270*	0.260*	0.406*	0.403*	0.403*
	(0.100)	(0.101)	(0.104)	(0.114)	(0.115)	(0.116)
Other household type	0.134	0.135	0.130	0.206	0.206	0.203
	(0.076)	(0.076)	(0.073)	(0.124)	(0.125)	(0.121)

Table D3: Control variable coefficients from models in Table 4 (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)
Parent immigrant	0.016	0.017	0.013	−0.048	−0.055	−0.057
	(0.087)	(0.088)	(0.084)	(0.224)	(0.228)	(0.229)
Parental education – high school graduate	0.047	0.048	0.052	−0.117	−0.116	−0.117
	(0.098)	(0.099)	(0.100)	(0.139)	(0.138)	(0.137)
Parental education – some college	−0.084	−0.083	−0.078	−0.188	−0.180	−0.182
	(0.146)	(0.147)	(0.150)	(0.148)	(0.147)	(0.150)
Parental education – college	−0.034	−0.033	−0.026	−0.363	−0.350	−0.352
	(0.171)	(0.172)	(0.174)	(0.294)	(0.298)	(0.294)
Parent professional/managerial occupation	−0.019	−0.018	−0.016	−0.199*	−0.199*	−0.194*
	(0.077)	(0.077)	(0.076)	(0.087)	(0.087)	(0.083)
Parent disabled	0.116	0.116	0.116	0.285*	0.292*	0.290*
	(0.149)	(0.149)	(0.150)	(0.146)	(0.147)	(0.147)
Family welfare receipt	0.157	0.155	0.163	0.310*	0.296*	0.300*
	(0.093)	(0.093)	(0.094)	(0.150)	(0.150)	(0.151)
Log family income	−0.023	−0.023	−0.024	0.110	0.115	0.118
	(0.067)	(0.067)	(0.067)	(0.070)	(0.069)	(0.065)
Low birth weight	0.059	0.058	0.062	0.502*	0.502*	0.503*
	(0.254)	(0.253)	(0.257)	(0.217)	(0.219)	(0.219)
Mother's age at birth	−0.006	−0.006	−0.006	−0.016	−0.016	−0.016
	(0.006)	(0.006)	(0.006)	(0.010)	(0.010)	(0.010)
School/community level variables						
Urban	0.362*	0.358*	0.364*	0.054	0.050	0.053
	(0.084)	(0.088)	(0.088)	(0.144)	(0.142)	(0.141)
Rural	0.206	0.200	0.207	−0.069	−0.121	−0.116
	(0.117)	(0.117)	(0.120)	(0.216)	(0.210)	(0.206)
Small	−0.079	−0.082	−0.078	0.159	0.144	0.137
	(0.149)	(0.148)	(0.150)	(0.240)	(0.233)	(0.231)
Large	−0.081	−0.076	−0.074	0.062	0.091	0.085
	(0.123)	(0.127)	(0.128)	(0.193)	(0.193)	(0.190)
Cumulative dropout rate	0.001	0.001	0.001	0.003	0.001	0.001
	(0.003)	(0.003)	(0.003)	(0.006)	(0.006)	(0.006)
Percent in college prep program	−0.001	−0.001	−0.001	−0.001	−0.001	−0.001
	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)
Catholic school	−0.839	−0.835	−0.833	−0.078	−0.038	−0.043
	(0.492)	(0.492)	(0.498)	(0.298)	(0.304)	(0.302)
Private school	−3.499*	−3.501*	−3.492*	−0.515*	−0.524*	−0.507*
	(0.301)	(0.302)	(0.300)	(0.234)	(0.222)	(0.226)

Robust standard errors in parentheses
* $p < 0.05$

Table D4: Control variable coefficients from models in Table 5

	(1)	(2)	(3)	(4)	(5)	(6)
Individual/family level variables						
Age	-0.037	-0.037	-0.035	0.030	0.029	0.028
	(0.031)	(0.031)	(0.030)	(0.027)	(0.027)	(0.027)
Hispanic	-0.026	-0.029	-0.051	0.036	0.035	0.037
	(0.099)	(0.098)	(0.096)	(0.138)	(0.137)	(0.137)
Black	0.299*	0.326*	0.323*	0.132	0.151	0.155
	(0.083)	(0.081)	(0.077)	(0.086)	(0.087)	(0.086)
Native American	0.186	0.179	0.200	-0.963*	-0.966*	-0.993*
	(0.146)	(0.146)	(0.147)	(0.305)	(0.307)	(0.317)
Other race	-0.326*	-0.328*	-0.318*	-0.028	-0.027	-0.031
	(0.102)	(0.102)	(0.103)	(0.150)	(0.149)	(0.150)
Multi-racial	0.181	0.175	0.168	0.131	0.131	0.139
	(0.141)	(0.141)	(0.140)	(0.092)	(0.093)	(0.094)
Home language not English	0.072	0.075	0.076	-0.126	-0.124	-0.111
	(0.124)	(0.125)	(0.116)	(0.156)	(0.157)	(0.155)
Immigrant	-0.171	-0.177	-0.186*	-0.385*	-0.382*	-0.393*
	(0.093)	(0.093)	(0.090)	(0.077)	(0.077)	(0.077)
Household size	-0.013	-0.012	-0.013	-0.041*	-0.041*	-0.042*
	(0.016)	(0.016)	(0.016)	(0.020)	(0.020)	(0.020)
Single parent household	0.022	0.018	0.033	0.180	0.182	0.175
	(0.073)	(0.073)	(0.072)	(0.132)	(0.133)	(0.133)
Other household type	0.050	0.047	0.052	0.306*	0.307*	0.303*
	(0.089)	(0.087)	(0.085)	(0.057)	(0.057)	(0.056)
Parent immigrant	-0.048	-0.049	-0.032	-0.116	-0.115	-0.125
	(0.091)	(0.090)	(0.086)	(0.078)	(0.077)	(0.076)
Parental education – high school graduate	-0.301*	-0.303*	-0.305*	-0.083	-0.084	-0.086
	(0.082)	(0.079)	(0.079)	(0.077)	(0.077)	(0.077)
Parental education – some college	-0.086	-0.095	-0.098	0.047	0.043	0.039
	(0.081)	(0.080)	(0.079)	(0.120)	(0.120)	(0.122)
Parental education – college	-0.171	-0.180	-0.187	-0.036	-0.043	-0.043
	(0.105)	(0.104)	(0.102)	(0.131)	(0.130)	(0.131)
Parent professional/managerial occupation	-0.024	-0.032	-0.036	-0.198*	-0.200*	-0.194*
	(0.071)	(0.072)	(0.071)	(0.079)	(0.079)	(0.078)
Parent disabled	-0.295	-0.292	-0.287	0.183	0.183	0.176
	(0.194)	(0.193)	(0.192)	(0.194)	(0.194)	(0.194)
Family welfare receipt	0.178	0.185	0.166	0.088	0.091	0.093
	(0.105)	(0.102)	(0.100)	(0.087)	(0.085)	(0.084)
Log family income	-0.113	-0.118	-0.119	0.071	0.068	0.072
	(0.052)	(0.052)	(0.051)	(0.049)	(0.050)	(0.050)
Low birth weight	-0.230	-0.223	-0.234	-0.213	-0.216	-0.215
	(0.182)	(0.183)	(0.187)	(0.165)	(0.164)	(0.164)
Mother's age at birth	0.004	0.004	0.004	0.007	0.007	0.007
	(0.010)	(0.010)	(0.010)	(0.006)	(0.006)	(0.006)
School/community level variables						
Urban	0.253*	0.266*	0.257*	0.398*	0.398*	0.404*
	(0.109)	(0.110)	(0.109)	(0.094)	(0.092)	(0.092)

Table D4: Control variable coefficients from models in Table 5 (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)
Rural	−0.367*	−0.326*	−0.335*	−0.371*	−0.352*	−0.345*
	(0.137)	(0.142)	(0.140)	(0.183)	(0.180)	(0.177)
Small	−0.266	−0.255	−0.249	−0.070	−0.059	−0.068
	(0.171)	(0.174)	(0.170)	(0.197)	(0.194)	(0.194)
Large	−0.109	−0.149	−0.150	−0.163	−0.182	−0.191
	(0.158)	(0.153)	(0.152)	(0.131)	(0.129)	(0.130)
Cumulative dropout rate	−0.005	−0.004	−0.004	−0.006*	−0.006*	−0.006*
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Percent in college prep program	0.001	0.001	0.001	−0.001	−0.001	−0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Catholic school	0.123	0.067	0.074	0.055	0.024	0.024
	(0.243)	(0.248)	(0.247)	(0.193)	(0.188)	(0.185)
Private school	0.421	0.397	0.399	0.487*	0.479*	0.511*
	(0.254)	(0.279)	(0.269)	(0.124)	(0.135)	(0.134)

Robust standard errors in parentheses
* $p < 0.05$

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The Effects of Living in Segregated vs. Mixed Areas in Northern Ireland: A Simultaneous Analysis of Contact and Threat Effects in the Context of Micro-Level Neighbourhoods

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This study examines the consequences of living in segregated and mixed neighbourhoods on ingroup bias and offensive action tendencies, taking into consideration the role of intergroup experiences and perceived threat. Using adult data from a cross-sectional survey in Belfast, Northern Ireland, we tested a model that examined the relationship between living in segregated (N = 396) and mixed (N = 562) neighbourhoods and positive contact, exposure to violence, perceived threat and outgroup orientations. Our results show that living in mixed neighbourhoods was associated with lower ingroup bias and reduced offensive action tendencies. These effects were partially mediated by positive contact. However, our analysis also shows that respondents living in mixed neighbourhoods report higher exposure to political violence and higher perceived threat to physical safety. These findings demonstrate the importance of examining both social experience and threat perceptions when testing the relationship between social environment and prejudice.

Although many societies are experiencing increasing diversification and desegregation at the macro-level, this does not always reflect on the micro-level. Often people live in homogenous, segregated environments, which they share only or primarily with members of their own ethnicity, religion or culture. In situations of ethno-political conflict, residential segregation between the parties in conflict is an even more pervasive problem and is believed to contribute uniquely to the intractability of intergroup conflict (e.g. Gallagher 1995; Whyte 1990). Our research examines the consequences of living in segregated versus mixed neighbourhoods on contact experiences, threat perceptions and outgroup orientations in a setting of ethno-political conflict, Northern Ireland. We specifically examine the consequences of the social environment on ingroup bias and negative action tendencies, taking into consideration two mediating factors: social experiences and perceived threat. In so doing, our research expands the theoretical debate on the consequences of living in diverse, desegregated social environments, a question that has long interested social psychologists, social scientists and policy makers alike.

1. Segregation vs. Integration: Positive or Negative Effects for Intergroup Relations?

There has been extensive debate as to whether ethnic, religious or cultural diversification and desegregation has positive or negative implications for intergroup relations. Two competing theoretical predictions have been made, one of which argues that diverse social environments induce threat and thus hold negative implications for intergroup relations, while the other rests upon the assumption that diversity offers opportunities for positive intergroup interaction and thus should reduce intergroup tensions (see also Wagner et al. 2006). The first of these theoretical stances,

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threat or conflict theory (Blalock 1967), primarily seeks to explain variations in majority group members' perceptions of and attitudes towards minority groups. It stipulates that the mere presence of minority group members in the majority's immediate social environment poses a competitive threat to the majority group's position, and that this contextual threat forms the main cause for prejudice and intergroup tensions (Blumer 1958; Bobo 1999; LeVine and Campbell 1972; Sherif 1966). Thus, threat theory proposes a direct linear relationship between the percentage of minority group members and the majority group's negative attitudes towards the minority group. Research evidence on this hypothesis remains, however, somewhat contradictory. Some studies consistently demonstrate increased levels of prejudice and discrimination towards minority groups in metropolitan areas and counties with higher proportions of minority populations (Fossett and Kiecolt 1989; Giles and Buckner 1993; Giles and Evans 1985; Giles and Hertz 1994; Glaser 1994; Quillian 1995, 1996; Taylor 1998; Wilcox and Roof 1978). Other studies however have failed to provide clear support for threat theory (Citrin, Reingold, and Green 1990; Hood and Morris 1997).

Furthermore, a number of problems and conceptual flaws surround threat theory. For one, context is treated as synonymous with threat, defined as actual minority proportion. However, Semyonov et al. (2004) found that prejudice scores towards foreigners in Germany covaried with the perceived proportion of foreigners, yet this perceived proportion did not correlate with the actual proportion of foreigners in Germany. Moreover, the theory primarily seeks to explain a dominant majority's prejudice against a comparative minority, yet includes no conjecture on less clearly defined majority-minority contexts (Oliver and Wong 2003) or on contexts where groups are engaged in ethno-political conflict.

In sharp contrast to threat theory, it has been argued that rather than posing threat, diversification and desegregation afford the opportunity for engaging in contact with other groups which, if taken up, can have positive consequences for intergroup relations. Accordingly, the relationship between the proportion of outgroup members and prejudice should be negative, and not positive as suggested by threat theory. Much of this argument is rooted in the "contact hypothesis" (Allport 1954; Hewstone and Brown 1986), which stipulates that frequent interaction with outgroup members can, under positive conditions, reduce prejudice and improve intergroup relations, including more positive and less negative action tendencies (Mackie, Devos, and Smith 2000). Thus, contact theory emphasizes the importance of social experiences in predicting prejudiced attitudes. There now exists extensive empirical support demonstrating that contact can reduce discriminatory attitudes and negative outgroup perceptions (for reviews see Brown and Hewstone 2005; Hewstone and Brown 1986), even if not all of the optimal conditions proposed by Allport (1954) are met (Pettigrew and Tropp 2006). Moreover, there is extensive research evidence showing that the opportunity for contact in people's social environment is a strong predictor of actual contact which in turn positively affects outgroup perception (Wagner, Hewstone, and Machleit 1989; Wagner and Machleit 1986).

Contact theory has also been explicitly tested in the context of residential segregation and diverse ethnic and racial environments, generally providing support for the assertion that living in more diverse and integrated environments is associated with a higher degree of intergroup contact, which, in turn, fosters more positive outgroup perceptions (Bledsoe et al. 1995; Stein, Post, and Rinden 2000; Wagner et al. 2003; Wagner et al. 2006).

Importantly, intergroup contact may not only shape outgroup perceptions directly, but can also influence additional, mediating processes involved in prejudice and intergroup hostility (for detailed reviews see Brown and Hewstone 2005; Pettigrew 1998). One key mediator that is of particular relevance in the context of our research is that of perceived threat, conceptualized as the belief that the outgroup is in some way detrimental to the ingroup. Perceived threats often concern real issues, such as competition over resources, territory or status (Blalock 1967; Brewer and Campbell 1976; Esses, Jackson, and Armstrong 1998; Sherif 1966; Stephan and Stephan 2000) or threat to physical safety (Cottrell and Neuberg 2005), but may also be more intangible and symbolic in nature, such as identity based threats (Branscombe et al. 1999; Tajfel and Turner 1979), threats to group values (Biernat, Vescio, and Theno 1996; Sears 1988) or threat to trust or morality (Cottrell

and Neuberg 2005). Threat perceptions play a central role in intergroup relations (Riek, Mania, and Gaertner 2006), and have been identified as proximal predictors of prejudice and offensive action tendencies (Cottrell and Neuberg 2005; Mackie et al. 2000; Stephan and Stephan 2000). A number of studies have shown that intergroup contact is associated with threat perceptions, and that reduced threat mediates the relationship between contact and prejudice (Stephan, Diaz-Loving, and Duran 2000; Tausch, Hewstone, et. al. 2007; Tausch, Tam, et al. 2007).

Much of past research, whether rooted in threat theory or intergroup contact theory, has been carried out in expansive geographical units, such as large metropolitan areas, counties, provinces or states. Yet it has been argued that in many instances it seems more relevant to focus on smaller micro-contexts such as neighbourhoods (Charles 2003; Oliver and Mendelberg 2000; Oliver and Wong 2003; Quillian 1995; Shinn and Toohey 2003), as it is such smaller community contexts in which individuals negotiate their everyday relations and which should thus be most predictive of both social experiences and intergroup perceptions. To date much of the research carried out to examine the effects of residential segregation has focused on individual-level consequences, demonstrating that living in segregated neighbourhoods can have adverse consequences for social and economic well-being (Jargowsky 1996; Massey and Denton 1993; Massey, Condran, and Denton 1987), educational achievement (Charles, Dinwiddie, and Massey 2004) and safety from violent crime (Massey 1995). Considerably less research has examined the consequences of residential segregation on group-level phenomena such as perceived group-level threats and intergroup attitudes. Among the few studies that have specifically focused on smaller contextual units and neighbourhoods, research evidence tends to support a positive relationship between living in more diverse, desegregated environments and more favourable outgroup attitudes. For example, Oliver and Wong (2003) examined intergroup hostility in three multi-ethnic cities in the United States and found that blacks, Latinos and whites reported less negative stereotypes as their neighbourhoods became more diverse. Using a German probability sample, Wagner et al. (2006) showed that a higher percentage of foreigners in a population district was predictive of reduced levels of prejudice, as well as more frequent and positive contact with ethnic minorities both in people's immediate neighbourhood and in their workplace, which in turn also had a positive effect on perceptions of foreigners.

Research comparing the effects of segregation versus integration remains, however, sparse, and to our knowledge no prior research has examined the effects of living in segregated versus mixed neighbourhoods on both contact and threat effects. Moreover, most previous research has focused on ethnic diversity and clearly defined majority-minority relations, largely disregarding other contexts, such as situations of intractable intergroup conflict. Yet spatial division and segregation between the involved parties are prominent features of many ethno-political conflicts, and a phenomenon which in itself can serve to further entrench existing ethno-and socio-political group boundaries and perpetuate intergroup tensions. Thus segregation may be an integral predictor of outgroup perceptions in these contexts. Our research is set in one such context, Northern Ireland.

2. Segregation, Intergroup Contact and Violence in Northern Ireland

Broadly speaking, the Northern Irish conflict is between those who wish to see Northern Ireland united with the Republic of Ireland (predominantly Catholics), and those who want Northern Ireland to remain part of the UK (predominantly Protestants; Moxon-Browne, 1991). The conflict itself dates back hundreds of years (McLernon et al. 2003), but escalated in the 1960s into the latest and most sustained period of violence that resulted in the deployment of British troops in the country and the imposition of direct rule from London (Hewstone et al. 2005). Political violence over the years has resulted in over 3,600 deaths, more than 35,000 injuries, 16,000 people charged with terrorist offences, 34,000 shootings and 14,000 bombings (e.g. Fay, Morrissey, and Smyth 1999). Despite continuing efforts at peace-building, paramilitary violence continues (Jarman 2004).

Northern Irish society also remains deeply segregated at many levels, a factor which is believed to contribute to many aspects of the conflict (Whyte 1990). The types of segregation identified include personal and marital segregation (e.g. Gallagher and Dunn 1991), educational segregation (McClenahan et al. 1996) and segregation in

sport, work or leisure (Niens, Cairns, and Hewstone 2003). There is also a substantial degree of residential segregation, with approximately 35 to 40 percent of the Northern Irish population living in completely segregated neighbourhoods (Poole and Doherty 1996) and about 50 percent living in mixed neighbourhoods (see also Boyle and Hadden 1994). Generally, there is a strong covariance between levels of segregation and social class, with relatively disadvantaged working-class areas significantly more likely to be segregated than affluent middle class areas (Shirlow 2001). This covariation between segregation and social class has also been found in other contexts, such as racial residential segregation in the United States (Massey and Denton 1993). It is worth noting that residential segregation increased as a direct result of large population movements in response to intimidation, as families moved from religiously mixed areas into safe havens dominated by their co-religionists (Boal and Murray 1977). Thus the move to more segregated social environments has been looked upon, among other things, as a way of providing safety from attack, intimidation and violence.

Moreover, Hayes and McAllister (2002) argue that exposure to violence contributes fundamentally to the intractability of the conflict and continuation of intergroup tensions. They suggest that people have been exposed to violence not only directly, e.g. through personal injury or intimidation, but also indirectly, i.e. by having a family member or close friend exposed to violence. Research has shown that such direct and indirect experiences of violence are associated with less outgroup trust and less forgiveness (Hewstone et al. 2006) and with greater support for paramilitary groups (Hayes and McAllister 2002). These findings suggest that exposure to violence may also predict outgroup perceptions and action tendencies.

An environment where segregation is as pervasive as it is in Northern Ireland is particularly conducive to examining the intergroup consequences of living environment. Prior research in Northern Ireland has focused extensively on the role of intergroup contact in fostering positive intergroup relations, showing that direct intergroup contact, especially in the form of cross-group friendship but also so-called extended contact (the knowledge that an ingroup member has an outgroup friend) can reduce ingroup bias (Hewstone et al. 2005; Paolini et al. 2004; Tausch, Hewstone, et al. 2007; Tausch, Tam, et al. 2007) and increase intergroup trust (Hewstone et al. 2006; Tausch, Tam, et al. 2007). In addition, recent research has shown that intergroup contact can affect threat perceptions in Northern Ireland, reducing both individual-level and group-level threats (Tausch, Hewstone, et al. 2007; Tausch, Tam, et al. 2007).

Threat plays a central role in Northern Ireland's social and political arena. As evidenced by recent research (Tausch, Hewstone, et al. 2007; Tausch, Tam, et al. 2007), threats in Northern Ireland can involve both realistic issues (such as political power) and symbolic ones (such as values). However, realistic and symbolic threats in Northern Ireland can also go beyond those described in Integrated Threat Theory (ITT; Stephan and Stephan 2000). For example, threat or fear of direct attack, intimidation or exposure to some form of violence stemming from the outgroup may be experienced as an even more "real" form of threat, i.e. a direct threat to physical safety (Cottrell and Neuberg 2005). Also, in Northern Ireland, identity expression is of prime importance and plays a unique role in everyday life, as illustrated by the strong adherence to divisive historical traditions, e.g. parades and use of identity-related symbols, such as flags or display of religious symbols (Devine-Wright 2001). Exposure to such symbols or forms of symbolic expression of identity may become threat-inducing in itself. It is these latter two types of threat, threat to physical safety and threat surrounding symbols and symbolic expression of identity that we intend to focus on in this paper.

3. The Present Research

In this research we set out to test the prediction that living in mixed neighbourhoods has direct implications for intergroup relations. Our approach is primarily informed by contact theory, although we do aim to incorporate some of the predictions made by threat theory. However, we believe that threat theory is missing a number of conceptual and theoretical links in its hypothesized relationship between context and prejudice, some of which we hope to rectify in this present analysis. First, we believe, context cannot be equated with threat. Rather context and threat should be seen as independent predictors of prejudice and outgroup orientations. Second, context should be seen as an indirect predictor of perceived threat, mediated by the nature of intergroup experiences. It has been shown that positive

social experience, i.e. positive intergroup contact, is an important mediator in the relationship between context and prejudice (e.g. Wagner et al. 2006), and indeed that positive contact can reduce prejudice by reducing perceived threat (e.g. Tausch, Hewstone, et al. 2007; Tausch, Tam, et al. 2007). Consequently, both social experience *and* threat should be factored into the context-prejudice link, a set of relationships which, to our knowledge, has not been previously tested.

Thus in the present research we examine the effects of living in segregated versus mixed neighbourhoods on ingroup bias and negative action tendencies, including both social experience and threat as mediating variables. Our analysis incorporates both positive and negative social experiences as direct predictors of threat, and indirect predictors of ingroup bias and negative action tendencies. Previous research has shown that both positive and negative intergroup experiences can exert effects on threat perceptions and prejudice, respectively reducing or increasing threat and prejudice (Stephan and Renfro 2002). Informed by our immediate research context as well as work by Hayes and McAllister (2002) on the consequences of political violence, we include exposure to violence as a centrally important negative social experience. However, we make diverging predictions regarding the effects of living in mixed areas in Northern Ireland on positive contact and exposure to violence. It can be expected that living in mixed neighbourhoods, by the mere composition of one's social environment, affords more opportunities for intergroup encounters and social experiences involving outgroup members, which may not always be positive. Consequently, while we expect that respondents living in mixed neighbourhoods will report more positive contact experiences (Wagner et al. 1989), we equally anticipate that living in a mixed neighbourhood will hold somewhat greater potential for conflict exposure, which may foster threat perceptions. We include two types of threat, those concerning physical and personal safety, and those relating to symbolic expression of identity. Note that the former type of threat is more readily conceivable as an individual or personal level threat, whereas the latter is much more of a personal-level threat.

We further expect that exposure to violence will be predictive of threat perceptions, and that both exposure to violence and threat will be associated with more negative action tendencies toward the outgroup. Threat perceptions, and particularly group-level threats, should also be predictive of ingroup bias. Positive contact should serve to reduce threat perceptions, and hence also reduce ingroup bias, as well as negative action tendencies (Stephan and Renfro 2002; Tausch, Hewstone, et al. 2007; Tausch, Tam, et al. 2007). Overall we anticipate that living in mixed neighbourhoods in Northern Ireland will be associated with both positive and negative social experiences and that these will in turn exert respectively positive and negative effects on intergroup threat and outgroup perception. However, as exposure to violence is a social experience that is much less likely to occur than positive intergroup contact we anticipate that the effects of mixed neighbourhoods will be overall more positive than negative.

4. Method

The data for this study were collected as part of a cross-sectional study on cross-community perceptions in mixed and segregated neighbourhoods. The sample consisted of adults recruited in Belfast from two segregated communities (one predominantly Catholic and one predominantly Protestant) and two mixed communities. Note that we subsequently refer to these areas as neighbourhoods A, B, C and D, respectively, to preserve anonymity of these relatively small communities. This ensures that we do not harm already sensitive community relations by reporting levels of prejudice within them. Three of the four areas correspond to electoral wards defined by the same names and were chosen on the basis of the 2001 Northern Ireland Census (Northern Ireland Statistics and Research Branch 2002). The fourth area consisted of, and was defined by, the boundaries of a housing estate known by the same name. Areas were chosen to be equivalent, as far as possible, in terms of social class, unemployment, and an index of sectarian violence. Neighbourhood A is a predominantly Protestant estate on the outskirts of East Belfast with a population of approximately 10,000. Neighbourhood B is a predominantly Catholic estate in West Belfast with a population of approximately 6,000. One of the mixed areas, neighbourhood C, is located in North Belfast and has a population of about 4,800. According to recent census data, Protestants comprise 76 percent of residents within this area, while the remaining 24 percent are Catholics.

Neighbourhood D, the most mixed of the areas studied, is situated in South Belfast. It has an estimated population of 5,100, 52 percent Protestant and 48 percent Catholic. The two segregated areas were selected because they are located within wider communities with a majority of ingroup members and are thus both to a large extent isolated from their respective outgroup communities. Importantly, people living in these segregated communities tend to carry out many of their daily activities (e.g. shopping, church attendance) in these areas (or at least in adjacent, equally segregated ingroup areas), have the majority of their social networks (e.g. family, friends, etc.) in the areas and send their children to local schools. Hence, those living in neighbourhood A and neighbourhood B are likely to have limited daily contact and interaction with outgroup members. Conversely, the religiously mixed composition of neighbourhoods C and D informed the decision to include these areas in our research. The data were collected between March and July 2006 by a professional survey organization. Respondents were drawn at random from the four areas. The selected respondents were contacted before the interviews, first by letter and then by phone. Respondents were interviewed in their own home by trained social survey interviewers.

5. Participants

The interview was successfully completed by 984 individuals. We excluded 24 respondents from this sample because they had lived less than 10 years in Northern Ireland. Two additional respondents were excluded as they were the only respondents from their group living in an area predominantly populated by the other group. This resulted in a reduced sample size of $N = 958$. The final sample used in all of our analyses comprised 396 individuals living in segregated areas (170 Catholics from neighbourhood A; 71 males, 99 females, mean age $M = 53$ years, $SD = 18.13$, 226 Protestants from neighbourhood B, 85 males, 141 females, mean age $M = 53$ years, $SD = 16.62$) and 562 individuals living in mixed areas (252 Catholics; 81 males, 171 females, mean age $M = 49$ years, $SD = 16.22$, 310 Protestants, 132 males, 178 females, mean age $M = 54$ years, $SD = 16.48$). It should be noted that, although we tried to minimize differences between the areas in terms of social class, segregated and mixed areas differed in terms of education and income, which were higher in the mixed areas. Some small differences in terms of age and gender distribution between our samples were also evidenced. Since these variables could potentially affect some of our dependent variables, we controlled statistically for them in all our analyses.

6. Measures

Positive contact. Three items (adapted from Stephan et al. 2002) were used to measure positive intergroup contact ("When you had contact with Catholics/Protestants in the past, how often were you made to feel welcome?", "When you had contact with Catholics/Protestants in the past, how often were you supported?", and "When you had contact with Catholics/Protestants in the past, how often were you helped out?"). Responses were made on a five-point Likert-type rating scale (1 = *never*, 5 = *very often*), with higher scores denoting more positive contact. The three items loaded onto a single factor following exploratory factor analysis (EFA) with maximum likelihood (ML) estimation (eigenvalues ≥ 1), explaining 77.6 percent of the variance, and formed a reliable scale (Cronbach's $\alpha = .86$).

Exposure to violence. Following the distinction made by Hayes and McAllister (2002), we assessed both direct and indirect exposure to violence. For direct exposure we asked: "Have you ever been injured due to a sectarian incident?", "Have you ever had to move house because of intimidation?", and "Has your home ever been damaged by a bomb?" For indirect exposure we asked the same set of questions, but phrased items to refer to a family member or close friend. Respondents were asked to answer "no" or "yes" to the questions. EFA, using unweighted least squares estimation (ULS), revealed a one-factor solution (eigenvalues ≥ 1) to best describe the six items, explaining 38.5 percent of the variance. The six items were collapsed to reflect a continuous composite measure, yielding acceptable reliability estimates (Cronbach's $\alpha = .68$).

Threats to physical safety. Two items were used to measure the extent to which respondents felt that members of the outgroup posed a direct threat to physical safety ("I worry about being physically attacked by Catholics/Protestants" and "I worry about my personal property being damaged by Catholics/Protestants"). These items were adapted from Cottrell and Neuberg (2005). Responses were made

on five-point Likert scales, ranging from 1 = *strongly disagree* to 5 = *strongly agree*. EFA with ML estimation revealed a single factor solution (eigenvalues ≥ 1), explaining 87.1 percent of the variance. The two items formed a reliable scale (α = .85).

Symbolic threat. We assessed this type of threat by asking respondents to what extent they felt threatened by eight different symbols or symbolic expressions of outgroup identity that are specific to the Northern Ireland context, e.g. the British Union Jack and Irish Tricolour flags or the celebration of British and Irish cultural festivals. Respondents were only presented with symbols representative of the religious outgroup community, e.g. Catholics were asked about the Union Jack, Protestants about the Tricolour flag. Response scales ranged from 1 = *not at all* to 5 = *extremely*. Following EFA with ML estimation, the eight items loaded onto a single factor (eigenvalues ≥ 1), explaining 50 percent of the variance. Reliability for the composite scale was good (α = .85).

Ingroup bias. We measured ingroup bias using a feeling thermometer (from Haddock, Zanna, and Esses 1993). On separate scales, respondents rated how cold or warm they felt toward fellow ingroup members and towards members of the outgroup, ranging from 0 = *extremely unfavourable/cold* to 100 = extremely favourable/warm. To obtain an index of ingroup bias, a discrepancy score was computed by subtracting outgroup ratings from ingroup ratings.

Offensive action tendencies. Two items (adapted from Dijker 1987) were used to measure offensive action tendencies, i.e. "How often have you felt a desire to hurt Catholics/Protestants with words (e.g. to insult, to call names, etc.)?" and "How often have you felt a desire to hurt Catholics/Protestants physically (e.g. to attack, etc.)?" (response scale: 1 = *never* to 5 = *very often*). EFA with ML estimation yielded a single factorial solution (eigenvalues ≥ 1), explaining 83.7 percent of the variance on this factor. The two items yielded good reliability estimates (Cronbach's α = .79).

7. Results

Preliminary analyses

To test for differences in positive contact, experience of violence, threats to physical safety, symbolic threat, ingroup bias and action tendencies between respondents living in segregated and mixed neighbourhoods we computed a series of one-way (segregated vs. mixed) between-subjects analyses of covariance (ANCOVAs), controlling for age, gender, education and income. Respondents living in mixed neighbourhoods reported significantly more positive contact with outgroup members (M = 3.60, SD = .83) than respondents in segregated neighbourhoods (M = 2.82, SD = 1.00), F (1, 950) = 68.39, p < .001, η^2 = .067. As expected, they also reported higher exposure to violence (M = .24, SD = .25) than did respondents in segregated areas (M = .15, SD = .21), F (1, 950) = 23.08, p < .001, η^2 = .024. Threats to physical safety were also higher in mixed (M = 1.60, SD = .89) than in segregated neighbourhoods (M = 1.68, SD = .80), F (1, 950) = 9.65, p < .01, η^2 = .01, although threats surrounding symbolic expression of identity were higher in segregated (M = 2. 01, SD = .97) than in mixed areas (M = 1.90, SD = .76), F (1, 950) = 4.12, p < .05, η^2 = .004 . Ingroup bias scores were lower for respondents in mixed neighbourhoods (M = – 3.43, SD = 23.05) than respondents in segregated neighbourhoods (M = 12.23, SD = 24.14), F (1, 950) = 46.8, p < .001, η^2 = .047. No statistically significant differences in action tendencies emerged between respondents in segregated neighbourhoods (M = 1.20, SD = .58) and mixed neighbourhoods (M = 1.13, SD = .34), F (1, 950) = 2.57, *ns*, η^2 = .003.

Path analysis

To examine the structural relationships between constructs we estimated a path model, entering neighbourhood (segregated versus mixed, coded 0 and 1 respectively) as an independent predictor, exposure to violence and positive contact as mediators at level 1, safety threat and symbolic threat as mediators at level 2, and offensive action tendencies and ingroup bias as outcome variables. Rather than creating latent variables, we decided to use the composite scores of the observed variables as

a number of our scales comprised only one or two items. Table 1 shows intercorrelations between the composite variables, overall means and standard deviations. We controlled for education, income, age and gender at all endogenous levels of the model. We tested the model using *Mplus* (version 4.2; Muthén and Muthén 1998–2007), using maximum likelihood estimation with robust standard errors, to control for non-normality in the data. Model fit was assessed by means of the $\chi 2$ test, one index of incremental fit, the Comparative Fit Index (CFI), and two indexes of absolute fit, the Root Mean Square Error of Approximation (RMSEA) and the Standardized Root Mean Squared Residual (SRMR). A satisfactory fit is typically indicated by a non-significant χ^2 value (or a χ^2/df ratio ≤ 3–4 if sample size is large), a CFI ≥ .95, an RMSEA ≤ .06 and an SRMR ≤ .08 (Hu and Bentler 1999). The fit of the model was good, χ^2 (1) = .077, p = .78, χ^2/df = .077, CFI = 1.00, RMSEA = .000, SRMR = .001, after allowing for covariation between safety threat and symbolic threat (β = .16, p < .001). The estimated path model is displayed in Fig. 1.

In line with our predictions, type of neighbourhood was significantly associated with both exposure to violence and levels of positive intergroup contact, such that people living in mixed neighbourhoods were more likely to have experienced violence (β = .17, p < .001), but also reported more positive contact experiences (β = .26, p < .001). Over and above the effects of violence and contact, neighbourhood also exerted a direct effect on safety threat (β = .14, p < .001), but not on symbolic threat (β = –.031, *ns*). Overall, living in a mixed environment generally had positive effects on outgroup perceptions, such that living in a mixed neighbourhood was associated with reduced ingroup bias (β = –.14, p < .001) and lower levels of offensive action tendencies (β = –.07, p < .05).

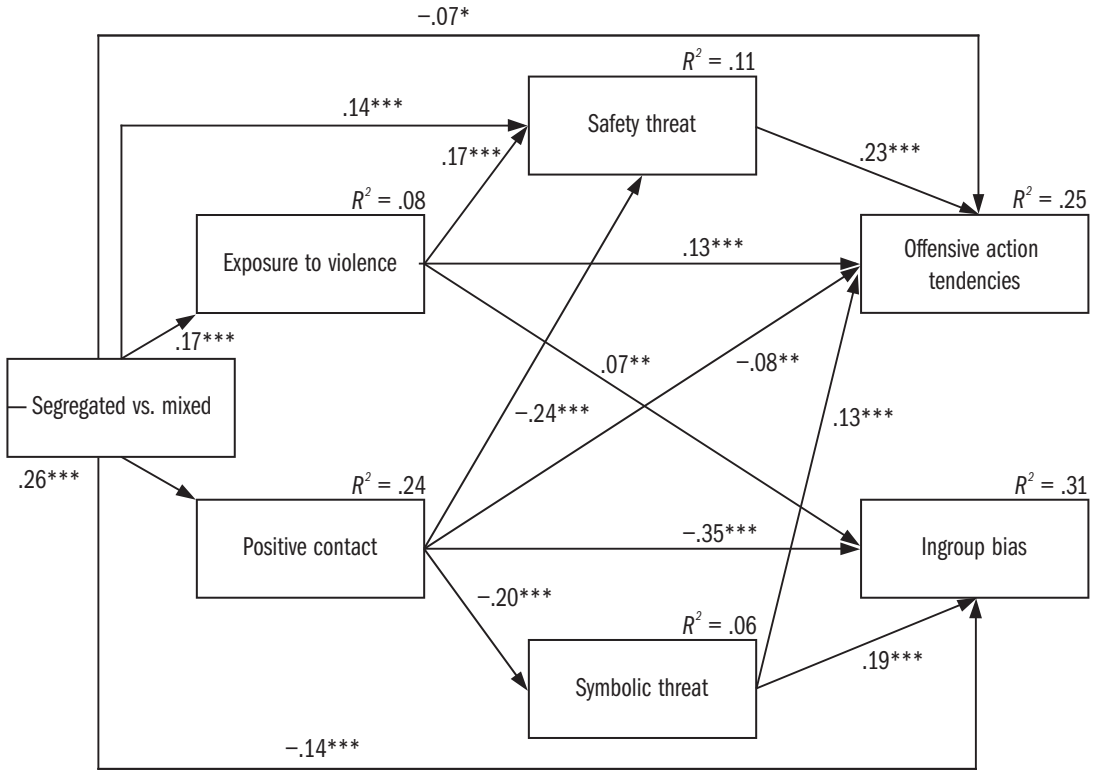
Table 1: Intercorrelations, overall means and standard deviations of study variables.

	M	SD	1	2	3	4	5	6	7	8	9	10
1. Positive contact	3.28	.98	1	.05	–.22***	–.18***	–.45***	–.10***	.03	.12***	.27***	.25***
2. Violence	.20	.24		1	.19***	.07*	.04	.22***	–.15***	–.16***	.14***	.15***
3. Safety threat	1.65	.84			1	.21***	.19***	.33***	–.07*	–.11**	–.06	–.08*
4. Symbolic threat	1.95	.86				1	.28***	.24***	–.13***	–.03	.02	.02
5. Ingroup bias	3.05	24.07					1	.27***	.01	–.10**	–.26***	–.18***
6. Action tendencies	1.16	.46						1	–.20***	–.27***	.02	–.03
7. Age	52.09	17.34							1	–.03	–.29**	–.15***
8. Gender [a]	–	–								1	.02	–.19***
9. Education [b]	1.88	1.06									1	.46***
10. Income [c]	5.47	2.34										1

Notes. *p < .05; ** p < .01; *** p < .001; [a] gender was coded 0 = male, 1 = female; [b] education was coded as follows: 1 = *to age 16 or less, 2 = to age 18 only, 3 = higher education (including first degree at university), 4 = post-graduate;* [c] income was coded as follows: 1 = *less than £3,000 per annum (p.a.),* 2 = *£3,000–3,999 p.a.,* 3 = *£4,000–6,999 p.a.,* 4 = *£7,000–9,999 p.a.,* 5 = *£10,000–14,999 p.a.,* 6 = *£15,000–19,999,* 7 = *£20,000–25,999 p.a.,* 8 = *£26,000–29,999 p.a.,* 9 = *£30,000–39,999 p.a.,* 10 = *£40,000–49,999 p.a.,* and 11 = *more than £50,000 per annum*

Figure 1: Path model results (N = 958)

Only significant paths are shown. Path coefficients are standardized, * $p < .05$, ** $p < .01$, *** $p < .001$. Overall model fit: X^2 (1) = .077, p = .78, X^2/df = .077, CFI = 1.00, RMSEA = .000, SRMR = .001.



As expected, positive contact was significantly associated with reduced levels of safety threat ($\beta = -.24$, $p < .001$) and symbolic threat ($\beta = -.20$, $p < .001$), as well as less ingroup bias ($\beta = -.35$, $p < .001$) and weaker offensive action tendencies ($\beta = -.08$, $p < .05$). Exposure to violence, on the other hand, generally exerted negative effects on threat perceptions and outgroup attitudes, although primarily on the individual-level variables. Specifically, exposure to violence predicted higher threats to physical safety ($\beta = .17$, $p < .001$), but not symbolic threat ($\beta = .06$, *ns*). Higher values for experience of violence were also associated with more negative action tendencies ($\beta = .13$, $p < .001$) and marginally increased levels of ingroup bias ($\beta = .07$, $p < .05$). While symbolic threat was the primary predictor of bias ($\beta = .19$, $p < .001$) (safety threat: $\beta = .059$, *ns*), higher safety threat exerted a stronger effect on action tendencies ($\beta = .23$, $p < .001$) (symbolic threat: $\beta = .13$, $p < .001$).[1]

Over and above the control variables, the model explained 25.2 percent of the variance in offensive action tendencies

1 The control variables in our model also exerted significant effects. Higher income was predictive of weaker offensive action tendencies ($\beta = -.09$, $p < .05$), lower realistic threat perceptions ($\beta = -.10$, $p < .05$) and more positive contact ($\beta = .10$, $p < .01$). Values for positive social experiences were also higher for people with higher levels of education ($\beta = .25$, $p < .000$). Females were less likely to report exposure to violence ($\beta = -.16$, $p < .001$) and reported less personal-level threat ($\beta = -.07$, $p < .05$). With increasing age, respondents reported weaker negative action tendencies ($\beta = -.144$, $p < .001$), less exposure to violence ($\beta = -.13$, $p < .001$), lower threat surrounding symbolic expression of identity ($\beta = -.10$, $p < .01$) and more positive experiences with outgroup members ($\beta = .13$, $p < .001$). None of the other effects of the control variables reached statistical significance.

and 30.8 percent of the variance in ingroup bias, as well as 10.7 percent and 5.7 percent of the variation in safety and symbolic threat, respectively. Neighbourhood accounted for 8.5 percent of the variance in exposure to violence and 23.9 percent of the variation in positive social experiences.

Breakdown of effects

In order to assess whether social experience and threats acted as mediators in the model, we broke the effects down into indirect effects and total indirect effects. We detected a number of indirect effects, although some of these effects were negligible, for which reason we only report effects that were significant at the $p < .001$ level. Our results show that positive contact acted as a significant mediator in the relationship between neighbourhood and ingroup bias (IE = –.09, $p < .001$), and also exerted an indirect effect on bias by reducing threat perceptions surrounding symbolic identity expression (IE = –.04, $p < .001$), as well as an indirect effect on action tendencies by reducing threats to safety (IE = –.06, $p < .001$). Positive contact also acted as a significant mediator in the relationship between neighbourhood and threats to physical safety (IE = –.06, $p < .001$) and between neighbourhood and symbolic threat (IE = –.05, $p < .001$). Exposure to violence only acted as a significant mediator in the relationship between neighbourhood and threats to physical safety (IE = .03, $p < .001$). And threats to physical safety significantly mediated the relationship between neighbourhood and offensive action tendencies (IE = .03, $p < .001$). Together, positive contact and threats to physical safety exerted a mediational effect in the relationship between neighbourhood and action tendencies (IE = –.01, $p < .001$), as well as in the relationship between neighbourhood and ingroup bias (IE = .01, $p < .001$).

Tests of alternative path models

We tested a number of alternative theoretical predictions to rule out the possibility that the relationships between some of our constructs could also operate in opposite directions than those specified in the present model. For example it could be argued that threat perceptions predict willingness to engage in contact or that threat perceptions overshadow social experiences. To test this prediction we estimated a model in which we reversed the two threat constructs and positive contact, but not exposure to violence as it is extremely unlikely that threat perceptions could influence this relatively objective measure. This model fitted the data significantly worse than our proposed model, χ^2 (3) = 23.2, $p < .001$, $\chi^2/df = 7.76$, CFI = .981, RMSEA = .084, SRMR = .020; $\Delta \chi^2 = 24.9$, df = 2, $p < .001$, and inspection of the path coefficients revealed that positive contact was a stronger predictor of both types of threat than were threat perceptions of positive contact in the reverse model. We tested the difference using a calculation procedure for non-normal outcomes, described by Satorra and Bentler (2001).

Similarly, it might be argued that levels of prejudice affect the choice to engage in contact, and hence also how contact is perceived. A model where we reversed the order of ingroup bias and contact also yielded a worse model fit, χ^2 (5) = 71.5, $p < .001$, $\chi^2/df = 14.20$, CFI = .938, RMSEA = .118, SRMR = .033, $\Delta \chi^2 = 74$, df = 4, $p < .001$. A model in which we reversed the order of ingroup bias, contact and threat– so that bias preceded threat and contact, and threat also predicted contact– also yielded poorer model fit, χ^2 (3) = 25.1, $p < .001$, $\chi^2/df = 8.36$, CFI = .979, RMSEA = .088, SRMR = .017; $\Delta \chi^2 = 25.6$, df = 2, $p < .001$. Although it may also be argued that previous experience of positive contact might determine the choice of mixed neighbourhood, and equally that exposure to violence might determine choice of segregated environment in Northern Ireland, we believe this to be extremely unlikely because most of the large residential movements to segregated environments in Northern Ireland occurred in the late 1960s and early 1970s, with the beginning of civil unrest in Northern Ireland (Boal and Hadden 1977). Moreover, we asked respondents to report the average time they had lived in the neighbourhood. Approximately 25 percent of individuals reported having lived in the neighbourhoods all their life, while for the remaining respondents the mean number of years they had lived in the neighbourhood was 22 ($M = 21.74$, $SD = 14.74$).

8. Discussion

In this paper we have tested some of the predictions made by threat and contact theory for the relationship between context and prejudice. We specifically examined the effect of living in segregated versus mixed neighbourhoods in Northern Ireland on outgroup orientations, taking into

consideration two intervening factors: social experience and threat. In general, our predictions were confirmed. Our research demonstrates that living in a mixed neighbourhood in Northern Ireland can have positive effects on outgroup perception, such that respondents living in mixed neighbourhoods were less likely to favour the ingroup over the outgroup, and were also marginally less likely to report negative or offensive action tendencies towards the outgroup. Moreover, respondents in mixed areas were more likely to have experienced positive contact with members of the other religious group. Positive contact also partially mediated the effects of context on ingroup bias, such that neighbourhood also exerted an indirect effect on intergroup perception.

These findings are in general alignment with the predictions of contact theory, and counter the general claims of threat theory that desegregation has negative, rather than positive, consequences for intergroup relations. Thus we add not only to the existing body of research on the positive effects of contact (Brown and Hewstone 2005; Pettigrew and Tropp 2006), but also demonstrate that contact exerts an important effect on the social context/prejudice link (see also Wagner et al. 2006). However, our analysis also shows that living in a mixed environment in Northern Ireland can have some negative consequences. Our research showed that respondents living in the mixed areas reported more exposure to violence and higher levels of threats to physical safety than respondents in the segregated neighbourhoods. This substantiates the view that segregation can offer safety from intimidation and attack (Boal and Murray 1977). Two points do however need to be kept in mind when interpreting these results. First, our measure of violence exposure is sub-optimal as it does not allow for identification of the period during which exposure to violence occurred, nor the exact location where violence was experienced. Furthermore, it captured a selective range of items. Secondly, the neighbourhoods we focused on in the present context are less affluent than other mixed neighbourhoods in Northern Ireland. Typically, mixed neighbourhoods in Northern Ireland are much more affluent than segregated environments, yet in the present context we focused explicitly on mixed neighbourhoods of lower socio-economic status in an attempt to minimize differences between the mixed and the segregated neighbourhoods. Hence it cannot be concluded that living in a mixed neighbourhood is unavoidably associated with more negative experiences. Instead, it may be the case that only those mixed areas that are of lower socio-economic status than other mixed areas show a greater likelihood for conflict exposure. Importantly however, it needs to be kept in mind that exposure to violence is a less likely occurrence than intergroup contact, as also evidenced in the low reported mean scores, for which reason these negative experiences do not overshadow the positive effects of contact. This perhaps is one of the most interesting findings in the present context, that despite the exposure to somewhat more negative experiences and higher threat perceptions, living in these mixed areas still affords opportunities for positive contact and is associated with less negative action tendencies and more positive outgroup attitudes.

Although our research was primarily informed by contact theory, we do not deny that threat can exert negative effects on intergroup relations. Rather we sought to integrate, extend and simultaneously test some of the predictions made by both threat theory and contact theory. As a result of this our research makes a number of important contributions to understanding the relationship between the social environment and prejudice. Our research highlights in particular the importance of social experience in the immediate social environment and the extent to which this can not only affect outgroup attitudes, but also threat perceptions concerning the outgroup. We argue that threat, rather than being equated with context, should be regarded as an intervening link in the relationship between context, contact and prejudice, with both context and contact as antecedents of threat. Our findings confirm this general set of relationships, demonstrating that both positive and negative social experiences (i.e. contact and exposure to violence) exerted effects on threat perceptions and outgroup orientations.

Our findings also confirm the typically reported negative relationship between threat and action tendencies (Cottrell and Neuberg 2005; Mackie et al. 2000) and threat and ingroup bias (e.g. Tausch, Hewstone, et al. 2007). These findings highlight the importance of studying both positive and negative social experiences and their consequences for threat perceptions and prejudice (Stephan

and Renfro 2002). In addition our results demonstrate that positive contact with members of the outgroup is associated with reduced threat perceptions, both at the personal and the group level, which supports previous research that has shown both individual-level and group-level threats to be affected by positive contact (e.g. Tausch, Hewstone, et al. 2007; Tausch, Tam, et al. 2007). Conversely, exposure to violence is associated with higher threats to physical safety, more negative action tendencies and a higher degree of ingroup bias. This implies that in situations of ethnopolitical conflict actual or indirect exposure to violence can explain at least some of the variation in outgroup attitudes, a fact that is often implicitly assumed but rarely explicitly measured in social psychological and sociological research on intergroup relations in conflict, which tends to focus on milder forms of intergroup bias, such as ingroup favouritism, rather than outgroup derogation (Hewstone, Rubin, and Willis 2002).

It has been argued that studying intergroup phenomena at the macro-level (e.g. at country or state level or in extended metropolitan areas), is often suboptimal and may mask true variation in intergroup perceptions (Oliver and Mendelberg 2000; Quillian 1995; Wagner et al. 2006). Our research is of particular value as it not only demonstrates the importance of studying micro-contexts, but also highlights the importance of studying micro-neighbourhoods in ethnopolitical conflict settings. In situations of political conflict, intergroup phenomena are often studied at the macro-level, with little attention paid to contextual variations or–more importantly–the consequences of such variation. Our research, however, shows that space and place can uniquely predict intergroup perception, over and above the effects of education, income, gender or age. Moreover, neighbourhoods are often the principal unit of analysis for personal interaction, and hence also for intergroup interaction, and thus it is these micro-level sites where the effects of intergroup contact should be most pronounced (see also Wagner et al. 2006). Our research thus demonstrates that even in situations of intractable conflict, as witnessed in Northern Ireland, the immediate social context and environment can play a key role in determining intergroup relations.

A number of methodological, conceptual and theoretical limitations need to be addressed. It should be noted that this study was cross-sectional, thus not allowing us to draw confident causal inferences, a concern that is also typically raised in the context of intergroup contact research (Pettigrew 1998). We attempted to address the issue of causality by testing a series of alternative models which specified alternative causal orders of the model variables. Each of these alternative models fits the data significantly worse than the proposed model. This allows us to draw the tentative conclusion that in Northern Ireland contact is more likely to precede ingroup bias than vice versa. Similar conclusions have been drawn in other contexts (e.g. Wagner et al. 2003). However, the issue of direction remains an ever-present concern with cross-sectional designs and needs to be kept in mind when interpreting results obtained by means of cross-sectional methodology. We therefore strongly recommend that future research uses longitudinal designs when examining the relationship between context and prejudice, which will then allow us to draw conclusions about causality with greater confidence. It might also be useful to consider additional mediational variables that are conceptually similar to those tested in our model. For example, future research should test whether similar effects are obtained when different types of individual-level threats (e.g. intergroup anxiety) and group-level threats (e.g. threat to status or power) are included.

One conceptual problem lies in our use and definition of the term "neighbourhood", a problem that is typically observed in research on neighbourhood effects, given that "neighbourhood" is a relatively fluid and ambiguous term. Although our four chosen neighbourhoods correspond to electoral wards and are thus clearly defined spaces, with unambiguous boundaries and names, we did not tap into the subjective meaning of what respondents perceived their neighbourhoods to be. It is known that individuals can hold varying interpretations of what they perceive a neighbourhood to be, and that perceived neighbourhood boundaries may even differ between people living in close vicinity to each other (Coulton et al. 2001; Lee, Campbell, and Miller 1991). What defines a neighbourhood may also be context-dependent, such that neighbourhood boundaries may differ depending on the frame of reference used. For example, when a person is asked whether they work in the neighbourhood the boundaries may be perceived as stretching further than when they are asked whether

they socialize in the neighbourhood. It is these subjective and contextual variations that should be considered in future research. Such research may aim to capture such individual nuances rather than purely focus on place of residence as a predictor of neighbourhood effects. This will allow us to draw even stronger conclusions about the effects of neighbourhood– and especially segregated versus integrated neighbourhoods – on threat perceptions and outgroup attitudes. Alternatively, if relying on objectively defined areas, such as electoral wards, it might also be useful to assess individuals' level of identification with these areas, which may act as a moderator of relationships.

Moreover, future research should focus more extensively on testing both positive and negative intergroup contact (Pettigrew and Tropp 2006). The two types of social experiences included in our analysis, positive contact and exposure to violence, cannot be conceptually placed at opposing ends of a unidimensional construct. Not only is exposure to violence a construct that is primarily of relevance in situations characterized by violent intergroup tensions, but it is a much more context-specific and objective and less controllable social experience than intergroup contact. Thus we should explore the extent to which context exerts effects on both positive and negative social experiences that are conceptually equivalent, such as positive and negative experiences of intergroup contact. Such an analysis would help clarify whether living in mixed neighbourhoods truly holds more positive than negative implications for intergroup relations in conflict. If living in mixed neighbourhoods generally exerts a stronger effect on positive than negative contact over and above the effects on exposure to violence, this would demonstrate even more clearly the benefits of living in a desegregated environment. Finally, it should be noted that some of our constructs were assessed using a limited number of items. Future research should therefore consider including a greater range of items to measure social experiences.

Nonetheless, our research has made a number of significant contributions to understanding the key role of exposure to violence on outgroup perceptions and how it can be counteracted. Our research highlights that living in mixed neighbourhoods in situations of ethno-political conflict can go hand in hand with closer physical proximity to intergroup tensions and actual conflict. However, we also demonstrated that living in mixed neighbourhoods can hold positive implications for intergroup relations. Living in a desegregated and diverse environment provides opportunities for engaging in intergroup contact and therefore allows for more positive contact experiences. In sum, our findings demonstrate the importance of measuring both negative and positive social experiences, as well as explicitly factoring in threat perceptions when examining the link between context and prejudice. In this way, without overlooking the pernicious effects of exposure to violence, we have also highlighted the positive consequences of intergroup contact for the reduction of intergroup conflict.

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Youth Criminality and Urban Social Conflict in the City of Rosario, Argentina: Analysis and Proposals for Conflict Transformation

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Youth Criminality and Urban Social Conflict in the City of Rosario, Argentina: Analysis and Proposals for Conflict Transformation

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The present article describes and analyses youth criminality in the city of Rosario, Argentina, between 2003 and 2006. Key actors' understandings of and responses to the conflict were investigated by means of semi-structured interviews, observations, discourse analysis of policy documents, and analysis of secondary data, drawing heavily on the experience of the author, a youth worker in Rosario. The actors examined were the police, the local government, young delinquents, and youth organizations. Youth criminality is analyzed with a conflict transformation approach using conflict analysis tools. Whereas the provincial police understand the issue as a delinquency problem, other actors perceive it as an expression of a wider urban social conflict between those who are "included" and those who are "excluded" and as one of the negative effects of globalization processes. The results suggest that police responses addressing only direct violence are ineffective, even contributing to increased tensions and polarization, whereas strategies addressing cultural and structural violence are more suitable for this type of social urban conflict. Finally, recommendations for local youth policy are proposed to facilitate participation and inclusion of youth and as a tool for peaceful conflict transformation.

1. Introduction

During the 1990s when citizens of the city of Rosario, Argentina, were asked what the main problems that affected their lives were, they replied that employment was their first concern, followed by security and education. In more recent years, however, security ranked as the most pressing concern. Incidents of violent robbery have risen and thus feelings of insecurity have grown dramatically. The number of youth who engage in violence or are victims of it (e.g. delinquency, fights between gangs) has risen since the 1990s. According to Ciaffardini (2006) this was due to a lack of social cohesion, a breakdown of family structures, high unemployment rates, the deterioration of the education system, and other factors. Responses to this situation and feelings of insecurity include: the creation of "private" neighborhoods outside the city, where groups of wealthier families build their houses surrounded by a wall or fence and safe-guarded by private security forces; the increase of private security companies and services; and avoidance of certain disadvantaged areas, slums, or poor neighborhoods of the city by police forces, citizens, and public transportation.[1] These reactions have deepened social fragmentation and conflict in the city; presently, there is an underlying polarization between those who are "in" the city and abide by its "civilized" norms of conduct, and those who are "out," criminals who defy law and order. The dominant discourse of politicians and media refers to control and reintegration of "youth in conflict with the law" and the need to reinforce the existing security apparatus. Insecurity is understood and treated as an issue of criminality and juvenile delinquency, not as a wider social conflict.

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1 In Argentina slums are colloquially called "villas miseria."

What is the urban social conflict in Rosario beyond the dominant discourse? This question led to others, including: What are the causes of this conflict? How do different actors define and understand the conflict? What are their proposed solutions? How can policy be a conflict transformer? These questions show that there is a need to research these phenomena and identify what good practices currently exist to respond to this type of problems. There is a need for research on public youth policies using a new paradigm of participatory democracy which considers youths as actors and resources, and not only as passive beneficiaries or troublemakers. The aims of this article are to describe and analyze the problem of youth criminality as an expression of urban social conflict and a response to structural violence in the city of Rosario, and to explore the responses of key actors to this problem, in particular to consider the existing youth policies of local and state government and the contributions of non-governmental youth organizations and to propose recommendations for improving current interventions. It is important also to note the limitations of this study. Given that no similar studies have been undertaken from a conflict transformation perspective, the analysis remains of an exploratory and descriptive nature, relying on qualitative methodologies. The aim of this study was not to test causal relations but rather to describe and understand how the main actors perceive the causes of criminality, whether they link this to wider social conflicts, and how they address the issue through their behavior and policies. Further research and testing of explanatory hypothesis are needed as detailed in the conclusions.

This article attempts to go beyond the predominant discourse that identifies the conflict as a "youth violence" phenomenon. We are dealing not with a single conflict, but rather a complex of conflicts which overlap and are intertwined with each other. There is an underlying macro-level socioeconomic conflict between those who feel excluded and those that believe that their prescriptions do not lead to exclusion. In this context, the issue of youth criminality is embedded in this larger inclusion-exclusion conflict, and in a generational one. In predominant discourses, young people are depicted as the problem; they are seen in a negative light, as criminals or as victims of unfair structures rather than as social resources. Within this discourse, their engagement in violence is due to their deviation and anomie. In Argentina, repression is the main strategy of social control used by the police (CELS 2005). One conclusion of this study is that this response has been inadequate and has not improved the situation. The discourse hides the root causes of the conflicts, consequently hindering the search for effective solutions. This article argues that the observed direct violence – armed robbery, and violence during robbery – is a response to the presence of extreme structural and cultural violence. Therefore, no public policy based *only* on stopping direct violence will be successful. An effective answer to this problem must attempt to address structural and cultural violence. Although an intergenerational conflict exists, this conflict is not the only (or primary) one. The conflict is not only between "youth" and "adults" but rather between the "included" and the "excluded" of society.

This article aims to contribute to the fields of conflict analysis and peace studies by considering the views and perspectives of various actors in the conflict and their potential to be actors for peace. A conflict transformation framework is applied to a current policy issue in the city of Rosario, Argentina, and offers constructive proposals for the transformation of the conflict. Its relevance for the study of peace and conflict lies in its analysis of an urban-level social conflict, which is an intra-society conflict at the meso-level (Galtung 2004). The analysis of this type of conflict fills a gap, as conflict transformation and peacebuilding analyses are often contextualized in inter-state and intra-state scenarios. Although the analysis is specific to one particular medium-sized city in South America (population ca. one million), it is relevant for cities worldwide where similar trends appear, from the favelas of Rio to the suburbs of New York and the banlieues of Paris. The fact that social inclusion issues are relevant for most large cities worldwide shows that local-level conflicts between included and excluded represent a global issue of concern. Furthermore, this article contributes to the analysis of public policies in the fields of youth and violence prevention.

2. On the Conceptual and Methodological Approach

2.1. Youth

Even though there is a growing interest in youth, and development agencies, governments and non-governmental

organizations state that they work with or for youth, the concept of youth itself has been under debate in recent decades and has been redefined by various social and demographic changes. Youth refers to a heterogeneous group encompassing individuals with various ethnicities, religions, races, genders, and classes. "Some favor biological markers, in which youth is the period between puberty and parenthood, while others define youth in terms of cultural markers – a distinct social status with specific roles, rituals, and relationships" (USAID 2004). Historically, youth has been defined through age, as the period in between childhood and adulthood, marked by social rituals and customs. Adulthood is associated with marriage and forming a new family as the main indicator of maturity. In modern societies the period where childhood has been left behind but the responsibilities of adulthood have not yet been assumed has become longer. Adulthood is associated with entrance into the labor market and assuming civic and political responsibilities (Tavella et al. 2004). During this period, youth can stay longer in the formal education system and enjoy recreational activities which complement their social and cultural education. It is a time in which they can find their vocations, draw up their life projects and plan their futures, but most importantly, acquire technical skills to enter the labor market. This is linked to the idea of progress and industrialization processes which need a more qualified labor force. The concept of youth was constructed as a social representation of a future full of hope (when young people seemed to abide by the rules and buy into the dreams of progress and the established order) and as a future social threat or source of chaos (when youth challenged the established order and social values) (Tavella et al. 2004). This idea of youth constructed during modernity has been challenged, as the idea of progress itself is questioned. Modernity meant progress and the underlying idea was that a better future could be planned, so youth planned and invested time in their professional careers as this was expected from them to ensure progress of society.

However, presently this belief in progress is being weakened by the failure of socioeconomic paradigms, whether communism or neoliberal capitalism, to bring about development and prosperity. This failure, consequently, affects the concept of youth. In both systems, entrance into the world of work is the main channel for participation in a society. Unemployment, underemployment, exploitation, and child labor have produced disenchantment with a social system that is unable to provide this vital resource and human right. This has led to uncertainty and lack of trust in overarching social proposals; this disillusionment is a sign of our times.[2] This crisis of the idea of modernity and progress has an enormous impact on youth and the concept of youth. Youth cannot reach adulthood if they cannot find employment. Often youth find employment much later in their lives or are underemployed all their lives. In this sense, youth becomes a timeless category. Being young becomes an end in itself beyond age. Youth becomes a sociocultural model that influences all spaces of public and private life, as being an adult stops being an attractive goal and becoming old seems to be a curse. Being youthful is "cool" or "in," and it translates into fashion, entertainment, and cultural consumption in general, made possible by plastic surgery, cosmetics, and endless ways of looking and feeling young which only a few can afford. The idea that the future is now and that tomorrow is far away shapes the way young people see life and plan their life strategies. Culture is influenced by the idea that "anything goes" ("Todo vale") to be happy today. The context of this cultural and structural crisis associated with the impact of globalization processes is key to understanding why and how young people in Rosario are influenced, and influenced differently according to their position in the socioeconomic structures, how they understand their lives and justify their choices. While some youth are, and can be, youth longer,[3] in sectors of the society subject to deeper crisis or upheaval the concept of youth may radically alter as boys and girls are forced to take on adult responsibilities at a very young age.

2 This crisis is associated with the postmodernist movement which called into question the ideas of progress, rationality, and objectivity upon which modernism was based. Authors like Jean Francois Lyotard, John Paul Saul, Michel Foucault, and Jacques Derrida were associated with this movement.

3 In Rosario, demographic trends in the upper classes are similar to those found in developed countries, motherhood at thirty. The Council of Europe considers youth to last until the age of thirty.

2.2. Peacebuilding and Conflict Transformation

Societies and individuals often respond to problems and conflicts using violence and force. Several debates exist on whether human beings are inherently violent and questions like: "Do young people 'naturally' respond to violence with more violence?" appear. In 1986 a group of scientists met in Seville, Spain, and drafted the "Seville Statement," whose purpose was to dispel the widespread belief that human beings are inevitably disposed to war as a result of innate, biologically determined aggressive traits.[4] The statement claims that "It is scientifically incorrect to say that we have inherited a tendency to make war from our animal ancestors. Although fighting occurs widely throughout animal species, only a few cases of destructive intra-species fighting between organized groups have ever been reported among naturally living species, and none of these involve the use of tools designed to be weapons. . . . It is scientifically incorrect to say that war or any other violent behavior is genetically programmed into our human nature." This is an important starting point when studying youth who are condemned by media and society as violent and trouble makers. Contrary to certain popular beliefs and the opinions of some criminologists, young delinquents are not born "evil" and human beings are not by nature violent and criminals.

This analysis is nurtured and guided by a nonviolent peacebuilding and conflict transformation approach, mostly based on the work of Johan Galtung and his "Transcend" method (Galtung 2000). At the same time, Miall (2004) indicates that a diversity of approaches in peacebuilding is related to the changing nature of contemporary conflicts and reflects the need for new tools of analysis. Miall presents three fundamental characteristics of contemporary conflict: 1) they are asymmetric, marked by inequalities of power and status; 2) they are protracted, defying cyclical or bell-shaped models of conflict phases; and 3) these protracted conflicts disrupt societies affected both by local struggles and global factors. Miall argues that these characteristics challenge the approaches which focus on two parties and win-win situations. This is particularly relevant for the case of youth in Rosario. The complexity of the situation requires the consideration of multiple actors in a long term and integrative social change perspective. Moreover, the three characteristics of contemporary conflicts mentioned by Miall are present in the urban conflict in the city of Rosario. First, the actors are not clearly defined. They are numerous, diverse, less organized, more elusive to cluster or group under one leader or one voice, and highly unequal in terms of power. Second, the conflict is ongoing, with periods of more or less intensity. It is not possible to identify one single event which started, triggered, or ended the violence, so the bell-shape model is of limited use for describing its dynamics. Thirdly, there are local and global factors which interact in the same space. What is important to clarify is that a conflict transformation approach which focuses on the transformation of relationships, interests, and discourses and deals with the root causes of the conflict seems more appropriate and relevant than those that focus on an agreement or "quick fix."

In this article, peacebuilding is understood as a process which involves a full range of approaches and interventions needed for the transformation of violent relationships, structures, attitudes, and behaviors. It involves creative and simultaneous political and social processes for finding transcendent solutions to the root causes of conflicts, dialogue, and efforts to change attitudes and behavior. Peacebuilding is multidimensional and it includes the full range of activities from post-war reconstruction to preventive measures. Peacebuilding encompasses all activities which aim to eliminate or mitigate direct, structural, and cultural violence. Peacebuilding and conflict transformation can only be possible if diverse needs, interests, and expectations are addressed, and if sincere and future-oriented processes of healing and reconciliation take place. Consequently, the interrelated approaches of conflict transformation and peacebuilding are the most appropriate to guide this conflict analysis as multiple actors are considered and the main focus is on dealing with the root causes of the

4 The Seville Statement on Violence was drafted by an international committee of twenty scholars at the sixth International Colloquium on Brain and Aggression held at the University of Seville, Spain, in May 1986, with support from the Spanish Commission for UNESCO. UNESCO adopted the Seville Statement at its twenty-fifth General Conference Session in Paris, October 17 to November 16, 1989. The statement has been formally endorsed by scientific organizations and published in journals around the world. UNESCO is preparing a brochure to be used in teaching young people about the statement.

conflict, changing relationships, structures, attitudes and behavior in a long term perspective, and building creativity and local capacities.

Another conceptual note should be made on the concept of conflict, which is often used as a synonym for violence and thus bears negative connotations as a fight or struggle, as a disagreement between people with different ideas or beliefs or as an incompatibility (or perceived incompatibility) of goals. Conflict can also be defined positively as a chance for actors to express their differences and become aware of others' perceptions, interests and needs, and thus represent an opportunity for change and growth. Conflict can also be seen as a natural process, part of life and relationships (Galtung 2000). According to Galtung's approach, conflict may lead to violence but it is conceptually different. At the core of a conflict, the root, there is always an incompatibility between goals, referred to as contradiction. While conflict means an incompatibility of goals, and is natural and necessary for human and social development, violence oppresses, destroys, and hinders this development. Violence is only one way of dealing with a conflict; it is destructive and rarely transforms the conflict positively. Three forms of violence are conceptualized by Galtung (2000): a) direct violence is an explicit act or behavior that physically damages a person or object; b) structural violence refers to the violence built into political, social, and economic systems that determine unfair distribution of power, resources, and opportunities, leading to actors feeling oppressed and unable to meet their needs; and c) cultural violence is violence entrenched in cultural norms, beliefs, and traditions that makes certain types of violence seem legitimate, accepted, normal, or natural. From this perspective, a high degree of socioeconomic inequality constitutes a feature of structural violence as long as this distribution of power, resources, and opportunities is unfair. Yet what constitutes "unfair" distribution is debatable. Extreme material poverty (lack of food, shelter, and health services) is commonly seen as unacceptable, but the debate is about the underlying reasons and structures that lead to poverty or impoverishment. Several historical analyses of Argentina indicate the reasons why the present levels of socioeconomic inequality are the result of unfair distribution of resources, and a few indications of these reasons are mentioned in later sections.[5] Most importantly, the concept of cultural violence is key to understanding how an unfair distribution of resources is sustained and justified over time, especially when some groups appear to be structurally excluded. Social exclusion refers to limitations that some groups face in accessing resources and the perceptions that different groups have about being "part of society" or "out of society". In other words, there may be various degrees of socioeconomic inequality, yet some groups may feel or perceive themselves or others as socially excluded. Cultural violence is then the series of beliefs that justify the unfair distribution of resources and make social exclusion appear as natural or legitimate phenomena. For example, in Rosario, it is common to hear among the upper and middle classes the simplistic and narrow analysis that poor people are poor because they are lazy. This interpretation minimizes or denies flaws in the social system itself; instead it is the individual who is failing to be socially included. These distinctions are important as often only direct violence is analyzed and "treated," and other forms of violence are ignored. The impact of structural violence is often forgotten: "Empirical work should now be started to get meaningful estimates of the loss of man-years due to direct and structural violence, respectively. What is lost in the slums of Latin America relative to the battlefields of Europe during one year of World War II?" (Galtung 1971). In this article, special emphasis is placed on analyzing how these three interrelated types of violence manifest themselves in the urban space and in the reality of young people.

Critical Marxists base their analyses of urban political and social violence on conflict between classes, drawing on the labor theory of value and concepts such as exploitation, class and the accumulation of capital, and the social relations of production. Capitalism and urbanization are inextricably linked, but with no guarantee of social justice. One representative of this current, Enzo Mangione, states in his book *Social Conflict and the City* (1981) that in some Third

5 For studies on social inequality and social exclusion in Argentina see Minujin et al. (1993), Analdi (1997), and Boron et al (1999).

World countries and underdeveloped regions urbanization is still a massive phenomenon due to the persistent crisis of the countryside caused by the mechanization of agriculture and processes of industrialization. The city seems to offer opportunities for employment – or at least survival. As a result cities, especially their peripheries and degraded areas, are overcrowded by internal and international migrants. Often municipal governments cannot respond to this phenomenon with the needed services and urban infrastructure. The lack of housing, services, and basic living conditions leads to waves of social conflict and violence in its different forms. This overall trend has also been seen in various forms in Rosario throughout the twentieth century and up to the present day. Sassen (2003) explains that it seems to be part of the so-called phenomenon of globalization that economic and social flows concentrate in centers and create margins or less advantaged spaces. The increase in criminality and urban violence appear to be a global symptom of growing inequality, even creating "urban glamour zones" and "urban war zones" as she calls them. According to Bauman (2005) the whole system of global domination is based on the institution of urban insecurity that is, deliberately making people afraid and vulnerable so as to easily dominate them.

2.3. Citizenship and Democracy at the Local Level as a Framework for Conflict Transformation

Conflict transformation and peacebuilding rely on values of cohesion, human rights, and non-violent political action. Which political frameworks allow these processes of peaceful structural transformation to take place in practice? Since long-term processes that deal with the root causes of conflict are necessary, the basic framework should be one of a democratic society in which the concept of citizenship has renewed meaning in terms of political, civil, and economic and social rights. The discussion about citizenship and democracy is relevant here as these concepts are typically used by policymakers, donors, and development organizations as "cures" for society's problems.[6] Formal or representative democracies have huge problems in becoming social frameworks for conflict transformation. A deep crisis of representation exists when citizens do not feel that their concerns and voices are heard or taken into account. Although in principle everyone is "included" and part of political society, many actors are in practice excluded and deprived of equal opportunities. Only those with power are involved, excluding large parts of the population.

Violent social conflicts reflect society's failure to include all citizens in public life and to secure their basic rights, suggesting an insufficiently democratic system or a lack of democratic governance. In the context of Latin America, weak institutions are faced with higher demands and with a greater "burden" of implementing unpopular reforms and structural adjustments, whether by choice or external compulsion. These changes are devised to help regional economies fit into the global market economy in a competitive way, sometimes negatively affecting traditional livelihoods and industries. An institutionalized process of conflict transformation and peacebuilding represents a public policy that fosters and develops experiences of participatory democracy. This interaction requires common rules and respect for diversity, which if agreed together prevent violence and create mechanisms for conflict transformation. Borja and Castells (1997) closely relate the status of the citizen to the city. The city is where we live as civic beings; it is the urban environment that constantly realizes the sensation of belonging or not belonging to something called political society. This understanding of the concept of citizenship linked to the sensation of belonging is useful for studying the processes of social inclusion and exclusion. Youth who are excluded and feel "outside" of social and economic interactions try to find a feeling of belonging and acceptance among their peers, sometimes by joining gangs or through illegal activities. In the city of Rosario, and in particular among young people, citizenship remains unrealized. Political, social, economic, and cultural rights are key to the peaceful transformation of conflicts, but their full realization remains nothing but a promise.

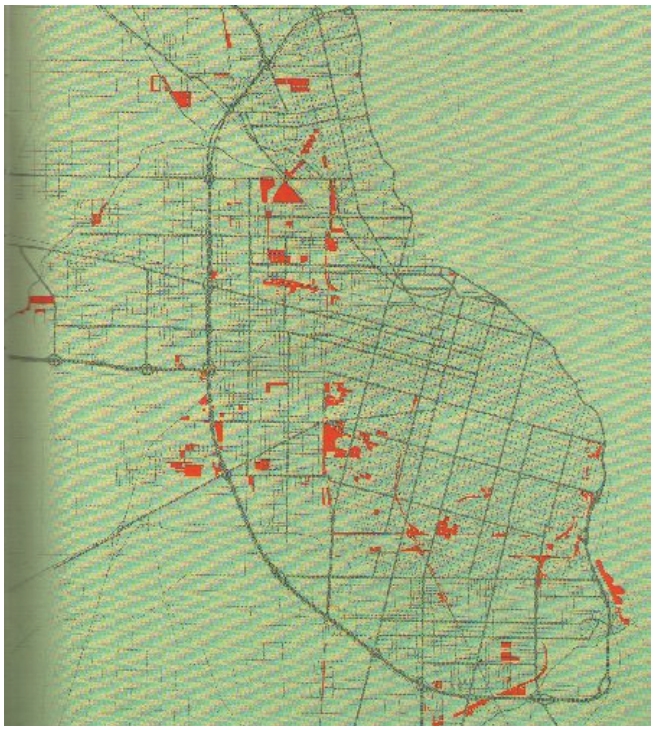
6 Citizenship is a status, social and juridical recognition that a person has rights and duties associated with belonging to a community, almost always based on a common territory or culture. Citizenship accepts difference but not inequality. All citizens are, in theory, equal. The concept of citizenship was first used in the context of the Greek city-states or "polis." Polis means place of politics. In Latin, "civitas" (city) is a place where civic values are exercised.

2.4. Methodology and Tools of Analysis

This research uses three qualitative data collection tools: a) participatory observation by the author who is a citizen of Rosario and was a youth worker in Itatí neighborhood, a slum area in the South-West District, from 2000 to 2003 and continued to visit and observe the situation in a systematic way from 2003 to 2006; b) interviews conducted in December 2005 and January 2006 with four young people who live in the South-West District, three youth workers who work within the same district, and more particularly in "Itatí neighborhood", and three representatives of the local government, (Municipal Youth Center); and c) analysis of materials produced by youth workers and youth in slums, including articles of *El Ángel de Lata* magazine (Angel de Lata 2006) which is a social project that involves several youth organizations and institutions working on social inclusion of youth, strongly inspired and guided by the work of Claudio "Pocho" Lepratti.[7] This paper also draws on published studies on youth in Rosario and criminality in Argentina. It is important to note that no formal interviews were conducted with young people who were or are engaged in criminal activities as this would have involved investing time in building trust and the use of ethnographic methodologies that were not possible given the limited scope of this study. Rather the analysis draws on informal interactions of the author with other young people and on the reflections published in *El Angel de Lata*.

The main tools of analysis used are: a) Galtung's classification of the three types of violence (direct, structural and cultural); and b) the ABC triangle, which analyses attitudes, behaviors, and a conflict or contradiction (Galtung 2000). Attitudes are emotions, such apathy or hatred, and cognitions include how the parties map the conflict. Behavior is the spectrum of acts ranging from apathy to violence. The root of the conflict is the contradiction. Galtung states that negative attitudes and behavior are like metastases to the primary tumor. They may become prime causes in their own right, but the root cause of conflict is the same: parties that have incompatible goals.

Figure 1: Map of Rosario. Irregular settlements are marked in red. Source: Municipality of Rosario



3. Understanding the Problem: Urban Social Conflict and Youth in Rosario

Rosario's neighborhoods follow the center-periphery model. The center is populated by high- and middle-income families, and is surrounded by a first circle of working class and low-income families and a second circle of slums, locally called "villas miseria." According to data presently available from the websites of the municipality and UN-Habitat (UN-Habitat 2006; Rosario Habitat 2006), approximately 155,000 people (13 percent of the population of Rosario) live on land which is not their property in ninety-one irregular settlements, occupying 10 percent of the city's area (see

7 He was shot by the police on December 18, 2001, on the roof of the school where he worked. Human rights organizations and witnesses argue that he was shot because his activities mobilized youth and this was inconvenient for the police. "Pocho" was a deeply committed social and youth worker who lived in the slum in Ludueña area and organized activities for vulnerable youth in the slum, and who started youth groups and networks. The Ángel de Lata project produces and distributes a magazine and organizes workshops and social integration activities. At the same time, selling the magazine is an income-generating activity for street children and youth and their families.

Fig. 1). However, a report published by the social movement Libres del Sur on December 5, 2006, estimates that almost one third of the population of Rosario lives in slums and irregular settlements. This situation was aggravated by a storm that left many homeless and led to the establishment of five new settlements. The living conditions in these settlements are extremely poor and the rates of unemployment are dramatically high. Most of these settlements are on public land left unused by the national railway system and some on abandoned private property. These settlements have poor access to public services such as running water or electricity.

This section describes the different forms of violence present in this conflict and show how youth criminality is an expression of an urban social conflict and a response to structural violence. Direct violence is an expression of structural violence in the form of social fragmentation and socioeconomic exclusion. Firstly, direct violence is analyzed as those acts or behavior that are easily recognizable and which most institutions typically consider and measure as violent. Secondly, the links between direct and structural violence in the lives of young people are analyzed. Lastly, the relationships between direct, structural, and cultural violence are examined, along with the way attitudes influence youth and state behavior.

3.1. Direct Violence in Rosario

Provincial police data indicate that in 2001, 39,654 crimes were registered in the Rosario department, with 43,815 in 2002, 41,497 in 2003, 45,294 in 2004 and 56,970 in 2005 (Santa Fe 2006). A report published by the Argentine Federal Police based on provincial police data, calculates that in 2001 61 percent of all crimes in Rosario were against property and 24 percent against persons (Policía Federal Argentina 2006). The increase is substantial when it is taken into consideration that many small thefts are not reported. Being robbed and attacked is a common experience in Rosario. Only a few of these incidents are reported, for reasons including mistrust of the police and the ineffectiveness of the responses that the police and judicial systems offer. In an interview published in January 2007 (Ángel de Lata 2007), "El Ale," a former street child who lives in a slum and now works in a social project, reported that 20 percent of those who live in the slum are involved in stealing or in drug dealing or consumption. He estimates that out of every twenty pesos acquired from stealing ten are used for drug consumption and ten are given to the thief's family to cover basic needs. The upper and middle classes often perceive only the type of direct violence of which they are victims, while poorer sectors of society suffer harassment and violence perpetrated by the police. Journalist and social worker Osvaldo Aguirre considers that police brutality has increased, especially since 1999 when Governor Carlos Reutemann took office. He describes how the police operate in a system of impunity. The judicial system hides evidence, delays trials, and protects police officers, especially those of higher ranks (Aguirre 2006). The priest of Ludueña neighborhood, Edgardo Montaldo, who has been working in the poorest areas of the city for thirty-eight years, explains that the situation is dramatic. He summarizes it in a strong statement: "I am against abortion but also against this system of death: kids commit suicide, they kill each other or they are killed by the police" (Salinas 2006). Although political violence is not as serious as in the past or in other Latin American countries, human rights organizations such as APDH (Asamblea Permanente de Derechos Humanos) claim that the seven persons who were killed by the police in Rosario during demonstrations on December 18 – 20, 2001, were targets of a deliberate attempt by the police to infuse fear among social and political activists (three were less than eighteen years of age, four others under thirty-five). There are many irregularities in the investigation and to this date no clear results. Only one police officer has been imprisoned (for the death of Claudio Lepratti), while investigations into other cases are slow or have been blocked (Biblioteca Lepratti 2005). The police role is perceived by youth, youth workers, and social activists as repressive and on the side of those who are powerful. Harassment and repression take various forms. The police target poor young people as criminals or potential criminals. Often they harass them in shanty towns to "keep them in line." An example of this is unjustified detentions of "suspects," usually young people of low income and aboriginal ethnic background, pejoratively called "negros villeros." Social activists are intimidated to promote fear and demobilize them. For example, human rights organizations claim that the deaths of December 2001 were meant to intimidate and send the message to social activists that social protests must stop and that the police could act with impunity. Social demands are delegitimized in public discourse and

media. Protesters are often referred to as "troublemakers," "irresponsible," and "lazy people who do not want to work." The justice system is selective and corrupt. It punishes some crimes but allows impunity for "white-collar" crimes and corrupt practices at the higher levels of the political spectrum.

3.2. Structural Violence in Rosario

Ciafardini confirms in his recent study (2006) that even though statistics are scarce and inaccurate, there has been a considerable increase in crime that is intrinsically related to the negative social effects of neoliberal policies. According to this criminologist, several studies of Latin American cities show that those engaged in criminal activity are usually young males who come from the poorest and most disadvantaged neighborhoods. This is a tendency observed worldwide in processes of urbanization and industrialization and is consistent with gender roles; usually males are expected to obtain jobs and provide economic support to their families and are the "brave" ones (Clinnard and Abbott, 1973). In relation to the age of offenders, Ciafardini finds that during the 1990s in the city of Buenos Aires the average age of offenders decreased; a tendency also observed in other big cities in Argentina, including Rosario. Before 1998, crimes were committed mostly by people aged twenty-six or older. In 1998, the age of offenders started to decrease prominently and progressively, with a sharp increase in young offenders aged fifteen to eighteen, a phenomenon rare in previous years. Ciafardini describes in detail that the economic crisis is a determining factor in the increase of violent crime against property. He explains that there is no direct relation between poverty and crime, but between high levels of inequality and crime.

The relation is complex and various factors are present. It is not poverty in itself that provokes young people to rob, but a combination of relative poverty (increasing inequality) and social exclusion; in other words, becoming poorer and poorer in relation to others who become richer and richer, and feeling "left out." This exclusion is also aggravated by the abrupt deterioration of the socioeconomic conditions and the lack of opportunities and alternatives. Feelings of frustration and anger and sentiments of "I don't care" are most common in the sons of those who lost their jobs, who grew up hearing about a prosperous past and now live in extreme poverty and marginalization. Exclusion from employment and educational opportunities, experiences of family crisis and even family violence, combined with social discrimination and racism, affect young people in devastating ways. They are deprived not only of tools to develop their life strategies but also of hope in the future. This is clearly shown in the Brazilian movie *City of God*, which depicts the equation youth + misery = violence. Other factors mentioned in Ciafardini's study include the increase in young people's spare time and the increase in their consumption of alcohol and illegal drugs. He notes that more than 13 percent of young people in Argentina neither study nor work, which reflects the alarming social exclusion they suffer. Most young people find great difficulties in entering the job market. Most study or are underemployed as a survival strategy, as described in the study about being young in Rosario" published by the National University of Rosario (Tavella 2004).

This exclusion of young people occurs in a context of social and economic crisis. In Rosario the impact of neoliberal economic policies was disastrous for the local economic structure, and consequently for local social cohesion. The introduction of imported products destroyed local industries. As a result unemployment in Rosario gradually increased during the 1990s to peak in 1995 and has since slowly decreased during the present period of recovery. According to the Ministry of Labour of Argentina, 31.9 percent of young people in Rosario were unemployed in 2004, a figure considerably higher than unemployment among other segments of the active population (Ministerio de Trabajo 2004) Access to education and employment opportunities varies from class to class. In lower income classes, the period of adolescence tends to be shorter, as young people are pushed to enter the informal economy, take up responsibilities, marry, or migrate.

The processes of social fragmentation and exclusion that constitute structural violence become evident in urban space. Research by Gizewski and Homer-Dixon (1995) refers to it as urban violence, in the form of criminal and anomic violence. This type of violence usually takes the form of armed robbery, assault, and in some cases murder, often when the victim resists the attack. The fact that there is a correlation between the increase in this type of crime in

cities and processes of social exclusion is not casual. These crimes are not due to a deviation or the product of "evil" criminals' behavior; rather, it is the proximity of inequality and conspicuous indifference and unfairness on the part of those who are "included" that creates the tension. In this social space, inequality becomes evident by the different availability of services and infrastructure between rich and developed areas and poor or peripheral neighborhoods: lack of schools, hospitals and recreational areas, deficient transportation services, lack of running water and sewage systems, inadequate housing. It is exclusion not only from social and economic life, but also from the social space – a social distance reinforced and perpetuated by physical distance. It is a social contract which has been broken in terms of moral unity and physical proximity. Those who are left out live in slums, sometimes even separated by a fence or road that police often refuse to cross. Individuals do not feel related to society's rules or spaces any more. They are physically out.

Despite the heterogeneity of youth, young people can be divided into two groups: those who have access to basic human rights such as educational opportunities, health, and spaces of expression, and those who do not. Upper class, middle class, and working class young people have relatively good access to primary and secondary school education in the city as well as to basic health services. Secondary and technical education is accessible to low-income families as public institutions do not charge registration fees and public transportation is subsidized for young people (under eighteen) on weekdays. This education is valued as a guarantee for future employment. Most middle and upper class young people attend private or semi-private institutions. Access to quality education and other cultural services reinforces social inequalities and cultural differentiation among young people from different social and economic backgrounds. Language, cultural consumption and habits, and ways of dressing and interacting vary notably from one group to another. Youth are excluded economically, politically, and socially, and this is reflected in the physical space in certain neighborhood and slums. More specifically, Ben-Joseph and Southworth (2003) state that children and youth are deprived of the diversity of city life as there are few places that they can access and enjoy safely. Cities are not planned for children and youth; they lack recreational spaces and youth-friendly participation policies (Driskell 2002). These trends can also be observed in the city of Rosario, as a dual city struggling to become a city for all. Young people in Rosario feel that society has left them out and they seek different ways to be included and survive.

The relationship between structural and direct violence is clear not only in statistics and sociological studies, but also in the life story of "El Ale." He is a young boy who grew up in the streets, robbed to survive, and consumed drugs. He had extreme experiences and now he takes part in a social project that produces a magazine sold by street children, called *El Ángel de Lata* (the angel of tin). He moved to Rosario from the northern province of Chaco when he was nine years old. He had never been to school. He started wandering in the streets and begging. He was mistreated and felt discriminated. In an interview, he explains: "I asked myself why I was poor, when this is a question that other people have to ask, not poor people themselves." He describes how humiliating it was to eat from the garbage and how he experienced incipient sexual harassment by those "who have money." He started to consume drugs at the age of twelve: pills, marihuana, cocaine, and alcohol. An analysis of the story of Ale shows how aware he is of the effects of social exclusion, the links between his lack of opportunities and alternatives and his behavior. Ignatieff's understanding of the concept of citizenship as being linked to the sensation of belonging is useful to the study of processes of social inclusion and exclusion. Youth who are excluded and feel "outside" of social and economic flows and interactions try to find a feeling of belonging and acceptance among their peers, sometimes by joining gangs and illegal activities.

In the city of Rosario citizenship remains unrealized, particularly among youth. Political, social, economic, and cultural rights remain a promise and the realization of these rights is a necessary condition for the peaceful transformation of conflicts. Ale is also aware of class structure; he is part of a "we" who are poor, and there is a "they" who are rich. The critical Marxist approach is helpful as urban conflict is also a conflict between those who are excluded and exploited and those who profit and manage the natural and economic resources. Capital in the present time does not need so many workers to reproduce itself and continue

to accumulate wealth. The excluded constitute the "marginal mass" that can be functional if they become able to consume or enter the labor market. The system functionality of young people living in extreme poverty in the slums of Rosario is limited. They are not qualified workers and they are not consumers as their buying capacity is limited. Since their functionality is limited, in a Marxist interpretation, there is no need to include them in the system. Some criminological theories propose that they should be eliminated or kept contained in prison. These theories propose only the treatment of "direct violence" and acknowledge no link between direct violence and structural violence by the dominant class and its state apparatus.

3.3. Cultural Violence in Rosario

In order to reproduce and sustain direct and structural violence, repressive state violence must seem legitimate, accepted, normal, and natural. The legitimization of violence is subtle and hard to observe or deconstruct. Cultural violence is violence entrenched in cultural norms, beliefs, and traditions. These beliefs and norms translate into attitudes. Galtung's definition of attitudes refers to emotions and cognitions, that is, the way actors feel and perceive reality and how they map the conflict. As direct and structural violence are legitimatized by a system of beliefs that is expressed in attitudes and behavior, it is important to understand the attitudes of youth and the state in order to deconstruct them and build alternatives. The values and attitudes of young people and the state are explored in the following sections. To what extent is violence seen as a legitimate way of solving problems? To what extent is it seen as the *only* way to solve problems? To what extent is violence questioned? The purpose is to find reasons for their choices and behavior. Understanding the perceptions of the actors and their attitudes is important as if these do not change, solutions to direct violence will be temporary and ineffective in the long term.

3.3.1. Values and Attitudes of Youth in Rosario

As previously stated, youth is a very heterogeneous group. The analysis of the values and attitudes of youth in Rosario is based on several data: the sociological study *Ser joven en Rosario, Estrategias de vida, políticas de intervención y búsquedas filosóficas* (Being young in Rosario, strategies of life, intervention policies and philosophical search; Tavella 2004), interviews with young people and youth workers during 2006, and interviews published in *El Ángel de Lata* (2006). The main questions guiding this exploration of attitudes are: How do young people experience, perceive, and define the conflict? What do they see as the causes? In order to address these questions it is useful to understand first the predominant values of young people's lives, how the context shapes them and how they see their own situation. The first part of analysis is about actors' subjectivity, their motivations and values, based on the work of sociologist Tavella. This analysis seeks to determine the degree to which personal will and external factors determine youth's life strategies and behavior. The methodology is based on interviews with young people aged eighteen to twenty-five who lived in different areas of Rosario. Considering the social structure and stratification of Rosario the criteria for selecting interviewees were their type of housing and neighborhood.

Previous sociological studies have established a correspondence between levels of income and level of formal education and housing. Youth were clustered in three groups: low, medium, and high income, corresponding to young people living in slums and disadvantaged areas, peripheral neighborhoods, and the center/private neighborhoods. Young people in the three groups stated that family was the main value which organized their lives. Their experiences and projects were deeply shaped by their families, more than by other factors like personal or professional projects. The family connects the individuals to a larger group, including the extended family. The attachment of young people to their family is reinforced by the fact of structural unemployment. In general, young people live with their parents, even when they are employed and when they become parents themselves, as wages are low and unemployment is high. This is a strategy for sharing living costs. All cases that were studied had as their main life project to form a family and get married at around the age of thirty with an average of two children. Family seems to be a refuge in times of crisis and a way to belong to the group. As Ale states during his interview, half of what he obtained through robbery was for his family and the rest for himself. His family and his mother were the highest value in his view and what finally helped him to be able to change his life. Young people of middle and high income

value the status of "student," and there is a social tradition that young people should study. For young people of middle and high income, studying is seen as a way of improving future employability and as beneficial for personal development. In contrast, among young people from low income families, studying is more a struggle than a reality. For example, Romina is still trying to finish her secondary education at the age of twenty-two, after having a baby. She dreams of becoming a psychologist or an English teacher, but her real possibilities of having access to university are few. The higher the income of the family, the more professional and educational choices related to vocation, and less to economic needs. Young people are to some extent aware that their entrance in the job market is strongly influenced by the global and national economic situations. They are aware that there is a general economic crisis. They are also aware that young people who are not qualified are not valued as a production factor. They know that if they do not have education they will have less employment opportunities. This realization generates insecurity in all social classes, but those who have access to education and are part of social networks deal better with the crisis and find their way. In general, they perceive exclusion from the labor market as a "social general problem," not as a personal failure. Those who are educated are aware of the limitations but still have hope. However, Manuela cannot see any future and tries to find temporary solutions to avoid frustration. She also expresses her disempowerment when she says, "I am silly, I can't learn," taking it as a personal limitation. This is how a situation provoked by structural violence is perceived as fate, natural, or normal, and the individual feels guilty for it. This perception is part of cultural violence. It puts the blame on the individual and prevents people from questioning the real causes of their problems.

During their free time, young people in Rosario spend a lot of time with their family, friends, and boyfriend/girlfriend. One common feature among the three groups of youth is the frequency of alcohol consumption. According to a survey conducted among 559 secondary school students of all social backgrounds in Rosario, published in August 2005, 71 percent drink alcohol on a regular basis, especially at night, and 60 percent admitted having been drunk at least once. Most say that they drink "to feel good" and "to forget problems" (La Capital 2005). Police and official statistics denounce the increase in the use of drugs among young people of all social backgrounds in the city (La Capital 2006). These patterns of behavior become apparent at night. According to a study of youth behavior at night in the city of Buenos Aires, sociologist Mario Margulis (2005) states that the city at night is a new territory and offers a liberating illusion. Youth can free themselves of the weight of domination and rules that are imposed on them by school, work, and family. At night they can be themselves, feel accepted, and have a sense of belonging when hanging out with their friends in what are colloquially known as "urban tribes." Tavella's study also highlights a lack of interest in religion and other activities that have to do with reflecting on the purpose and meaning of their lives. There is little or no engagement in public life. There is no trust or belief in social solidarity or in belonging to a larger entity. These perceptions of young people show us some interesting facts. Economic crisis and structural unemployment create a high degree of uncertainty, helplessness, and indifference. Friends and family are a refuge, the only people in whom they can trust and on whom they can rely. Uncertainty also determines their choices for short term solutions, as well as the need to enjoy "today" and avoid thinking of the future, which promotes hedonism, that is, pleasure and consumption during free time for example. These attitudes are present in all young people, but they become more conspicuous in those who belong to gangs. The gang is the replacement for family; youths in gangs only care about today and feel that they have nothing to lose. In this context, the social crisis invades personal space, and creates in them the feeling that their destinies are determined by the changes in society, and not by their personal efforts. It is the "other" who is a failure, it is the society that has failed, so "why should I pay the costs?" they ask themselves. It is interesting to note that "El Ale" acknowledges that "even when there is poverty, mistreatment, there is a part within yourself that says "yes" [to drugs and robbery]".[8] He considers that his life choices were highly determined by his history of exclusion

8 In Spanish, "Pero aunque haya pobreza, maltrato, tenés un porcentaje del que dice sí sos vos."

and poverty. At the same time he has the capacity to realize for himself what was good and bad for him, or perhaps his own choices in determining the future.

3.4. How Youth Perceive and Define the Conflict

When interviewed, young middle class people who live in South West District, a peripheral area in Rosario, said that violence (meaning direct violence) and a lack of security was the main problem in their neighborhood (as do mainstream media and public opinion polls)[9]. Some of them went on to mention police brutality, gangs, indifference of the citizens, and drug addiction, which are all related to the issue of violence and vandalism in the streets. They acknowledge that both youth gangs and police behave violently and that this is an undesirable way of behaving. It is interesting to note that young people who were gang members, like "El Ale," acknowledge the use of violence as a way to survive and live. When they are trapped by violence, they see it as the only instrument to become powerful, to be seen and taken seriously. They justify their actions by saying that their intentions are to steal only from those who are rich. They see that structural violence provokes them and prepares them to behave violently. In this sense, youth in gangs see violence as the only way to behave. They see violence as an effective and legitimate way of solving their problems.

Only some manage to question violence and acknowledge the links between direct and structural violence. When interviewees were asked about the causes of the increase in delinquency, they indicated both the lack of ways to stop the direct violence (not enough police) and the presence of structural violence (the lack of education and employment). There is awareness that the root cause of the social conflict is not simply inequality, but the feeling that this inequality is unfair. One of the answers also places blame on the individuals as criminals and drug addicts. It is important to highlight that the youth interviewed acknowledge the links between direct and structural violence and that they see that it is not in the nature of young people to be violent. Violence in all its forms is questioned. However, violence used by the police to repress the "rebels" is sometimes considered desirable and necessary by the youth interviewed. The use of force by the state is seen as legitimate, although as a limited and short-term answer. All the interviewees point out that youth and state actors are responsible for what happens. Two of them included themselves as responsible as well. Cultural violence seems more difficult for young people to identify as a problem and it is usually not questioned or considered as "real" violence. Young people consume movies, video-games, derogatory language, and jokes in which violence is present, and there seems to be much higher acceptance of non-physical violence – it is socially acceptable to humiliate and verbally discriminate. Youth who live in the slums are often discriminated against because of the place where they live and often because of their skin color and appearance. There is a lot of subtle racism, especially against those who have darker skin. The most affected are groups of indigenous or mixed origin, mostly originally from the northern provinces and other Latin American countries (Bolivia, Peru, and Paraguay). In an interview published in *El Angel de Lata*, "El Ale" describes suffering from discrimination, which he acknowledges as a problem. At the same time, it is common among youth in gangs and youth of similar ethnic background to use racist insults with each other, such as "negro de mierda." There is tendency to neglect and deny their own identity and try to become "whiter" or look and act differently. Another alarming aspect of cultural violence is that there seems to be no acknowledgment of gender discrimination. This becomes evident in jokes, songs, and popular expressions we observed that contain derogatory words. It is interesting to note that female youth who were interviewed did not mention this as an issue.

4. State Discourses

On one occasion, "El Ale" was assaulted by an older man. He went to the police station to seek help, but the police did not believe him and even shouted insults at him ("villero de mierda") and threatened to keep him in jail. This shows how the police discriminate and stereotype, and how these perceptions legitimize the use of violence to respond

9 Similar answers can be expected from any other area of the city.

to a perceived problem of criminality. The discourses and actions of the state on the issue of youth criminality are various and complex. The state intervenes in multiple and contradictory ways at both the provincial municipality levels, based on theories of social behavior and criminology. Often policies are not based on research and data that take into consideration the effects of the past application of policies based on these theories. This article focuses on analyzing the discourses and attitudes in two institutions as representative of existing discourses in all state institutions: the provincial police and the municipal government with its youth and social inclusion policies.

The responses of state institutions include both attempts to control violence using force (repression, jail) and policies of social inclusion and participation. Even though the use of violence is seen as undesirable, it is sometimes considered necessary by the police and policy-makers and the resources deployed and action taken do not always correspond to the promises and rhetoric. In reality, violence is still used as means of social control and, paradoxically, as a means to stop violence. The increase in crime has shown that this response has not been effective in solving the problem. Several criminology theories can be identified as the basis of the state's multiple, and sometimes erratic, responses to the issue of youth criminality. Ciafardini (2006) clusters them in four main currents. The first one is represented by Beccaria, and considers that crime should be "naturally" followed by a punishment; criminal problems can be solved by improving laws and increasing the amount of punishment. Beccaria's idea is that criminals do not feel sufficiently threatened by a possible punishment when they commit crimes. His ideas are still present in policies and state discourses. For example, the response to the problem of the "maras," youth criminal gangs in El Salvador, Honduras, and Guatemala, has been an increase in the length of jail sentences for gang members and leaders. In the province of Buenos Aires, Argentina, similar "zero tolerance" policies have been applied. However, the amount of crime and violence has not decreased in any of these cases. A second criminology theory is the one represented by Bentham and Lombroso. Criminals are socially or biologically ill, therefore, they need to be cured or reformed. If they cannot be cured or reformed, they should be excluded from society. Criminals have a natural or biological disposition for violence. Could the attempts to build walls around slums (un)consciously this theory reflect in practice? A third current is the one identified as the "sociology of deviation," to which sociologists like Durkheim and Merton have contributed. The general principle is that societies need to coexist with a certain amount of crime which is functional for the system. Criminals should be punished and, in this way, they provide a service to society by serving as an example – helping to prevent general social anomie. If crime increases to a level that the society cannot handle, social reform should be considered.

Finally, the last current is a critical one which appeared in Europe in the 1960s, inspired by Marxism. The root causes of criminality were seen in the negative effects of the capitalist system. Ciafardini concludes that a critical approach considers that capitalism, as a system that produces alienation and social injustice, must inherently bring forth crime.[10] There were no concrete proposals to respond to criminality; rather the proposal was to abolish capitalism as a whole, based on the idea that a new society with social justice and equality would not "produce" criminals, as capitalism did.

4.1. Santa Fe Provincial Police Discourses

The police are under the jurisdiction of the provincial government, which was run by the Peronist Party until 2007.[11] Two main approaches towards the problem of youth criminality are observable in police discourses and attitudes. The first is predominantly linked to the need for security and proposes as a solution increasing the police presence in the streets of Rosario. The second acknowledges a link between structural violence and the increase in criminality, and

10 In the Spanish original, "el capitalismo tiene un efecto criminógeno."

11 The Socialist Party won the elections in 2007 and on December 10, 2007, Hermes Binner, former mayor of Rosario, took office as the first socialist governor of a province in Argentina.

the need to respond accordingly to citizens' needs. Efforts are being made to transform policies and practices but authoritarian beliefs and practices remain in use, inherited from a long past of military dictatorships. Within the first approach, the ideology of violence is present and is considered necessary and legitimate whenever it serves to achieve certain ends. The use of force is considered the only possibility to control disorder and the undisciplined masses. According to the provincial police, hundreds of adolescents and youth congregate in the streets at night, especially during weekends and at night, with clear signs of alcoholism and use of drugs.

There are no specific studies that look into how the police analyze this problem, what they consider to be the main causes and ways to solve them. However, observations and general tendencies suggest that the treatment ranges from turning a blind eye to harassment and repression based on the underlying belief that some youth are inferior or exhibit deviant behavior and consequently consume drugs and are socially ill. This belief could be linked to Bentham's and Lombroso's theories. A second approach is also present. In a democratic society, the role of the police is understood by Chief Inspector Victor Sarnaglia, Director of the School of Cadets of Santa Fe Province, as the "caretaker of the citizen," as described in an interview with the author in May 2002. The police exist to protect and serve citizens and to ensure that the law is respected. In the official discourse, the police forces are subject to the control of democratic elected authorities. In fact, it is clear that this concept is not yet a reality. The first approach considers that the cause of the violence is the lack of moral conduct of the aggressors, their "wrong" and anti-social behavior which needs to be contained or reformed. There is a clear link both to Lombroso's theories and to the theory of deviation of Durkheim and Merton. The individual does not accept the rules of society and therefore exhibits deviant behavior. Thus, this is not a problem of the society but a problem of the individual. The cause of the conflict is that individuals fail to adapt to society's rules, therefore the response is to reform, cure, or exclude the individuals. To understand this approach one needs to understand how the idea of the modern state was born and is justified. The state was needed to guarantee order and personal freedoms through having the monopoly of the use of force. Nevertheless, when these models are confronted with reality, we witness that citizens feel less secure; they feel that the covenant has been violated by the abuse of power, and therefore question obedience to an unjust system.

The second discourse is a democratic one; there is a need to promote human rights and social justice to prevent violence. This approach focuses on the link between criminality and the exclusion caused by unequal access to political spaces and economic resources – it is linked to the critical criminology which considers that the capitalist system itself produces crime by causing inequality. If the causes of the conflict are inequality and exclusion, therefore, the response is to diminish or eliminate them both. This has been shown by moderate social policies of socioeconomic redistribution and inclusion (employment, health and education) and democratic reforms of the school curriculum and the way the police operate. After the wave of democratization during the 1980s, the police and armed forces started introducing human rights elements in their training. In the case of Santa Fe province, a provincial law of 1987 mandated that all educational institutions of the province should introduce human rights education. Primary and secondary schools and tertiary institutions introduced elements of human rights education in textbooks and in the curriculum, mostly limited to studying human rights documents and the constitution. In the case of police training, a specific one-year course called "Human Rights" was introduced in 1997 as part of the Study Program for Police Cadets.[12] The first module of the course includes the following topics: the historical development of law from a Jewish-Christian perspective; theory of law as a limit on absolute state power; the Bible; the position of man before God; the first, second, and third generations of human rights; the Second World War and its atrocities; and the au-

12 It is worth mentioning that the police cadets' training program consists of three years of studies, while police agents' training consists of a minimum of three months up to one year depending on needs and resources and the particular part of the province where the school is located.

thoritarian juridical discourse; the phenomenon in Argentina. The second module includes democratic stages; the democratic government of 1983; different *discourses* about human rights violations during the dictatorship (1976 – 83); new phenomena (inequality, poverty, discrimination); the constitution of 1994. Reading the program of the first two modules, we observe that it is of great significance that new issues have been included, especially social and economic rights. It is also important to note a subtle wording: "different discourses about the violations of human rights." From observation and literature, we know that some sectors of political and police authorities still question the reality of the number of the "desaparecidos." They still believe in the legitimacy of the "dirty war" as a way to save the country from falling into chaos, disorder, and the threat of Communism during the 1970s and early 1980s. Inside the police institution, different currents and tendencies coexist, and are in conflict and compromise at the same time. Other positive achievements of the democratic approach are the organization of seminars and the publication of articles on human rights and building a society without violence in the official police magazine. Why do states which claim to protect their citizens often violate the rights that they are supposed to guarantee? These two discourses, the democratic and the repressive, both influence public policy and their forced coexistence creates ongoing tension.

Sociologist Loic Wacquant (2000) explains this phenomenon by describing how the state has traditionally taken up a number of apparently complementary roles that are in fact contradictory. The main challenge for the state is to constantly overcome this contradiction. These roles are: to develop national economies, to mitigate negative economic effects, and to maintain public order. To fulfill these roles the state needs a police force and a penal system to enforce the law. Nevertheless, the roles of the state have been redefined by neoliberal ideology.[13] This ideology maintains that markets do not need regulation, as they are a natural phenomenon and the most effective way to organize human activity. Under this ideology, states had to "liberalize" markets and deregulate the economy. But these neoliberal recipes had disastrous effects: destruction of national industries, unemployment, increasing poverty, and careless privatization of public services which left the most vulnerable without access to water and other basic services. In the case of Argentina, neoliberal policies were aggravated by financial and economic mismanagement and corruption of the state, wrongly advised by the International Monetary Fund (IMF). In his book, *Las cárceles de la miseria* (Prisons of poverty; 2000), Loic Wacquant argues that

> The increase of carceral populations in advanced societies is due to the growing use of the penal system as an instrument for managing social insecurity and containing the social disorders created at the bottom of the class structure by neo-liberal policies of economic deregulation and social-welfare retrenchment. … The penalisation of poverty is designed to manage the effects of neo-liberal policies at the lower end of the social structure of advanced societies. The harsh police practices and extended prison measures adopted today throughout the continent are indeed part and parcel of a wider transformation of the state, a transformation which is itself called for by the mutation of wage labor and precipitated by the overturning of the inherited balance of power between the classes and groups fighting over control of both employment and the state.

As described in the previous section, many of the young people in Rosario who were left out of the neoliberal system and became unemployed turned to activities in the informal/illegal economy or got pushed directly or indirectly into criminal activities such as smuggling and drug dealing. The state reduced its social welfare provision and was forced to increase its police role to contain and tackle the "disorder" and the amount of illegal activities. Politicians want citizens to believe that the state is reacting to crime and insecurity in a determined way so they make speeches calling for the building of new prisons and more patrol cars and police on the streets. Politicians react to the demands of the people for more security and get elected through use of this dominant discourse. Politicians also use a moralistic discourse, calling for a return to moral values of honesty and obedience as crime increases. There is a strong tendency to think in a reactive way, rather than in terms of looking at and dealing with the root causes of the problems. On the other hand, some analysts fall into the

13 One of the leading proponents of neoliberalism was Milton Friedman, http://www.ideachannel.com/Friedman.htm. For a more critical analysis, see Pierre Bourdieu, Le Monde, December 1998, http://www.analitica.com/bitblioteca/bourdieu/neoliberalism.asp

trap of relating poverty and crime directly, when the situation is far more complex and poverty is not the direct cause of the increase in crime, as has been explained extensively by Ciafardini's study (2006).[14]

In conclusion, the dual discourse is produced by the fact that one part of the state's policy (the police and penal justice systems) is required to counteract or deal with the effects of another part of state policy, namely economic policy (Wacquant, 2001). This leads to a situation in which the police's role is to repress, contain, control, and manage these effects. In this scenario, police forces are trapped between clear demands from the political authorities and a democratic discourse of respect for human rights. This dual and contradictory discourse contributes to lack of trust by young people and citizens in general in their representatives, their police, and the justice system, widening the gaps and increasing social tension and fragmentation. A previous section described the various types of violence which young people are part of and affected by, and the way the youth and the police perceive the problem through their discourses and attitudes. Through the story of "El Ale" it has become evident how structural and cultural violence feed into the recurrence of direct violence, and how violence as a way to solve social conflicts has not been effective and has made the situation worse. The following section examines the response to the problem in further detail, looking at the policies of the provincial and municipal governments and the actions of youth organizations as possible ways of dealing with the complex issues of youth criminality and exclusion.

4.2. Santa Fe Provincial Policies: A Dual Response to the Problem

The province of Santa Fe is in charge of the judicial system (including the provincial ombudsperson and the human rights ministry), the police, education, health, and economic policy. Even though various governors express in public speeches the province's commitment to the reintegration of young delinquents and the need for social inclusion and preventive policies, the budget allocated to these actions is limited in comparison to actions enhancing, expanding, and building new prisons, buying new police cars, and improving the repressive system (Santa Fe 2006). The province's programs put emphasis on building infrastructure, promoting economic development, sustaining the judicial system, education by means of building new schools and maintaining the existing ones, and social promotion (Del Frade 2003a). There is a small Youth Department which is part of the Community Promotion Secretariat. Even though the situation of youth in marginalized areas is alarming, there is no youth participation policy. A new project to work with young people in conflict with the law is being developed, but its implementation has not started yet.

Prisons and police are not prepared to deal with young people and prisons do not help young people to reintegrate into society, as evidenced by the number of reoffenders (Del Frade 2003b). The Supreme Court of the Province sent a report to the Governor on 21 October 2005 stating the alarming situation in prisons and police stations, which are overcrowded and where human rights are not respected. According to this report, for example, Rosario's police stations were holding approximately 1,400 prisoners where there was capacity for just 889. Another alarming fact is that there are 2,600 people, most of them young, were detained but not tried in court (Rosario 12 2005). This report was also a response to incidents in the main provincial prison in the city of Coronda during April 2005 where thirteen prisoners were killed, all of them under twenty-six years of age. It is interesting to note that the average age of the most dangerous prisoners is thirty. It is shocking that the age of offenders has been decreasing even to the extreme that children aged eight to twelve have been detained for crimes involving possession of arms (Vásquez 2006). *El Ángel de Lata* published a report on detention and rehabilitation centers for youth that belong to the Directorate of Minors in Conflict with the Law. The report indicated that according to calculations of employees of the centers

14 Loic Wacquant adds: "To oppose the penalization of social precariousness, a threefold battle must be waged. First of all, on the level of *words and discourses*, one must put the brakes on the semantic drifts that lead, on the one hand, to compressing the space of debate (e.g. by limiting the notion of 'insecurity' to physical or criminal insecurity, to the exclusion of social and economic insecurity) and, on the other, to the banalization of the penal treatment of tensions linked to the deepening of social inequalities (through the use of such vague and incoherent notions as 'urban violence')."

there are about two hundred young people under the age of eighteen in Rosario living temporarily in these centers.[15] According to the employees interviewed by the magazine, in general these young people commit crimes repeatedly. They confirm that social policy fails to integrate the different phases of rehabilitation for children and youth who have committed crimes. After they leave these centers, there is no follow-up or social safety net to support and help these children and young people. The employees criticize the lack of appropriate programs to guarantee that young people have social support and help them to find the work for which they were prepared in the centers. Employees of these centers see that their work is only a drop in the ocean and that their only tools are love and patience. Employees interviewed state that youth leave the centers with no prospects for the future and they rob again. Another employee of one of the centers says that there is no preventive work and that workshops which aim to promote the value of work, fail. What they "preach" is contradicted by the fact that they are often unregistered employees and their worker's rights are violated. According to Gabriela, "the state has abandoned its role of guaranteeing social solidarity." She suggests that follow-up policies need to be discussed in depth rather than pursuing quick and demagogic solutions of more repression. This repressive perspective became evident in a statement made by the Provincial Director of the Directorate of Minors in Conflict with the Law about young delinquents: "They do not want reinsertion, they want punishment" (Ángel de Lata 2006). If the state uses violence, it teaches through example that violence is an effective tool. This contradiction is often present in many state institutions: for example, the most common reaction of a teacher or headmaster to an act of indiscipline or "bad" behavior is to ignore, punish, or expel the student. The state is doing the same to its citizens; it is ignoring, punishing, and pushing them further out of the system. This ideology and behavior is a threat to democracy and should be called into question and replaced by more peaceful alternatives. In the next section, some ideas for improvement are presented.

4.3. Recommendations for Improving the Provincial Government's Policy

Although there have been various improvements, some areas require immediate solutions structural changes at the same time. This section aims to indicate recommendations for improvement, although this list is by no means comprehensive. The security and judicial system should be reformed to include preventive measures, and not only to follow a repressive and reactive approach which seems to only worsen the situation of vulnerable youth. A new approach to security must be developed in which the state develops and commits to use non-violent means. More comprehensive approaches should be promoted such as the concept of urban human security based on the fulfillment of basic human needs at the local level. In relation to this, judges and police should be better trained to work with juvenile delinquents and psychologists, social and youth workers should have a more predominant role in public programs. Changes should be introduced in the overall process of training of all those working with young people, both in the content/curriculum and in the methodologies. Young people learn from example, so all state actions should be a model of non-violent behavior. Especially, police training should improve its human rights education to include conflict literacy, non-violence, and psychological aspects relating to drug addiction. Finally, cooperation between provincial and municipal programs and civil society organizations should be enhanced. All actors should engage in critically analyzing and deconstructing their discourses to identify and remove those assumptions and elements that lead to violent practices.

15 In Rosario, there are four centers for minors in conflict with the law:
1) IRAR (Instituto de Rehabilitación del Adolescente Rosario or Institute for the Rehabilitation of Adolescents Rosario). It is the most strict center in a building similar to a jail but psychological help is provided. There is also a school and recreational workshops. There are fifty-six young people aged between fourteen and eighteen in four big rooms (twenty new spaces were added in 2003 and more are planned). 2) Casa Joven is a medium-security farm situated outside the city where young people live and work. There is also a school of theatre. 3) Casa del Adolescente is a center where young people attend activities from 8 a.m. to 2 p.m. They are offered breakfast and lunch and they attend workshops to learn practical skills (e.g. electrical work, shoemaking). There were literacy workshops but there is lack of continuity. Social works do follow-up work with their families. 4) CAT (Centro de Alojamiento Transitorio y Liberación Asistida, Center of Temporary Lodging and Assisted Release) is a complement to the prisons for minors and rehabilitation centers. It opened in 2003. On average there are twenty-five illegally detained children in this center waiting for a decision of the judge. Police and other professionals are part of the staff.

4.4. Rosario's Local Government Policies: Steps Towards Inclusion and Participation

Rosario's municipal government (Municipalidad de Rosario 2006) has gradually increased its competencies since the 1980s and has become known nationally and internationally for its social inclusion and youth policies. The Municipality of Rosario has been led by the Socialist Party since 1990. Its progressive policies of inclusion, participation, strategic planning, and gender were key in meeting the challenges of the economic and social crisis. Rosario has challenged a model of exclusion within the constraints of its limited competencies as a local government. In 2003, the city won the UNDP award for exemplary local government in the region. Rosario's experiences have been an example for other municipalities as it has created the capacities to transform its social and physical space with a clear political project of participation and innovation (Experiencia Rosario 2005).[16]

The Municipal Youth Center and its programs were established by the Municipality of Rosario in 1998. Youth Programs are part of the Secretariat of Social Development. They aim to a) develop the recognition of the rights of young people; b) stimulate their participation in community life; c) promote spaces of expression, communication, and dialogue that help prevent social risks that affect young people; d) coordinate the involvement of young people in their programs with other departments of the municipality and provide accurate information about themes of interest and the needs of young people. The main activity of the Municipal Youth Center is to provide information and support to young people about employment, education, and health, especially HIV/AIDS prevention and testing. Furthermore, the Center organizes workshops and training seminars on identity and human rights, especially dealing with Argentina's past history of dictatorship and human rights violations, in cooperation with other areas of the municipality such as the Museum of Memory. Finally, it has developed the Youth Participatory Budget, which is a participatory process to involve young people in deciding the use of part of the municipal budget for youth issues. The Coordinator of the Youth Center, Diego Berreta, and youth workers Romina Trincheri and Silvana Turra said in an interview in December 2005 that the main challenge for the Municipal Youth Center was to reach out more to all neighborhoods of the city with information, awareness-raising, and participatory projects. The Center is improving its strategies to make its activities more accessible and interesting for vulnerable youth. It has the potential to play a key role in mediating between the groups of young people, other local governmental and non-governmental institutions, and the judicial system as often there is no place for dialogue among these groups. The Youth Center, run by young people and professional social workers and psychologists, helps network these actors. According to the 2005 Activity Report, during that year, the center started a process of decentralization, aiming at implementing projects in all neighborhoods of the city. Thirty-four workshops functioned in cooperation with civil society organizations in all districts.

The main two activities during 2006 were the Projects on Identity and Social Insertion and the Participatory Youth Budget. Even though the activities are different the aims are similar: to promote youth participation using a rights-based approach, allowing personal as well as social development. The Participatory Youth Budget (PYB) was initiated in 2004 as a pilot project in South West District, in collaboration with the Municipal Participatory Budget staff and Educating Cities Latin America.[17] Now it is a formal space of participation, discussion, and decision-making organized by and for youth in which 1,496 young people participated in 2005. The project is aimed at young people aged thirteen to eighteen. They are invited to attend meetings organized in schools in each district. During these meetings municipal youth workers organize trust-building exercises and present the aims of the project to the participants. As a second step, youth workers facilitate discussions through which young people identify the main problems in their neighborhood and together design solutions for

16 The city of Rosario is a leading member of networks of local governments, for example, Mercociudades (local governments of Mercosur) and the International Association of Educating Cities.

17 This pilot project was financially supported by GTZ, the German government's development agency.

those problems. The PYB is a space for young people to identify common goals and rediscover goals previously perceived to be incompatible. Youth encounter a new reality and become actors in changing those aspects that bother them or that they believe are unfair. Needs and problems are analyzed and solutions are planned as a group. Discussions often start with the sharing of negative experiences but projects to change reality have to be developed. Youth understand that they are contributing to avoiding negative experiences for other youth in the future, and develop socially responsible attitudes. As the coordinators of the project explain (Berreta et al. 2006), this initiative is innovative as it differs from others in various ways:

· Most of the spaces of participation use an "adult-centric" frame. The PYB respects youth's ideas, concerns, ways of communication, and participation.
· Often public policies define an asymmetric power relationship between adults and youth such that youth are beneficiaries of projects. In the PYB, youth are protagonists and partners of the local government in the design and implementation of the projects.
· Often youth are considered the "future"; in the PYB young people have to make decisions and implement projects in the present. They become actors here and now.
· The PYB aims at integrating a youth perspective into all public policies. The PYB is a part of Rosario's Participatory Budget Program.

The PYB is an excellent example of how public space and policy can become spaces for conflict transformation. Youth have an opportunity to identify the problems in their neighborhood and in their city in a way relevant for them. Problems are discussed and solutions are sought jointly by youth and local officials in a spirit of cooperation. Youth are not manipulated, they are consulted and mobilized, but most importantly they are in charge and participate meaningfully and exercise their citizenship rights (Muñoz 2004). In this way, youth public policy promotes spaces where social conflicts become opportunities for constructive change.

4.5. Recommendations for Improving the Local Government's Youth Policy

The main challenges for the local youth policy are to sustain these innovative and participatory experiences involving more young people in all districts and neighborhoods and to open up or improve spaces for interaction, participation, dissemination of information, and recreation in the most disadvantaged neighborhoods and slums in the city. The municipal process of decentralization has opened public spaces through municipal centers in each district and these have started to host youth events. However, these activities should be organized on an ongoing basis.

The staff and youth workers of the Center are professionals and have been sensitized about human rights education and youth issues. However, it is advisable that youth workers and youth in Rosario complement their training with peace education understood in a broader sense (Cabezudo 2006, 5 – 8), including knowledge, skills, and attitudes that are relevant to dealing constructively with everyday conflicts relevant to the life of youth in our societies. Important skills to be included are conflict transformation skills (e.g. listening, communication, mediation skills). These skills could help and support the development of other youth participation activities as youth learn to listen to others with different opinions, to deal with their emotions and anger, to express their needs, and to engage in constructive dialogue, among other important skills. The Municipal Youth Center has not taken up the issue of reconciliation and methods to heal and close a painful past. This is a pending task not only for the Center but for Argentinean society as a whole which has difficulties in dealing with its own past and mistakes before looking into the future. Finally, in relation to juvenile delinquency, the municipal youth policy does not engage in accompanying or supporting youth who have been in jail or who have committed crimes. This is an area in which the municipal government could cooperate with the provincial government (police and judicial system). Their experience and human resources could help in designing programs to improve the reintegration of young delinquents into society through securing a social safety net, training, and employment opportunities.

5. The Work of Youth Organizations

Several youth organizations work with and for young people in slums, both doing educational and preventive work and working with "young people in conflict with the law." Youth organizations offer valuable non-formal education opportunities which often are more effective than formal education programs as youth are closer to the reality of their peers. The importance of non-formal education was acknowledged in 1994 by UNESCO's International Conference on Education, which adopted proposals on education for peace, human rights, and democracy (Schell-Faucon 2003). Despite the negative image of youth – portrayed by the media as rebellious, unstable, and self-destructive – many youth organizations worldwide and in Rosario are examples of how youth are committed to changing the reality in which they live (Ardizzone 2003). Again, given the limited scope of this article, only two experiences are presented here.

5.1. La Vagancia Youth Group

La Vagancia Youth Group was established by a group of young people who were preparing themselves for the Roman Catholic Sacrament of Confirmation in 1993 in the Holy Family Community. Their name, "vagancia," means laziness and it plays with the idea that youth are considered lazy and indifferent. Their main thematic interests are child and youth issues, empowerment, political education, and communication. The activities they organize are youth camps; human rights, media, and Bible workshops; walks for human rights; and visits to other youth groups. They also edit and publish the youth magazine *La Nota* and contribute to the Ángel de Lata project and organize a youth music group for "murga" which has thirty to forty members. They reflect on their own approach and how their experiences have shaped their social activism. The following text is a translation of a text they used to describe themselves on their website.[18] I decided to try to keep its original style, as the words chosen and the rhythm of the text reflect the logic and way of thinking of these young people. It gives an idea of the value of their work building social relationships and a social space of belonging, solidarity, and dialogue, both among young people and between young people in the slums and society as a whole:

> This is a way of being politically active; we understand this as a way to build spaces, to build humanity, that is, to make more human our social space, let's say, building the city. This is why it is important to learn to listen to each other, to understand each other, and to achieve this takes us a lot of time. We are excluded or we come from exclusion, and from the start we do not know what there is inside. We are outside. We are very beaten. The slum beats you. That makes us do things that we don't understand, that cannot be explained. We do not understand the reasons for those blows, of the bullets that knock us down, they kill us! With time we are going out, but the bullets are there, and that limits and bothers us in what we are doing. We know that this is like this, that we make other people suffer, but still it is painful when they do other stupid things to us. That is anti-politics, to break and destroy. This we understand but it is tiresome. We wait for time to teach us. However, people always surprise us and are more generous than we expect. As a group we lost several battles, the radio program we started, it was going well, but we could not sustain it, because we honor our name, but it was an important experience, interesting. As one of us said "we learn by ruining something". (La Vagancia, 2006)

It is important to highlight the level of awareness the group has about the links between direct, structural, and cultural violence. They know they are or were excluded. They acknowledge that they were hurt and that they hurt back, and now they want change. The most interesting aspect shown in this text is that they see themselves as actors, not only as victims. They believe in building a new social space and that the social conflict that they are part of and victims of is an opportunity for change. They are the change agents. They do what nobody else can do, express their own concerns, problems, and way of seeing reality and devise solutions that would fit them. They are self-organized and work in a horizontal structure promoting ownership, responsibility, and that projects are managed and implemented by the group. Their activities are non-formal schools of citizenship and participation.

5.2. Scout Groups in Slums

A second example is the work of two youth groups (Martín Miguel de Güemes and Itatí), which gather, respectively, in a room provided by a Catholic parish (San Casimiro) and a chapel (Itatí), in South West District. The Güemes group

18 http://www.tau.org.ar/aa/images/blank.gif. For more information about "La Vagancia" youth group, see http://www.tau.org.ar/buenas_practicas.pdf.

operates in a Catholic parish situated in a low-middle class workers' neighborhood in the limit with a slum. The Itatí group meets in Itatí chapel situated in the heart of the slum. These groups are part of the national Scouting association of Argentina, which is a member of the World Organization of the Scout Movement. The Scouts have been considered quite traditional in their values and methods, but the Scouts of Rosario decided to open youth groups in slum areas. They were inspired by new currents which place commitment and service to the poor at the center of their educational values. Traditionally, activities to help the poor were seen as a moral duty. This group considers that social injustice is the product of unfair social, political, and economic structures. Their main activities are educational. They organize workshops and meetings every Saturday where they prepare for other activities. Youth aged fifteen to eighteen built a small library and they help children, especially those who come from the slum, to do their homework and organize cooperative games. The aims of these activities are to prevent truancy and to keep children off the streets in a space where they can play safely and learn social skills. They organize camps and environmental activities in which children and youth from the slums interact with their middle- and upper-class counterparts. For example, since 2003 they have been involved in an environmental project to protect the River Saladillo and raise awareness about the pollution produced by companies and the negative effects on the health of people who live by the river. They walked and camped along the river. These moments were spaces for dialogue and ways of getting to know the "other." Their explicit aim was not actually to promote dialogue among youth of different social backgrounds, but it did anyway, and in an effective way too. Through their work, social conflict is talked about and is used as an opportunity for positive change. Youth are treated in a personal and caring way. They are offered a space to belong and simply "be" where they are accepted and respected as they are.

5.3. Recommendations for Improving the Work of Youth Organizations

The work of these youth groups, La Vagancia and the Scouts, shows the enormous and unique contribution of youth organizations to conflict transformation. Their potential is still not fully explored and their work is hindered by the lack of long-term resources and support. Youth workers are then the main initiators and they often become tired or disempowered by the difficulties and there is a high turn-over of youth workers and volunteers. Youth workers who are experienced and trained often leave. Consequently, there is a lack of continuity in the activities. The work of youth organizations should be supported so that their projects and actions are sustained over time, improved, and multiplied. Continuity is crucial in work with young people in the difficult phase of adolescence, and in long-term programs in general. Youth organizations should be supported financially by the state and the contributions of civil society. Participatory structures, such as youth forums, networks of youth organizations, students' associations, and self-organized youth groups should be encouraged as they have proven to be valuable non-formal education spaces (Schell-Faucon 2003). Youth workers should be supported through training, peer-to-peer counseling and coaching, and psychological help. Youth workers should acquire, develop, and shape conflict literacy skills, including for example, mediation, negotiation, and facilitation of group decision-making. These skills are fundamental for any community organizer, who may have to act as a mediator or facilitator of inter-personal, inter-group, or societal conflicts or discussions.

6. Conclusions

This article described and analyzed youth criminality in the city of Rosario as an expression of a wider urban social conflict and as a reflection of a situation in which structural and cultural violence are present. The first section explained the conceptual approach used, which is based on conflict transformation and peacebuilding. Conflict is understood as an opportunity for social change, which should not be avoided or suppressed, but dealt with in a constructive way. The second section started with a general historical background, both of Argentina and of the city of Rosario, and showed how socioeconomic inequality was deepened by neoliberal policies and deficient processes of democratic participation plagued by a history of dictatorships and violent political struggles. The problem of youth criminality was illustrated through statistics that show a clear increase in the amount of crime against property committed by young offenders. An alarming fact was that

the age of offenders has been decreasing, even to the extreme that children aged eight to twelve have been detained for crimes using weapons. In order to understand the problem and its causes, it is necessary to describe not only the direct violence observed, but also other forms of structural and cultural violence. One important aspect is that social, economic, and political exclusion and the overall system's inequalities are given cultural justifications and accepted as normal or natural.

One of the main conclusions of this work is that urban youth crime is inextricably linked to social, political, and economic exclusion and marginalization of youth. Even if the media and society present it in a superficial way as a question of deviant youth, it is clear that this phenomenon is linked to processes of structural inequality and degradation of societal relations. Another conclusion is that inequality becomes more evident in cities where rich and poor live in close proximity and the feeling of being "in" or "out of" the system is exacerbated by the proximity of the "other." The main argument presented in this article is that the conflict is not only about "youth" versus "adults" or "rebellious youth" against society, and also not only about inequality, but rather between those who are included in society and those who are excluded from it. Youth who engage in gangs feel expelled out of society and see violence as the only way to become powerful and respected, and as a way to survive and take revenge. Youth are not born criminals, it is society which denies their rights to education, health, and a secure space to grow up. The actors' attitudes and the way they understand the problems help us to understand the reasons underlying their actions. The example of "El Ale" as a former young offender was a key illustration of how aware he was of the social exclusion he suffered and the choices he made in his life. The interviews with youth and youth workers were also helpful in showing that they are aware of the effects of structural violence in society and that solutions should aim to include people and bridge the gaps, instead of promoting tensions and polarization. All young people and youth workers interviewed agree that the responses so far have not worked. Policies which have limited their interventions to stopping direct violence have proved to be ineffective. The penal approach to youth crime has not improved the situation; on the contrary, it seems to promote it. Repression and direct violence are seen by the police, both in their discourses and in their actions, as a legitimate way of solving or, at least, mitigating a problem. A double discourse can be witnessed in police and state institutions: on the one hand, the police's role is to guarantee security and the respect for the law; on the other, the penal system has served as a means of social control.

Even though direct violence is not desired by all the actors, they use it. From a peacebuilding point of view, there is an inherent contradiction between two facets of the state: the state as the holder of the monopoly of the use of violence and the state as a space for dialogue, deliberation, participation, and joint decision-taking for a more just and peaceful society. The response to the problem can continue to be dual, that is, on the one hand control and repression, on the other more democracy and social inclusion. However, this will not be effective. A non-violent, integrated, and coherent approach is needed. If social exclusion is not transformed, the levels of youth urban violence will continue to increase.

Public policy that works on the root causes of the conflict and addresses issues of direct, structural, and cultural violence in an integrated way would seem to be the most appropriate as illustrated by the municipal Youth Participatory Budget. This experience is an example of a good practice which should be further studied and multiplied. The experience of the Municipal Youth Center shows that the state can lead a conflict transformation process through its public policy. Its programs aim to avoid an "adult-centric" or paternalistic approach and to open up "youth" social spaces. As the inequality crystallizes in space, in the form of slums and private rich neighborhoods, public urban planning can help to unroll this tendency, and public space can be used as unifier and as a space for participation. The lack of space for young people to express themselves and develop sport and recreational activities was mentioned as one more form of exclusion. The city can create physical spaces which will become social spaces for interaction and dialogue.

Creating a better city will require a long-term multi-layer approach, with the involvement of all actors, especially youth. All actors should engage in dialogue and work jointly when designing strategies to respond to the problem,

transcending the inequalities of power and status and using an intergenerational approach. Young people and youth organizations are an untapped resource, and they should be empowered to join this conflict transformation process. Seen as an opportunity for positive change, social conflict seems to open new paths instead of narrowing them down (as is the case when it is seen as a disease to be cured or a sick limb to be amputated).

Among the recommendations for improvement in public policy and action presented in this article, it is important to highlight the development of more participatory and appropriate youth policies which take into consideration the changing needs of young people and the changing environment. However, several questions remain unanswered and more depth in the reflection on youth policy is needed. The municipal government's youth policy – which was found to be innovative and participatory, especially the Participatory Youth Budget – has not been evaluated in depth and its conflict transformation potential has not been established. It is still being developed and the projects proposed by young people are still being implemented. It is difficult to determine to what extent the meaningful participation of young people in this program decreases the amount of violence and youth crime, and to what extent young people acquire and practice the mediation and community organizing skills through the proposed intervention strategies. The aim of this study was not to test causal relations and determine the factors that lead to variation of criminal behavior in youth, but to describe and understand how the actors perceive and address the phenomenon. Further research is needed about the causes of youth criminality and its changes over time, taking into account a more representative sample of cases in all neighborhoods and slums of the city. Other areas of possible research are: a) to what extent the Youth Participatory Budget promotes young people's empowerment and shapes their political culture, b) to what extent a gender perspective is included or/and whether gender mainstreaming is undertaken at municipal level and more specifically in municipal youth policy as this aspect was not discussed in this paper. In the second place, there is a need to analyze the quality and type of cooperation among actors in developing youth policy. A through mapping of all concerned actors could be a good starting point, including the role of educational and religious institutions which were not part of this study.

Through my observations and the information gathered in the interviews it seems that cooperation among actors is scarce and embedded in the political tensions. However, no in-depth analysis of this has been undertaken. It would be important to look into the way the provincial and municipal governments cooperate in this field, for example, so as to devise more integrated strategies and avoid duplication. At the same time, there is a need to look into the type of intergenerational dialogue present in Rosario. A youth-adult partnership in implementation of peace and social development projects presents several challenges. Often adults tend to dictate or impose their diagnosis of the conflict, and consequently their solutions. Intergenerational cooperation and partnership need to be enhanced. Finally, municipal youth policy as a space of conflict transformation and peacebuilding should be further researched using an interdisciplinary approach. One important question is, to what extent can municipal governments and local actors deal with the root causes of violence found in unfair global structures of domination and inequality which exceed their capacities? How can local and global forces of change be better coordinated? Another issue which requires further research is the issue of reconciliation and healing. How can governments and youth organizations facilitate processes to deal with the past in local public space? Studies of public administration, youth, and conflict transformation have rarely been combined, so lots of work remains to be done. If social planners, politicians, youth workers, and public officials would learn to see conflict as an opportunity for social change, more innovative and better practices would be developed to achieve a peaceful society which values diversity and which builds a world where many worlds can fit.

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How Insecurity Impacts on School Attendance and School Dropout among Urban Slum Children in Nairobi

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This paper discusses how perceptions of personal security can impact on school enrolment and attendance. It mainly focuses on threats of physical harm, crime, and community and domestic violence. These security fears can include insecurity that children suffer from as they go to school, maybe through the use of unsafe routes; insecurity that children feel at school; and the insecurity they suffer from in their homes. Although poverty can be a source and/or an indicator of insecurity, this paper does not focus solely on poverty as it is well covered elsewhere in the literature. The paper relies on qualitative data collected in Korogocho and Viwandani slum areas in Nairobi, Kenya between October and November 2004. The paper analyses data from individual interviews and focus group interviews and focuses on the narrative of slum dwellers on how insecurity impacts on educational attainment. The conclusion in this paper is that insecure neighbourhoods may have a negative impact on schooling. As a result policies that address insecurity in slum neighbourhoods can also improve school attendance and performance.

1. Introduction

Recent research on violence has moved to the micro scale, seeking to understand violence on a small scale, such as in school settings, or at least violence against educational institutions. In North America this has been prompted by a number of isolated high-profile shootings at schools and universities leading to the death of students or teachers. Others would deny that school violence is as rampant as is reported in literature, and claim that the heightened sense of school insecurity is a result of media panic that magnifies isolated incidences of violence within schools (Thompkins 2000). In most sub-Saharan African countries violence in schools has been studied at the state level, especially where the state uses its repressive mechanisms to quell student rioters and put student leaders in prison under torture (O'Malley 2007); other studies have focused on sexual abuse in schools (Leach and Humphrey 2007; Mirembe and Davies 2001). In Middle Eastern countries such as Iran and Palestine focus has been on attacks on educators as well as how wars can stop children from getting an education (O'Malley 2007). For example in countries like Afghanistan and Palestine statistics have recounted numbers of teachers killed as a result of violent conflict and abductions (Human Rights Watch 2006). In North America and Europe the interest in schools and insecurity has mostly been directed at war-torn countries like Afghanistan, Colombia, Democratic Republic of Congo, Sudan and Iraq. In these countries, O'Malley writes, "schools, places that should be safe for children, have increasingly become the prime target of attacks by armed parties" (2007, 7).

Focusing on extremely violent situations in both the Middle East and Africa has meant that apart from a narrow focus on sexual abuse by teachers in school and corpo-

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ral punishment, the effect of insecurity on education in politically stable contexts has been left under-theorized and understudied. Although the intensity and duration of violent conflict and wars make their effects on education highly visible, the majority of the world's poor living in inner-city neighbourhoods and slums suffer from varying degrees of violence that can also have negative influence on educational attainment and schooling outcomes. As documented by Mugisha (2006) and Magadi, Zulu and Brockerhoff (2003), a large proportion of the urban poor in third world countries is living in "life and health threatening neighbourhoods" (Cairncross et al. 1990, cited in Mugadi et al. 2003, 347). According to Williams (2000), education can be linked to security in two major ways. Education can be studied to understand its potential influence to "redress global security threats", or, alternatively, to understand "the impact of the new security threats on education" (Williams 2000, 193). This paper will investigate how physical security threats can impact on school attendance and primary school dropout among urban slum children in Nairobi. Where possible limited reference to other low income but non-slum neighbourhoods in Nairobi will be made to enhance an understanding of the conditions facing slum children. This paper is based on research that was carried out in two slum areas, namely Korogocho and Viwandani in Nairobi.

Some studies using social disorganization theory look at the local level and claim that weak communities are vulnerable to crime and insecurity because they lack the mechanisms to prevent them. "Strong communities . . . are institution centred. Their cohesion and moral competence derive from the strength and integrity of families, schools, parties, government agencies, voluntary associations and law. With regard to crime the essential argument derived from social disorganization theory is that institutionally strong communities are better able to prevent crimes as well as respond to crime when it happens" (Karp and Breslin 2001, 249). High levels of crime, victimization and violence in any community are strong indicators of insecurity. Korogocho and Viwandani have weak institutions characterized by a general breakdown of law and order, chronic poverty and high rates of unemployment, all indicators of heightened insecurity in the slums.

This paper is concerned with how perceptions of personal security can impact on school enrolment and attendance. An enrolled child will refer to a child who is registered in school at the beginning of the year, who may or may not have been attending school at the time of the study. Attendance (or a child in school) will refer to a child who was enrolled at the beginning of the year and was actively going to school at the time of the study and a dropout will refer to a child who left school. Fear of personal harm, crime and violence can heighten the sense of insecurity among residents. In this instance fear will refer to "the institutional, cultural and psychological repercussion of violence that produces a sense of 'insecurity' and vulnerability" (Moser and Rogers 2005, 4). Security fears can include insecurity that children suffer from as they go to school, maybe through the use of unsafe routes; insecurity that children feel at school; and the insecurity they suffer from in their homes. The paper focuses mainly on local-level violence and other forms of violence such as school-based violence, giving a detailed description of these and an analysis of how these affect children. The limited use of descriptive statistics will attempt to show that these kinds of violence are most prevalent in poor slum areas as compared to other low income but less deprived neighbourhoods in Nairobi.

2. Methodology

This paper is largely based on qualitative data collected in October and November 2004 in Korogocho and Viwandani slum areas in Nairobi, Kenya, although it also makes reference to quantitative data collected under the Education Research Project (ERP). The qualitative data comes from an Information for Development (IFD) study nested onto the Nairobi Urban Health and Demographic Surveillance System (NUHDSS), a longitudinal study implemented by the African Population and Health Research Center (APHRC) in the two slum communities since 2000. The ERP project is also nested onto the NUHDSS. The NUHDSS involves regular visits to every household once every four months to update key events (such as birth, deaths, in and out migrations and a number of other social and health characteristics) and it covers about 60,000 people in some 23,000 households. Several other studies are nested on the NUHDSS to provide a rich data set to examine specific aspects of well-being among residents.

Using the NUHDSS as a sampling frame, APHRC designed the nested qualitative study which focused on the roles boys and girls play within their families and communities and how these may affect their schooling outcomes. Another area of interest for this study was to investigate the impact of free primary education on school enrolment. Although no direct questions on security were asked it emerged in all interviews and focus group discussions that many people in the study were concerned with the perceived high levels of insecurity in the slums. In all focus group discussions it was only Viwandani men in the 30 – 49 age group who did not mention insecurity in the slums as a possible cause for students dropping out of school.

The IFD study had two components: focus group discussions and individual in-depth interviews. The focus groups were more encompassing in terms of age. The sample covered community members aged twelve and older differentiated by age and gender. Table 1 indicates the composition of the focus groups.

Table 1: Characteristics of Focus group discussions

Group characteristics	Age category	Number of participants	
		Korogocho	Viwandani
Women	20–49 pilot	7	7
	25–29	6	5
	30–49	8	7
Girls in formal primary school	12–14	8	8
Girls in informal primary school	12–14	8	8
Girls in secondary school	15–19	6	6
Girls out of school	12–14	8	4
	15–19	8	8
Boys in formal primary school	12–14	8	8
Boys in informal primary school	12–14	8	8
Boys in secondary school	15–19	8	6
Boys out of school	12–14	8	6
	15–19	6	8
Men	20–49 pilot	6	6
	25–29	7	5
	30–49	9	8
Community leaders mixed gender	20–30	8	
Community leaders mixed group	36+	8	7
Community leaders males only	20–30		6
Total	36 groups	135	121

The field supervisor recruited participants for the focus group discussions by announcing and explaining the aims of the research at community forums as well as making follow-up visits to people's homes to recruit and seek permission.

The second part of the study consisted of respondents who were selected for individual in-depth interviews. The Demographic Surveillance System (DSS) data was used to identify the respondents. The final sample was based on purposive sampling as it had to cover a variety of characteristics. Table 2 summarizes the characteristics of individual in-depth interview participants.

Table 2: Characteristics of individual in-depth interview participants

Group characteristics	Age category	Number of participants by slum	
		Korogocho	Viwandani
Boys in formal primary school	12–14	2	2
Boys in informal primary school	12–14	2	2
Boys out of school	12–14	1	2
	15–19	1	
Boys in secondary school	15–19	1	1
Girls in formal primary school	12–14	2	1
Girls in informal primary school	12–14	2	2
Girls out of school	12–14	2	2
	15–19	1	1
Girls in secondary school	15–19	1	1
Parents with children in school		4	4
Parents with children out of school		4	4
Teachers both formal and informal		3	3
Total	51 individuals	26	25

The interviews and discussions were based on a broad set of themes that interviewers had to probe. For instance, why children drop out of school, what people's views on free primary education were, and questions on school attendance and enrolment. All focus group discussions were conducted in Kiswahili by native speakers, while all teach-

ers' interviews were conducted in English. All individual interviews were conducted in Kiswahili. The language of use was determined by the preferences of the interviewees.

All focus group discussions and interviews were tape recorded and transcribed and translated into English by a hired professional transcriber. The resultant transcripts were then coded using Nud*ist 6.0, a coding software used in the analysis of qualitative data. The codes primarily focused on the reasons for dropping out of school with a special focus on the gender dimensions as well as on questions related to the free primary education initiative.

The data from the Education and Research Project (ERP) are largely quantitative. In 2005 the ERP focused on young people between the ages of five and nineteen in Korogocho and Viwandani (the two slums studied by the IFD project) as well as two low-income non-slum neighbourhoods within Nairobi (Harambe and Jericho which were not part of the IFD qualitative study communities). From the ERP study we use children's answers relating to drug use in school, fears of being harassed by teachers or fellow students, use of weapons and sexual abuse in schools as proxies for insecurity. Although the baseline in 2005 had 11,173 children, statistics in this paper are limited to people above the age of twelve, totalling 4,839, to whom the complete behavioural questionnaire was administered. The questionnaire also had a series of skips depending on whether the child was in school at the time of the study or had engaged in or not engaged in certain behaviours that were being investigated. STATA software was used to generate these statistics.

2.1 Poverty and Security

Many studies of security have often pointed out that pervasive poverty is a threat to security and therefore, for the "multitudes of humanity caught up in the poverty trap, their human security is compromised" (Mutesa and Nchito 2003, 9). High poverty levels are therefore linked to heightened levels of insecurity. In Uganda, Lwanga-Ntale and McClean (2003) linked poverty and security by positing that insecurity caused by cattle raiding in some parts of Uganda had caused poverty as people were left with no oxen for farming. Therefore, poverty and insecurity could be regarded as part of a vicious cycle in which either may be a result or cause of the other. In a study report APHRC (2002) highlights lack of jobs, proper housing and affordable water supplies as prevalent in slum areas in Nairobi, including Korogocho and Viwandani. The report pointed out that lack of employment opportunities makes children and adolescents in the slum areas more vulnerable in terms of morbidity risks from childhood diseases, early sexual initiation and risks of unwanted pregnancies and sexually transmitted infections, compared to children elsewhere in Kenya. Viwandani and Korogocho have a high rate of unemployment, poverty, crime, poor sanitation and generally poorer health indicators when compared to Nairobi as a whole (Mugisha 2006). Thus the insecurity suffered by adolescents in Viwandani and Korogocho may also be linked to the high levels of poverty in the two communities.

Different organizations and government departments have advanced a variety of definitions of human security. The United Nations Development Programme defines human security as "freedom from fear and want" (King and Murray 2001). Japanese foreign policy defines human security as covering "All the menaces that threaten human survival, daily life and dignity – for example environmental degradation, violations of human rights, transnational organized crime, illicit drugs, refugees, poverty and anti-personnel land mines and other infectious diseases such as AIDS – and strengthens efforts to confront these threats" (see King and Murray 2001). Although there are no agreed definitions of what precisely security is, there is generally agreement that insecurity is linked to chronic threats of disease, hunger and poverty. Therefore, insecurity and poverty cannot be divorced from each other. Severe levels of poverty may expose people to all kinds of security threats and violence, as noted by McCawley: "at the personal level, poor people in developing countries frequently face relatively high risks from such things as domestic violence, crime, sickness, unemployment . . . " (2004, 4). In Korogocho and Viwandani in both focus group discussions and individual interviews, study participants often pointed to all kinds of insecurities (such as domestic violence, fear of harassment at school, etc.) as factors that may lead to a child dropping out of school.

2.2. Study Context

Korogocho was officially recognized as a slum settlement in December 1978, although some people claim to have

started settling in Korogocho in the 1950s. According to the NUHDSS results for September 2007 (APHRC 2007), in Korogocho, among men aged eighteen years and older, only 11 percent were in salaried employment, 10 percent in established trading, 34 percent in casual employment, 29 percent in petty trading, and 15 percent without any income-generating activity. Among women, 50 percent were not involved in any income-generating activity; 32 percent were in petty trading, 8 percent in casual employment, 4 percent in salaried employment and 6 percent in established trading. Korogocho does not have high educational attainment levels for its adult population. Most of the residents are either uneducated or dropped out of school at primary level; only 19 percent of the men and 12 percent of the women had attended secondary school.

Viwandani was officially recognized as a settlement in 1973, although people started settling almost at the same time as the settlers in Korogocho. According to the NUHDSS results, in September 2007, among men aged eighteen and older, 20 percent were in salaried employment, 7 percent in established trading, 42 percent in casual employment, 14 percent in petty trading, and 12 percent without any income-generating activity. On the other hand 50 percent of women were not engaged in any income-generating activities, 19 percent were involved in petty trading, 18 percent in casual employment, 3 percent in salaried employment and 7 percent in established trading. The level of education among the adult population was higher than in Korogocho, with 48 percent of males and 36 percent of females having attained a secondary school education

There are a total of eighty-two schools within the two slums and their neighbourhoods, forty in Korogocho and forty-two in Viwandani. Out of these only eight are government schools. The government schools are the only ones that benefit from public funding (including the free primary education initiative), the rest are non-government informal schools. Focusing just on the schools within the Demographic Surveillance Area, there are a total of fifty-seven schools (thirty-one in Korogocho and twenty-six in Viwandani) with only four of these being government schools, two in each site. In Korogocho and Viwandani, lack of schooling facilities was identified by some study participants as a factor in why some children do not attend school. Mugisha (2006) and Undie et al. (forthcoming) note that the very high rate of urbanization in Kenya has reduced the government's ability to adequately provide for the urban population in terms of schooling facilities as well as other infrastructure. Endemic poverty may also explain why the poor fail to enrol in school or, if they do, to receive good quality education. When free primary education was introduced there was an influx of children into the slum schools. In discussions with both young and old, it emerged that many Korogocho and Viwandani residents acknowledged the importance of education. There was evidence of parental involvement in children's education as parents tried to ensure that their children attained an education.

There is high demand for education in slum communities despite the fact that research has shown that the slum schools are usually of poor quality (Mugisha 2006). The average net primary school enrolment rate (NER) for Korogocho and Viwandani in the period 2000–05 stood at 80.2 percent for Korogocho and 87 percent for Viwandani, which was higher than the national net enrolment rate of 76.5 percent but slightly lower than for non-slum areas in Nairobi which stood at 90.7 percent (NUHDSS).[1]

Despite the unique peculiarities of the two slum areas, this paper does not compare them. Both slum areas experience high levels of insecurity which this paper will demonstrate may impact on parents' willingness to send children to school or may result in children being unwilling to go to school even where school fees may be available and other schooling-related costs catered for.

3. Results

3.1. Slum insecurity

Whilst threats to physical security and violence are not a preserve of slum and other impoverished neighbourhoods, research has shown that people in slums and other inner

1 The net enrolment rate is the total number of children in the official school-going age group registered in school expressed as a percentage of the total population of children in the official school-going age.

city neighbourhoods are more likely to suffer from crime and violence compared to people in more affluent parts of the city. "Class, age, sex and location are factors which in effect make a difference as to whether a person is likely to be a victim of crime" (Jimeno 2001, 227; see also Wilson 1989 for a similar argument). Problems of violence and general insecurity might be concentrated in the slums because they are economically marginalized and slum inhabitants also suffer from other forms of discrimination which make them vulnerable to crime and its concomitant insecurity. For instance, Proto (2003) notes that in Nairobi, slums house more than 60 percent of the population yet occupy only 5 percent of the residential land at the same time as there is dramatic incidence of urban poverty, violent crime and mob justice in these slum settlements, and concludes that this has led to the formation of geographies of fear and marginality within Nairobi. For example in one focus group discussion in Korogocho (women aged 20 – 49) some participants said:

Respondent 3: Cases of rape are quite common.
Moderator: So there are many cases of rape?
Respondent 4: Yes, and no action is taken since we are just treated as ordinary people.
Respondent 3: And even if you arrest the rape perpetrator they still end up getting released and go unpunished. This will encourage him to keep on with the habit since no action is taken against him.
Respondent 5: There is one in our plot who was raped. The relatives have been pursuing the case with no progress since the culprit is still at large, yet the child is already out of school. The government isn't doing enough to curb the rape cases.

Elsewhere Amnesty International (2002) has noted that it is difficult for rape victims in Kenya to get justice. The people in Viwandani and Korogocho generally feel insecure and disillusioned that the police are not doing enough and that they have been largely forgotten by the government. They generally feel that the government does not take their security problems seriously and in some cases the police are sources of insecurity.

Moderator: What other things contribute to boys dropping out of school?

Respondent 4: Harassment by the police. Let's say you've been sent to the kiosk at 8 p.m. and you meet the cops, they will arrest you; and since you don't have any money, you will be taken to court and jailed for six months. So after those six months, you can't get back to school. (Korogocho focus group discussion, boys in school, age 15 – 19).

One male primary school teacher in Korogocho pointed that on at least one occasion he had had to go to the police station to secure the release of girls who had been arrested for "roaming up and down". The perception that the police are sometimes sources of insecurity, particularly for young men, has been raised elsewhere (see Proto 2003 and Gimode 2001). During the height of the Mungiki terror killings in May 2007 (when a gang terrorized inhabitants of Nairobi and surrounding districts), there was debate in parliament as some ministers were of the opinion that police were harassing and killing innocent male youths, accusing them of belonging to the terror gang.

ERP data collected in 2005 indicate high levels of feelings of insecurity among slum children compared to non-slum children of school-going age. For instance a higher proportion of children above the age of twelve in slum areas had carried a knife for personal protection at some time, compared to children from non-slum areas.

Table 3: Respondents who reported carrying a weapon (slum areas vs. non-slum areas)

You carried a knife or gun or other weapon to try to protect or defend yourself

	Non slum	% non-slum	slum	% slum	Total	% Total
Never	914	97.34	2,740	91.09	3,654	92.58
Once	14	1.49	166	5.52	180	4.56
2 or 3 times	4	0.43	61	2.03	65	1.65
4 or 5 times	2	0.21	24	0.8	26	0.66
6 or more times	2	0.21	13	0.43	15	0.38
Refused	3	0.32	4	0.13	7	0.18
Total	939	100	3,008	100	3,947	100

Source of data: ERP 2005

For the slum children there was no difference between boys and girls as very similar proportions of boys and girls had

ever carried a weapon to defend themselves. The fear of crime was also expressed in all focus group discussions and individual interviews, and prominent among these was the fear of being harassed by fellow students. The fear of crime and possible physical harm contributed to general insecurity levels in the community.

Factors that contribute to high insecurity levels in these slum areas include low presence of law enforcement agents, and high levels of unemployment among youth leading to idleness, drug and alcohol abuse and crime. For example, in the ERP data 7 percent of students in slum schools admitted to ever having sold drugs, whilst only 1.5 percent of non slum children admitted to this. However a high number of children in both slum and non-slum schools said that there was a drug and alcohol problem at their school, with 43 percent in slum schools and 30 percent in non-slum schools admitting this. Although most studies of insecurity in Nairobi have focused on how insecurity negatively affects the economy by pushing tourists and investors away, our main focus will be to look at how this insecurity impacts on education and educational attainment among slum children.

3.2. Reasons for Dropping Out of School

A variety of reasons were given to explain why some children were not going to school. Lack of security within the schools and in the slum neighbourhoods in general, and poverty, as well as early pregnancies, were frequently mentioned. Although both male and female children had security fears it will become apparent that sometimes their fears emanated from different concerns. For instance boys feared assaults whilst girls were mostly afraid of rape, sexual assault and harassment. However despite these differences security fears impacted on school enrolment, dropout and sometimes school performance.

Poverty is frequently rightly mentioned in the literature as a cause of school dropout, or non-enrolment in school. Poverty in the two slum areas is endemic. In a focus group discussion in Korogocho (boys aged 15–19) one respondent pointed out that:

> *One of the problems the youth here face is poverty. Poverty has stopped us developing and you find that most of us come from poor families and as a result we cannot even finish school due to poverty. Our parents cannot even afford food because of the poverty.*

Insecurity, however, is also a dimension of poverty. Especially in Nairobi the poorer people are, the more insecure they are. For example, Proto (2003) notes that the police force has largely become impotent in Nairobi and encumbered by lack of resources and general demoralization and apathy. He points out that those who can afford to do so hire security from private firms or have their own private armies popularly known as Jeshi la Mzee. These private armies frequently terrorize the poor who do not have the means to protect themselves (Proto 2003). Gimode (2001) also points out that among the poor there is a perception that the police can be bribed by those with money not to investigate certain issues.

3.3. Threats to Personal Security

Threats to personal and physical security can make children drop out of school. Children and their parents sometimes found it difficult to attend school and/or to enforce school attendance because of lack of guarantees to the physical security of children attending school. Major among the threats against physical security was the issue of rape and this mostly affected female children. Parents in both Viwandani and Korogocho sometimes withdraw their children from school for fear that the children might be raped on their way to school. This fear was expressed by all the age groups interviewed regardless of gender. In the female age 12–14 group discussion in Korogocho it was pointed out that at least three people were raped every week in the community and some of those raped were victims of gang rapes. One of the participants in this group knew a victim of rape:

> *Moderator: Do you know anyone who was a victim?*
> *Respondent: At home a neighbour of ours. One day she was leaving at six in the morning because she was schooling in Eastleigh. She would leave at five o'clock with the Nissans on the road just there. One day she appeared at the corner. She was held and taken down to that direction near the river [points]. She was raped and left there. She got pregnant and she gave birth and up to now she has never gone back to school.*

Research from other slum areas in Nairobi (e.g. Kibera) corroborates that girls have a heightened fear of being raped, with 60 percent of girls interviewed by the Population Council in Kibera expressing a fear of being raped (Erulkar and Matheka 2007). Although in the absence of reliable official statistics we can not say whether the perception of high incidences of rape was a reflection of reality, it is the perception of the prevalence of this type of crime, not its actual prevalence that often determines how people act. If there is a perceived lack of personal security people can decide to withdraw from participating in normal community life and sometimes schooling was targeted as one of those few things that a person could forgo.

Slum residents also regarded longer distances to school as heightening security threats. The longer the distance to school, the less physically secure the children were deemed to be. Children felt vulnerable if they had to pass through insecure areas such as bushes or had to use "matatus" (public transport) or get transport from private motorists on the road. Since local schools are over-subscribed children have to look for places elsewhere. These children would then have to walk long distances to school. One female respondent who had dropped out of school has this to say regarding her sense of insecurity when she was still attending school:

> *I used to walk to school through some risky area called Rurii. Sometimes people used to be murdered in that area. … One day some people were murdered at Rurii, the risky place where I was passing on my way to school. This caused fear to my mother and I had no choice, I had to use this Rurii short-cut in order to get to school by seven in the morning. The road which is secure was a long distance to school; also my mother had no money for my bus fare. The teachers on the other hand were strict about keeping time. Children who were late for school were punished and sent back home. I was in a dilemma, I feared using the Rurii short-cut, which at times was so deserted. So I started missing school, I continued missing school until I completely dropped out.*

Most parents in focus group discussions and individual interviews pointed out that because the local schools were full they had to register their children at other schools. This also meant that their children would be more exposed to the dangers associated with schooling far away from home. They pointed out that some children had been kidnapped and later found murdered, and in most cases the culprits were not caught. Parents felt that the school could not provide a protective environment for their children. This reluctance to send children to school fearing for their safety can be understood in the context of Kenyan society where rape victims are stigmatized (see Kangara no date).

Although no cases of homosexual rape were cited, the issue of rape did not only affect female students. Male children were also affected, albeit in a different way. When asked about other things that contribute to boys dropping out of school one male respondent in a Viwandani focus group discussion (secondary school boys aged 15–19) had this to say:

> *What happen mostly are rape cases. If you rape a girl and she knows your place, she comes with the police and this can make you run away and even leave school.*

In some cases, as some girls in a focus group discussion pointed out, a girl could be forced by her boyfriend to have sex. If the girl got pregnant then both the boy and girl had to leave school so that they could start their own family.

It would, however, be a misconception to claim that only parents stopped their children from going to school because of fear of rape or because of general harassment by boys at school. Sometimes the child would decide to stop going to school. A male respondent in the focus group discussion in Korogocho (boys aged 12–14 attending informal school) pointed out that:

> *There is a way a girl can come to school, the boys start to threaten her. So then they start to force her to let them help carry her books. And because the girl starts to refuse, they say, "you refuse but one day you will see", so she starts fearing that when she goes to school she might be killed or raped.*

A female respondent in a group discussion (girls aged 12–14 in formal school) had this to say:

You meet with people and they rape you. Now you lose hope and say, 'ah! I will never go to school if that school is what got me raped'.

Thus fear may make a student drop out of school. The school environment might generally be insecure for the female student. This however is not only limited to slum schools. According to Leistikow (2003), Kenya's Ministry of Education identified teachers' negative attitudes towards female students, especially the fact that teachers allowed boys to bully girls in class, as a hindrance to girls' participation and performance in class. Thus to regain a measure of security they might decide to drop out of school.

Although none of the interviewed people admitted to ever having been raped or to raping anyone the fear of rape was not baseless.[2] One of the respondents pointed out that her sister had been kidnapped and they had not heard from her for a number of years, and when she came back she already had a second child. Another respondent pointed out that her neighbour had been raped one morning on her way to school.

Feelings of insecurity may emanate from the fact that those entrusted with students' security in schools are not able to ensure it or are, in some cases, the source of insecurity. According to Hudson (1999, 26), the head teacher, the senior teacher and the caretaker of any school should be responsible for safety and security in schools. This should however be extended to the individual teachers who are to some extent responsible for the safety and security of those they teach. The opposite is sometimes the case, as in interviews it emerged that teachers can be a source of insecurity forcing students to drop out of school. Teachers sometimes were the cause of school dropout.

In individual interviews and focus group discussion boys frequently pointed to severe beatings and hatred by teachers as reasons why they dropped out of school. Stearns and Glennie (2006) noted elsewhere, in the United States, that boys are more likely to drop out of school because of harsh disciplinary measures by teachers compared to girls. However, the existing quantitative data from the ERP does not show any major differences between boys and girls regarding their fear of being harassed by teachers. Twelve per cent of female students and 11 percent of male students in slum schools were worried about being harassed by teachers at their schools. However, the survey did not ask for specific forms of harassment experienced, therefore it is not easy to tell from this data whether girls and boys underwent different kinds of teacher harassment.

However, out of the four teachers interviewed only two admitted to using corporal punishment although the second teacher pointed to other forms of punishment. The first teacher (a female) admitted that she had beaten a child in an unsuccessful attempt to force her not to drop out of school (since the child had began to miss lessons). A male principal in a formal school responded to questions as follows:

Interviewer: What do you do to punish kids here?
Respondent: There are so many things, we talk to them. If a child takes this dictionary – (pointing to the dictionary) – I cannot beat that child. Also we have a lot of work here, mopping here and there, we have various tasks. If a child comes late in the morning, he can collect rubbish and that's enough.
Interviewer: Okay and so who do you cane, children who have done what?
Respondent: There are some instances, but it's not beating … I cannot call it caning because I don't know whether you understand what caning is, that one I cannot call caning. … It is mild like beating their [buttocks] with a cane.

Teachers were a little reluctant to talk about whether they beat school children as a form of punishment or not, probably because corporal punishment in Kenyan schools was outlawed in 2001 and therefore admitting to beating children would have been admitting that one was conducting an illegal activity. The two teachers who admitted that

2 See Kangara (no date) on sexual violence among adolescents in Kenya.

they beat students were both in informal schools outside of formal controls.

On the other hand in individual interviews and focus group discussions, sexual abuse by teachers sometimes resulting in pregnancy was frequently pointed out as the reason why some girls dropped out of school.

Table 4: Respondents who reported sexual advances by teachers (slum areas vs. non-slum areas)

Teachers try to have sex with pupils and sometimes do have sex with them						
	Non slum	% non-slum	Yes	% slum	Total	% Total
Strongly agree	14	2.06	280	12.52	294	10.09
Somewhat agree	26	3.83	184	8.23	210	7.2
Neutral	28	4.13	95	4.25	123	4.22
Somewhat disagree	68	10.03	84	3.76	152	5.21
Strongly disagree	528	77.88	1,554	69.47	2,082	71.42
Don't know	2	0.29	39	1.74	41	1.41
Not applicable	12	1.77	1	0.04	13	0.45
Total	678	100	2,237	100	2,915	100

Source of data: ERP

A higher percentage of school-going children in the slums (21 percent) said that teachers sometimes tried to have sex with students or even had sex with them compared to 6 percent of non-slum children reporting the same. Between boys and girls in slum areas a very similar percentage of boys and girl agreed that teachers often try to have sex with students (21 percent and 20 percent, respectively). This indicates that slum children are more likely to experience heightened insecurity from teachers as compared to non-slum children.

School sometimes provides protection to those who commit anti-social acts. According to one of the teachers interviewed, some students came to school and used the school as a hide-out from the police. Some teachers pointed out that guns were exchanged within the school grounds and they could not do much about it. ERP data seems to confirm the prevalence of use of weapons among slum children, as 8 percent of those asked admitted carrying a weapon to protect themselves at some time (see Table 3) Commenting on children who commit anti-social acts, one formal school teacher in Korogocho said that:

> *… some of the things we have noted about them … they don't like to be out of school. … No, no those bad ones they do not like to drop out. … They want just to be in school, and then just as they do their business.*

This may increase feelings of insecurity in school among students because the teachers are afraid to discipline students who commit criminal acts and they cannot suspend them from school. The ERP data indicates that 27 percent of slum children attending school, compared to 7.5 percent of non-slum children attending school, were of the opinion that at their school one could do almost anything without being punished. Inability to enforce disciplinary measures by teachers in slum schools allows criminal elements to keep using the school as a safe haven for their activities.

Boys who had dropped out of school also pointed to fear of assault by other boys at school as a possible reason for dropping out and also implied that teachers rarely if ever disciplined students who attacked other students.

> *Moderator: Then I would like to ask about school, I would like you to tell me what things happen in this village or what problems make the young people stop going to school?*
> *Respondent: Like the school where I used to go in Ngunyumu, you would find children would come to school with pangas [knives] and they would injure one another and the teachers did not get concerned – they did not even call the policemen. And if you inquire if the teachers called the policemen they said they did not since if they do then the teachers would be followed with pangas. Again, you find now that if a student had injured another, we would not be taught at school. You find a teacher would come to class and would just sit doing nothing. If you asked him why he was not teaching he would answer that teaching us is pointless because they still get their salaries even if they are not working.*
> (Korogocho, boys aged 12 – 14, out of school)

Thus in both individual and focus group discussions, girls mostly spoke of fear of sexually related harassment as the reason for dropping out of school, while for boys it was mostly physical assaults.

3.4. Violence and Family Breakdown

Theoretically, the family is a source of security for all members who belong to that family unit. It is the site of social reproduction as children are born and are socialized within the family. The family provides the individual with a safety net and a buffer against outside pressures. The family provides the individual with a sense of security. When the family for any reason stops functioning then the individuals who belong to that particular family unit become generally insecure. One of the common factors that helped to explain why some children from poor families ended up dropping out of school was family breakdown or violence within the family. In some cases of violence within the home, especially in cases where the parents fight all the time, some children might prefer to stay at home to monitor the situation and protect one parent from the other parent. The following extract from an interview illustrates this point:

> *Respondent: . . . after my parents separated, my father still used to come home and insult my mother, in our absence. So we chose to stay home to protect my mother and my sister used to help mother when father beat her up, she used to throw stones at father when he beat mother.*
> *Interviewer: Throw them at your father?*
> *Respondent: Yes, so he used to leave mother and pursue my sisters, this gave mother a chance to run away.*

Even where family violence did not result in a student dropping out of school it was frequently mentioned as something that would distract a student from learning and sometimes disturbed his or her concentration in class. When asked to explain what made it difficult for him to attend school, one respondent said:

> *They would quarrel at home. My mother would want to beat my father, my father is very polite. My mother would hold my father's shirt and tear it off, then pack her clothes and go off, then come back the following day. So that would annoy me, to such an extent that I would run away from school. I would run away from school to come and defend my father in case I hear that a fight has erupted between them.*

Children could not concentrate at school as they worried about their parents fighting. Children from homes where violence was the norm often felt responsible for their parents. The children's major fear was that their parents would kill each other or end up in jail and they (the children) would be left with no one to look after them. When violence erupted in the home school-going children could not study and do their homework. This also had a direct impact on their school attendance since such children would sometimes drop out of school because they were afraid the teacher would beat them for not doing their homework.

Violence within the home could lead to other forms of insecurities that would eventually militate against school attendance for children. In homes where there was spousal abuse, there was usually no pooling of resources. Usually, children from such homes depended on income from one parent which was not enough to cater for all of the family's needs, as a result perceived nonessential needs such as schooling were cut from the household budget in favour of immediate, essential needs such as food and housing. There is a vicious cycle between insecurity and poverty. Insecurity is a dimension of poverty as well as a cause for spiralling poverty since poverty can increase with increasing insecurity.

In the case of divorce, the chances of poor slum children dropping out of school increase dramatically. This is so because income sources for slum residents are precarious. Most of them depend on casual employment. In cases of married parents, if one parent was temporarily out of work there would be some income from the parent that was working, such that children would continue to go to school. However, in cases of divorce the children were more vulnerable as they were dependent on the income of one parent, and if that parent was out of a job the children would drop out of school. Even where the child was attending a free primary school, they would drop out to help their parent to look for food for themselves and other members of the household. The following respondent fell into this category:

I started schooling at St. Elizabeth Primary School. That time my schooling was consistent and good because my parents were still together, my father used to work but he was a drunkard, and when he came home drunk, he used to cause chaos and harass everybody in the family. He used to harass my mother and us so much until we spent the night outside. One day, he came home drunk, he threw out everything from the house, and he beat up everybody. We had to run away for our safety because he had threatened to kill whoever he could get hold of. After he had thrown everything out, he went on and set all our things on fire. My mother had to start up buying new stuff for the house yet she had no money to kick start her new life. Now, at the school we had some school fees outstanding. This caused me and my sister who then was in class seven to be sent out of school because my mother had no money. The money she got from the casual jobs at the industries was spent on buying household items like bedding because we had nothing to sleep on. So I stayed out of school for many years.

Thus although some children pointed out that they dropped out of school because of hunger, or because they did not have anything to eat, it would be short-sighted to just focus on this, because interventionist strategies designed to address the hunger in school such as providing food in schools might fail to have the desired effect. This is particularly so because normally it is not just one thing that makes students drop out of school. It could be several factors. For instance one respondent in the 12 – 14 age group said that she had stopped going to school because of the following four reasons: firstly she feared for her safety as some people had been murdered along the route she used to go to school; secondly she was always late so the teachers always beat her; thirdly, her parents got divorced and she and her siblings had to stay at home to protect their mother against beating from their estranged father; and, finally, at the same time, her mother and sister fell sick and she had to look after them and look for food.

3.5. General Community Insecurity

Sometimes conflicts which culminated in temporary but extreme forms of insecurity occurred within the slum communities. Although these conflicts were usually of brief duration the intensity of the violence unleashed could also disturb schooling. However, these usually did not result in students dropping out of school, although schooling could be interrupted for many days depending on the intensity of the conflict and the perceived danger to the lives of individuals. For instance, sporadic "wars" (mostly related to the "Mungiki" gang – an outlawed religious sect that is often linked to criminal acts such as gruesome murders and kidnappings) that erupt within the slum areas may disrupt children's education for a while. When asked about the things that happened within the community that would make some children drop out of school one respondent in a focus group discussion pointed to the issue of community wars.

There is a way that war can break for example like from the area where I live. War breaks out, now you know you can not get out of the house, because your parents are refusing you to. . . Let's just say it was only when there was the "Mungiki". Now that was difficult because if you left the house you would be cut with pangas [knives]. Now you know, people would stay for up to a month without working because of the "Mungiki".

Although these village wars do not break out every day, when they do it can affect the children's school attendance. It can affect many areas of the lives of people who live within the affected settlements. As in this case, some of the parents did not go to work for a month, resulting in food shortages and hunger within the family which could, in turn, impact on school performance. The Mungiki operate mostly in poor neighbourhoods and slums where, as mentioned, people do not have adequate police protection.

In some cases some boys feel very insecure because they are targeted for harassment by fellow villagers. This can also disturb their school attendance. In a similar finding in schools in the United States, Grogger (1997) writes that students who fear attack are more likely to miss school and to have their performance in school negatively affected. In a focus group discussion some men in the 25 – 49 age group had this to say:

Again you know life in this place, you know this is a ghetto and the life in here, people fight a lot. Perhaps the child might wrong a certain boy and that boy perhaps his family is feared. You see.

Respondent 2: The child is now on the "wanted" list.

Respondent 5: The child is "wanted", might even be beaten and might even be stabbed and it forces that child not even go to school. The security here is very low. We are completely insecure. You see it forces that child not to go to school.

In one school in Korogocho in a period of one year one student had been stabbed and nearly killed, and another boy had chased another student with a knife within the school grounds; there were several students known to have guns, and teachers and students alike were afraid of them. Fights were also quite common in the school. At the same time the consumption of drugs by the students increased the violence levels at the school. As a result some children simply dropped out of school if they could not deal with the social climate at school.

Perceived increased community violence affected not only students' dropout rate but also the quality and quantity of education they received. Teachers were afraid to discipline students because they feared they would be attacked by the students or the students' colleagues outside the school system. Teachers often came to school late and left early because they were afraid of being attacked. Teachers claimed that sometimes students spied on them and "sold" them out to gangs. That is, the students would give relevant information regarding a certain teacher for a fee to a gang that would then improvise a way to rob the teacher. One of the teachers maintained that she had been robbed at least four times on her way home as the "matatus" (public buses) she had been using at that time had been carjacked by robbers. Most of the children interviewed were afraid that their parents might be stabbed to death at night on their way home from work and at least two respondents expressed fear of being stabbed whilst sleeping in their homes at night.

4. Conclusions

This paper has discussed how general security concerns can impact on school attendance. The focus was on how people's understandings and interpretations of events and occurrences, as well as narratives of risk, can impact on their actions. It is also interesting to note the role of embodied history and community repertoires in influencing people's decisions on whether to withdraw from school or not. The perception of insecurity may more often than not influence how people act and behave regardless of whether the perceived threat is real or not. "Although perceptions of insecurity are not always borne out by statistical evidence, they fundamentally affect well-being" (Moser and Rodgers 2005, 4). Thus although girls might neither have experienced a rape themselves nor know anyone who had been raped, their perception of the prevalence of rape cases made them feel insecure to the extent of dropping out of school.

Informal social relations that exist between teachers and students, as well as among students themselves, and between students and other members of the community, may impact on school attendance and dropout. Fear of being harassed by fellow students, teachers or other community members could make a student stop attending school. Reducing these kinds of insecurities could result in some children attending school who would otherwise have felt too insecure to attend. For example, community programmes that seek to make neighbourhoods safe, as well as informing students on how to deal with sexual and other forms of harassment within their schools, also make those children who would have otherwise dropped out because of fear stay in school. Generally programmes to make schools and communities safe for children will be able to address some of the security related fears that make students drop out of school.

As noted earlier in the paper, a discussion of insecurity should also invariably include a discussion of poverty. For instance, South et al. (2003) note that the socioeconomic status of a neighbourhood can impact on schooling outcomes, with children from low income neighbourhoods engaging in deviant behaviours that may cause them to drop out of school. These behaviours can include drug and alcohol use as well as the use of dangerous weapons. However this paper has shown that these behaviours – which may be caused by poverty and a lack of legitimate opportunities for success – may also result in increased feelings of insecurity for other members of the community including school children and adolescents. The attempt to deal with insecurity by pulling children out of school can be costly in the long run since these children are denied an education, further restricting their prospects of better employment which would pull them out of poverty in the future. Insecurity further increases poverty (see Mukui 2005, 34

Because the poor lack the institutional capacity to protect themselves from violence and harassment, slum children are more vulnerable than non-slum children to all kinds of insecurities. It has been noted elsewhere that school children who are confronted with regular violence can stop attending school as a way of avoiding violence (Irwin 2004). Community regeneration programmes and poverty reduction strategies may in the end also reduce some forms of insecurity that children suffer from in certain communities and improve school attendance and further reduce school dropout.

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Neighborhood Disadvantage and Birth Weight: The Role of Perceived Danger and Substance Abuse

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In this analysis we connect structural neighborhood conditions to birth outcomes through their intermediate effects on mothers' perceptions of neighborhood danger and their tendency to abuse substances during pregnancy. We hypothesize that neighborhood poverty and racial/ethnic concentration combine to produce environments that mothers perceive as unsafe, thereby increasing the likelihood of negative coping behaviors (substance abuse). We expect these behaviors, in turn, to produce lower birth weights. Using data from the Fragile Families and Child Wellbeing Study, a survey of a cohort of children born between 1998 and 2000 and their mothers in large cities in the United States, we find little evidence to suggest that neighborhood circumstances have strong, direct effects on birth weight. Living in a neighborhood with more foreigners had a positive effect on birth weight. To the extent that neighborhood conditions influence birth weight, the effect mainly occurs through an association with perceived neighborhood danger and subsequent negative coping behaviors. Poverty and racial/ethnic concentration increase a mother's sense that her neighborhood is unsafe. The perception of an unsafe neighborhood, in turn, associates with a greater likelihood of smoking cigarettes and using illegal drugs, and these behaviors have strong and significant effects in reducing birth weight. However, demographic characteristics, rather than perceived danger or substance abuse, mediate the influence of neighborhood characteristics on birth weight.

Neighborhood characteristics have been linked to physical and mental health across the lifespan. A handful of studies implicate neighborhood violence or crime in outcomes such as self-rated health, chronic conditions such as coronary heart disease, and mental disorders like depression (Latkin and Curry 2003; Stockdale et al. 2007; Sundquist et al. 2006). In this research, we are particularly concerned with the influence of neighborhood conditions on birth weight. Only three studies have explored the link between neighborhood violence or crime and birth weight. Morenoff (2003) found that increases in the violent crime rate are associated with reductions in birth weight among mothers in Chicago, Illinois. Likewise, using a sample of mothers from Chicago, Collins, and David (1997) showed that whereas the risk of a low birth weight does not increase with violent crime rates, the risk of being born small for gestational age does increase among very low-income women. O'Campo et al. (1997) found that per capita crime had no direct effect on birth weight among babies born in Baltimore, Maryland, though maternal education was less protective when crime was higher. In a related study, Zapata et al. (1992) found that women who lived in neighborhoods in Chile experiencing more sociopolitical violence in the 1980s were more likely to experience a variety of pregnancy complications.

A larger body of evidence exists regarding the link between neighborhood socioeconomic status or the concentration of minorities and health, findings important to the study of violence given the association between

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these factors and neighborhood deterioration and crime (Massey and Denton 1993; Sampson, Raudenbush, and Earls 1997). In general, studies find modest, consistent neighborhood effects for both physical and mental health (Katz, Kling, and Liebman 2001; Leventhal and Brooks-Gunn 2003; for reviews of this research, see Pickett and Pearl 2001; Robert 1999). For birth weight, researchers have found associations with various indicators of neighborhood economic hardship in samples from North America and Western Europe (Buka et al. 2003; Collins et al. 2006; Fang, Madhavan, and Alderman 1999; Farley et al. 2006; Jarvelin et al. 1997; O'Campo et al. 1997; Pearl, Braveman, and Abrams 2001; Rauh, Andrews, and Garfinkel 2001; Roberts 1997; Sloggett and Joshi 1998), though the strength of the association varies with the group under study and the approach to measuring deprivation.

Relatively few studies have examined the link between racial or ethnic concentration in neighborhoods and birth weight in the United States. In all cases but one (Ellen 2000), controlling for individual characteristics and perceptions of the neighborhood have eliminated the apparent negative effects of minority concentration (Buka et al. 2003; Jaffee and Perloff 2003; Morenoff 2003; Roberts 1997). Additionally, only two studies have examined whether the geographic concentration of the foreign-born influences birth weight, which is surprising given the superior birth outcomes observed among immigrant women (David and Collins 1997; Fang, Madhavan, and Alderman 1999; Frisbie 1994). The findings of these two studies are inconsistent. Morenoff (2003) found that living in areas of Chicago with a high percentage of Mexicans had no influence on birth weight, whereas Gorman (1999) found that living in an area with a high percentage of foreign-born had a negative effect on the probability of a low birth weight for Mexican and white Americans. With the exception of Gorman (1999) and Sloggett and Joshi (1998), studies examining the effects of minority concentration or neighborhood deprivation on birth outcomes have been limited in geographic scope.

In this paper we use a novel source of data on a broader sample of cities to systematically study the connection between neighborhood conditions experienced by mothers during pregnancy and the weights of the newborns they ultimately deliver, controlling for individual and family characteristics. We develop measures of the degree to which minorities, immigrants, and poverty are concentrated spatially within an expectant mother's neighborhood and use these to predict the relative likelihood that she gives birth to a low weight baby. In addition to investigating the direct effect of these neighborhood circumstances on birth weight, we also investigate indirect effects through the intervening variables of perceived danger and substance abuse.

1. Implications of Birth Weight

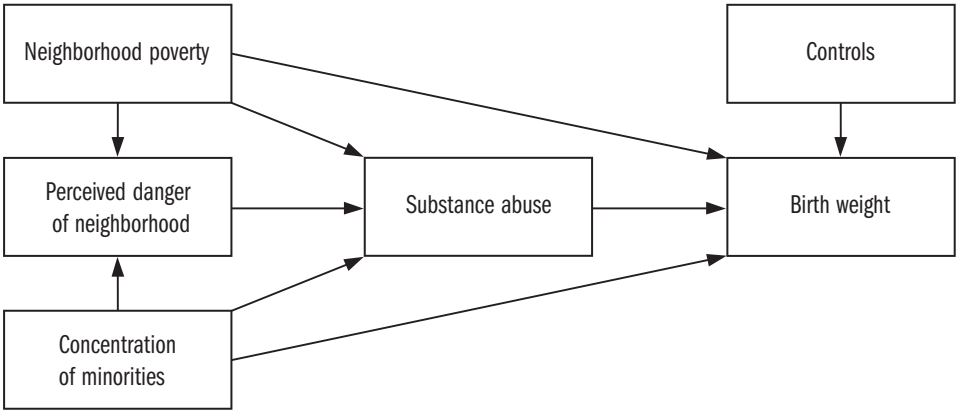
Birth weight is an important determinant of outcomes across the lifespan. In infancy, low birth weight (generally defined to be less than 2,500 grams) is a leading cause of mortality (Heron 2007; Hummer 1993). In childhood, low birth weight children experience diminished health, impaired cognitive ability, a higher rate of behavioral problems, and a greater likelihood of dropping out of school (Conley and Bennett 2000; Currie and Hyson 1999; McCormick and Brooks-Gunn 1992; Aylward et al. 1989). In adulthood similar differentials are observed, with low-birth-weight individuals experiencing higher rates of morbidity and mortality as well as diminished socioeconomic status (Barker 1995; Currie and Hyson 1999; Hack et al. 2002; Rich-Edwards et al. 2005).

2. Perceived Neighborhood Conditions and Birth Weight

Our model of the influence of neighborhood circumstances on birth weight is summarized in Fig. 1. We hypothesize that in addition to whatever direct effects they may have, neighborhood poverty and the concentration of minorities work indirectly to contribute to a greater prevalence of low weight births by increasing expectant mothers' perceptions of danger and leading them to abuse substances during pregnancy. In the United States, mothers living in high-poverty neighborhoods or among minorities are likely to experience elevated levels of crime, violence, and social disorder (Massey and Denton 1993).

Perceptions of neighborhood disorder, including individual evaluations of factors such as safety, decay of the physical environment, and crime, may serve as the mechanism by which objective characteristics of the environment influence health. In general, when individuals perceive higher levels of disorder in their communities, the risk

Figure 1: Contextual model of birth weight



for mental health problems such as anxiety, depression, powerlessness, and low self-esteem increases (Cutrona et al. 2000; Geis and Ross 1998; Ross and Jang 2000; Ross, Reynolds, and Geis 2000). For example, Aneshensel and Sucoff (1996) found that adolescents' perceptions of their neighborhoods as dangerous were associated with symptoms of mental health problems including depression, anxiety, conduct disorder, and oppositional defiant disorder. Similar associations exist with physical health (Feldman and Steptoe 2004; Franzini et al. 2005). For example, Ross and Mirowsky (2001) found that neighborhood disorder and fear mediated the influence of objective measures of neighborhood disadvantage on physical health including self-reported health, physical functioning, and chronic conditions.

To date, no large-scale study has explored the link between perceptions of neighborhood danger or safety and birth weight, though two have found a connection with other perceived neighborhood characteristics. Morenoff (2003) found perceived levels of reciprocated exchange and volunteering within neighborhoods – how often neighbors offered mutual support and participated in local voluntary associations – were associated with higher birth weights in a sample of mothers from Chicago. Likewise, Buka et al. (2003) found that levels of reported social cohesion, trust, and reciprocated exchange within Chicago neighborhoods also increased birth weights, though only for white mothers. Both studies relied on perceptions of neighborhood characteristics gathered from a sample of neighborhood residents rather than the perceptions of mothers themselves.

One smaller-scale study investigated whether aspects of perceived safety influence birth weight. In a case-controlled study of eighty black mothers, Collins et al. (1998) explored whether a mother's perception of neighborhood circumstances with respect to police protection, personal safety, friendliness, and other factors influenced the likelihood of experiencing a very low birth weight (defined as less than 1,500 grams). They concluded that unfavorable neighborhood ratings significantly increased the odds of having a very low-weight birth, controlling for individual substance abuse and other background factors. In the present study, we consider whether an expectant mother's perception of her neighborhood as unsafe affects the birth weight of the child that is ultimately delivered.

3. Neighborhoods, Substance Abuse, and Birth Outcomes

Both objective and perceived neighborhood conditions may also operate to affect birth outcomes by inducing expectant mothers to use or abuse cigarettes, drugs, and alcohol. There is strong evidence that cigarette use during pregnancy has large and very negative effects on birth weight (Buka et al. 2003; Noonan et al. 2007; Shiono et al. 1995; Visscher et al. 2003) and some evidence regarding the negative impact of drugs such as marijuana, cocaine, or heroin (Cosden, Peerson, and Elliott 1997; Kaestner and Joyce; Noonan et al. 2007; Visscher et al. 2003). Alcohol use, in general, has not been found to depress birth weights (Visscher et al. 2003).

A variety of neighborhood characteristics have been shown to increase substance abuse among both adolescents and

adults, net of individual characteristics. In terms of objective characteristics, many studies find that neighborhood deprivation and violence predict a greater propensity to smoke cigarettes (Duncan and Jones 1999; Fick and Thomas 1995; Ganz 2000), use illegal drugs (Boardman et al. 2001; Hoffmann 2002), and consume alcohol (Fauth, Leventhal, and Brooks-Gunn 2004; Ying-Chih et al. 2007), though the degree or presence of an association depends on how neighborhood deprivation is measured. Associations between minority concentration and substance use are less consistent. Depending on the study, living in an area of high minority or foreign concentration associates with increases in substance use (Cooper et al. 2007; Fuller et al. 2005), has no effect on substance use (Hoffmann 2002), or lowers rates of substance use (Kulis et al. 2007; Reardon, Brennan, and Buka 2002). In terms of neighborhood perceptions, studies have found links between social cohesion, safety, and disorder and the substances under study here, especially among adolescents (Duncan and Jones 1999; Ennett et al. 1997; Hill and Angel 2005; Miles 2006; Winstanley et al. 2008). However, findings are not universal (Byrnes et al. 2007).

Relatively few studies have examined whether neighborhood characteristics influence the prevalence of substance use during pregnancy, and all have focused on objective neighborhood characteristics. Finch, Vega and Kolody (2001) and Finch, Kolody and Vega (1999) report that a higher percentage of welfare-dependent households within a postal zip code is associated with an increase in the probability of substance abuse among pregnant women; but the size of the association depends on the substance under study, with welfare use in the zip code having significant effects on the use of tobacco, marijuana, and hard drugs but not alcohol or cocaine. Effects also differ for blacks and whites. Focusing on Latinas alone, Finch et al. (2000) found that living in a zip code with more families in poverty was associated with a small increase in the likelihood of using *any* drug (alcohol, tobacco, marijuana, cocaine, opiates, or amphetamines) but not with the use of individual drugs. Additionally, living in a community with a higher percentage of English speakers associated with increases in the use of a number of substances. Chasnoff, Landress, and Barrett (1990) found no effect of median income in the zip code of residence on substance use in a sample of pregnant women in one county of Florida. Finally, Ellen (2000) found that while the degree to which blacks and whites are isolated from one another had no influence on smoking or drinking for either group, black mothers were more likely to drink or smoke while pregnant when they were more residentially concentrated in inner cities.

4. Sample and Measures

Our data come from the Fragile Families and Child Wellbeing Study, a systematic survey of a birth cohort of parents and children over a five-year period, beginning at the birth of the child. The sample includes 4,898 births (with an over-sample of non-marital births) occurring between 1998 and 2000 in seventy-five hospitals in twenty cities in the United States with populations greater than two hundred thousand. Parents were interviewed at the child's birth and again when the child was roughly one year old, three years old, and five years old. The characteristics of the census tract occupied by mothers at the time of the child's birth were linked to core data for 4,725 (96.5 percent) of those initially interviewed. Tract characteristics were drawn from the 2000 U.S. Census.

For this investigation, we employ information from mothers' baseline interview. Analyses focus on 4,064 singleton births to mothers of all races and ethnicities who had complete data on all variables used in analyses, 85 percent of the baseline sample of single births. Mean values for variables used in the analysis are presented in Table 1.

Information on birth weight is coded in two ways. First, we use a continuous measure of birth weight in grams to maximize statistical power. On average, children weighed 3,227 grams at birth. Second, we classified newborns categorically as being of low weight if they weighed less than 2,500 grams at birth, the standard cutoff used to determine low birth weight status and widely recognized as a harbinger of health and well-being problems later in life. Based on this criterion, some 10 percent of all births were low weight, slightly more than the national average of 8.2 percent (Martin et al. 2007). This likely reflects the fact that our sample is particularly disadvantaged and includes a disproportionate number of black women; blacks have more low birth weight babies than other groups.

Table 1: Descriptive characteristics for the full sample

	Full sample
Birth outcomes	
Birth weight in grams	3,227.03 (617.30)
Low birth weight	10.04
Contextual variables	
Tract proportion black	.40 (.38)
Tract proportion Hispanic	.21 (.37)
Tract proportion foreign born	.14 (.16)
Tract proportion poor	.19 (.14)
Neighborhood safety rating	1.94 (.71)
Risk behaviors	
Any smoking	19.39
Any drinking	10.38
Any drug use	4.77
Individual controls	
Mother's demography	
Foreign born	15.06
Interviewed in Spanish	7.65
Age at Child's Birth	25.13 (6.01)
Married	24.09
Length of neighborhood residence in years	5.52 (7.53)
Mother's Education	
Less than high school	33.46
High school or GED	30.68
Some college or more	35.85
Annual Household Income	
Less than $10,000	22.17
$10,000–$24,999	23.23
$25,000 or More	38.71
Income Missing	15.90
Birth/pregnancy characteristics	
Male	52.95
First birth	38.53
Any prenatal care	97.91
Total number of subjects	4,064

For continuous variables, standard deviations are presented in parentheses. Otherwise, percentages are shown.

Our exogenous variables are census tract indicators of the proportion of families with incomes below the federal poverty line in 1999, the share of residents who are black, the share of residents who are Hispanic, and the share of residents who are foreign born, with all values ranging from 0 to 1.0. Together these measures objectively indicate a neighborhood's socioeconomic and demographic composition. In preliminary analyses, we explored whether these indicators had a nonlinear relationship with the outcomes under study and found no such pattern. On average, mothers lived in a census tract that was 40 percent black, 21 percent Hispanic, 14 percent foreign, and 19 percent poor.

We measure perceived danger of the neighborhood using a subjective evaluation provided by the mothers themselves. At the baseline interview, mothers were asked to respond to the question "How safe are the streets around your home at night?" using a Likert-type scale with four values: 1 (very safe), 2 (safe), 3 (unsafe), and 4 (very unsafe). The higher the value of the scale, therefore, the more dangerous the neighborhood is perceived to be. As indicated in Table 1, mothers generally perceived themselves to inhabit a relatively "safe" neighborhood, with a mean value of 1.94.

We hypothesize that perceived neighborhood danger affects birth outcomes by influencing a mother's propensity to use or abuse substances during pregnancy including cigarettes, alcohol, and illegal drugs (e.g. marijuana, crack, cocaine). Overall, 19.4 percent of mothers said they smoked while pregnant, 10.4 percent drank, and 4.8 percent used illegal drugs (see Noonan et al. 2006). In our multivariate analyses, we employ separate indicators for smoking, drinking, and drug use during pregnancy, comparing mothers who did and did not engage in each behavior. Preliminary analyses using ordinal indicators of substance use found that frequency of consumption did not matter in predicting outcomes of interest – what mattered was whether or not the mother used tobacco, alcohol, and drugs at all during pregnancy.

Final models also include a variety of controls for specific characteristics of households, mothers, and children. We measure mothers' self-reported race-ethnicity using dummy variables for whites, Mexicans, non-Mexican Hispanics, and a residual "other" category, leaving black mothers as the reference category. To control for variation in a mother's nativity, we employ an indicator for birthplace. Mothers

born outside the United States were coded as 1 (15 percent of the sample) and native-born mothers as 0.

Given the significant number of immigrants in our sample, we also attempt to address acculturation. All models include an indicator for language spoken. Mothers interviewed in Spanish were coded as 1 (8 percent of the sample) and those interviewed in English as 0. Interviews were not conducted in any other languages, and mothers who did not speak English or Spanish well enough for the interview were excluded from the sample (Reichman et al. 2001). Less than 5 percent of mothers were considered ineligible for the interview, for one or more of the following reasons: language, adoption, death of the father, or maternal or infant illness. Given that language alone may not capture the process of acculturation, preliminary analyses also controlled for mothers' responses to two questions on cultural attachment asked in follow-up interviews when the children were one year old. Mothers reported whether they agreed or disagreed with the statements that 1) I feel an attachment towards my ethnic heritage and 2) I participate in cultural practices of my own group, such as special food, music, or customs. Neither variable had any impact on key results and both were dropped from analyses to avoid the loss of 504 mothers from our sample who did not participate in the follow-up interview at age 1.

Because previous research has shown that a mother's age at birth has a non-linear relationship with birth weight, analyses include a continuous measure of mothers' age in years (25.1 years on average) as well as a squared term. To address a mother's length of exposure to neighborhood conditions as well as to control for any confounding effects of residential stability, all multivariate analyses control for years of residence in the census tract inhabited at the time of the baby's birth (5.5 years on average). Maternal education is measured using a series of dummy variables that differentiate mothers with less than a high school education (the reference group) from those who have a high school degree or have passed the General Educational Development (GED) tests ("High School or GED"), and those with some college or vocational training or holding a college degree ("Some College or More"), with approximately a third of mothers falling into each category. Family structure was measured using a dichotomous variable that equaled 1 if the child's mother and father were married at the time of the birth and 0 otherwise. Overall, 24 percent of mothers were married to the father of their child at the baseline interview.

Income is measured at the household level and uses mothers' reports of total before-tax income from all members of the sample household during the twelve months preceding the baseline interview. Households earning less than $10,000 served as the reference category and those earning $10,000–$24,999 and $25,000+ were indicated by dichotomous variables. Mothers who did not report their household income were coded as 1 to create an "income missing" variable. Results presented below do not differ when mothers who do not report household income are excluded from analyses. About half of all mothers reported household incomes below $25,000, 39 percent reported incomes above $25,000, and 16 percent did not report their incomes.

Models predicting birth weight included three characteristics of the birth itself. To capture the influence of birth order (Conley 2004), we include a variable defined as 1 if the child in question was the mother's first birth and 0 otherwise. Around 39 percent of births in the full sample were first births. We measured the child's gender using a dichotomous indicator that equals 1 if the birth was male and 0 if female. Male newborns weigh more, on average, than females. As one would expect given human reproductive biology, the sex ratio slightly favors male babies, 53 percent of the sample.

Finally we measured each mother's access to prenatal care with a dichotomous variable that equals 1 if she received prenatal care at any point during pregnancy and 0 otherwise. In preliminary analyses we experimented with separate indicators for prenatal care initiated in the first, second, or third trimester but found no difference in their effects on outcomes of interest. Almost 98 percent of mothers reported receiving prenatal care, perhaps reflecting the fact that large cities have "enabling resources" (Andersen 1995) such as a dense network of clinics or public transportation that make accessing care easy even among lower socioeconomic groups; such resources are not likely available in smaller cities or rural areas.

5. Methods

Our methodological approach involves estimating a series of multivariate equations corresponding to the various

paths depicted in Fig. 1. In Table 2, we estimate the effect of neighborhood poverty and minority concentration on perceptions of neighborhood danger using ordered logistic regression. In Table 3, we estimate the influence of objective and perceived neighborhood characteristics on cigarette, alcohol, and drug use. In the final two tables, we explore whether our key predictors – neighborhood characteristics and substance use – influence birth weight (Table 4) or the probability of a low birth weight (Table 5). We conducted supplementary tests to confirm whether mediation occurred in the expected manner, and those results are discussed below.

In all analyses, we adjust standard errors using Stata's cluster option to address the potential influence of neighborhood co-residence among mothers in the Fragile Families data. Though the vast majority of Fragile Families mothers live in a tract with no other respondents (37 percent), or just one (23 percent) or two other (15 percent) respondents, some 26 percent do inhabit tracts containing four or more respondents, thus opening up the potential for bias attributable to clustering. The data contain 2413 neighborhoods/clusters. Preliminary analyses employed hierarchical linear models to account for the nesting of individuals in neighborhoods. Individual level characteristics were entered into the model at level 1 while tract level characteristics were entered at level 2. Perhaps due to the large number of tracts that contained only one individual, models had trouble converging, often requiring thousands of iterations. Given this issue, we have chosen to present models conducted in Stata using the cluster option. In all cases except one (described below), key results are exactly the same in the two approaches.

6. Results

6.1. Neighborhood Conditions and Perceived Danger

As the estimates in Table 2 clearly reveal, mothers living in census tracts characterized by higher proportions of minorities and foreigners generally perceive their neighborhoods as less safe. Moreover, the introduction of extensive individual-level controls has little influence on the size of these neighborhood effects. If we take the exponent of the coefficient for the tract proportion black in model 2, for example, it appears that living in a neighborhood that is entirely black rather than a neighborhood with no blacks is associated with 490 percent increase in the odds of perceiving a higher level of danger [exp(1.79)=5.9]. Alter-

Table 2: Ordered logistic models showing the influence of census tract characteristics on mother's evaluation of level of neighborhood danger

	Model 1	Model 2
Contextual variables		
Tract proportion black	1.56 (.14)**	1.79 (.17)**
Tract proportion Hispanic	1.19 (.19)**	1.14 (.22)**
Tract proportion foreign born	1.23 (.23)**	1.15 (.26)**
Tract proportion poor	3.94 (.34)**	3.50 (.36)**
Individual controls		
Mother's demography		
Race		
White		.41 (.12)**
Mexican		.03 (.15)
Other Hispanic		.07 (.13)
Other		.26 (.19)
Foreign born		–.09 (.13)
Interviewed in Spanish		.72 (.17)**
Age at child's birth		.10 (.05)**
Square of age at child's birth		–.002 (.001)*
Married		–.27 (.09)**
Length of neighborhood residence in years		–.004 (.004)
Mother's Education		
High school or GED		–.22 (.08)**
Some college or more		–.36 (.09)**
Annual Household Income		
$10,000–$24,999		–.17 (.10)^
$25,000 or More		–.36 (.10)**
Income Missing		–.29 (.11)*
Cut point 1	.49 (.07)**	–3786.27
Cut point 2	3.70 (.10)**	4.69 (.63)**
Cut point 3	5.73 (.14)**	6.75 (.64)**
Log likelihood	–3786.27	–3732.04
Pseudo R^2	.10	.11
Model chi sq	738.75	837.92
Total number of subjects	4,064	4,064

** p<0.01; * p<0.05; ^ p<0.10 two tailed
Higher values indicate less safety. Coefficients are shown with standard errors in parentheses.

natively, compared with a neighborhood with no blacks, a neighborhood that is 40 percent black (the overall mean level) is associated with a 105 percent increase in the odds of perceiving a higher level of danger [exp(.40*1.79)=2.05]. Likewise, living in a neighborhood where the share of Hispanic residents is at the mean (21 percent) rather than in an area with no Hispanic residents associates with a 27 percent increase in the odds of perceiving a higher level of danger [exp(.21*1.14)=1.27]. Finally, living in a neighborhood with the mean share of foreign born residents (14 percent) rather than none at all predicts a 17 percent increase in the odds of greater perceived danger [exp(.14*1.15)=1.17].

Although these indicators of neighborhood racial-ethnic segregation are all quite significant statistically, the effect of concentrated poverty is even greater. Living in a tract with high poverty associates with a larger increase in the odds of perceiving a higher level of danger than living in a neighborhood with a high percentage of blacks, Hispanics, or foreigners. Mothers from neighborhoods where all residents live in poverty as opposed to none in poverty have odds almost thirty times greater of reporting that they feel unsafe. Likewise, for mothers living in neighborhoods at the mean level of family poverty (18.9 percent), the odds of reporting danger increase by 94 percent [exp(.19*3.5)=1.94] relative to mothers who live in a neighborhood lacking families in poverty.

A number of control variables also influence perceptions of neighborhood safety. Mothers who are white (rather than black) and those interviewed in Spanish perceive their neighborhoods as less safe. Increasing age at birth is associated with perceptions of greater danger in one's neighborhood up to age twenty-five, at which point the pattern reverses as older mothers begin to perceive greater safety. Married mothers and those with greater education and household incomes report greater safety.

6.2. Neighborhood Conditions and Substance Abuse

Table 3 presents coefficients from logistic regression models predicting whether or not mothers smoked, drank, and used drugs during pregnancy. For each behavior, Model 1 includes only tract characteristics, Model 2 adds perceived neighborhood danger, and Model 3 includes all control variables. Turning first to neighborhood racial and ethnic composition, Models 1 and 2 indicate that living in an area with a higher share of blacks, Hispanics, or foreigners is generally associated with a lower likelihood of substance abuse and that these effects shift only slightly once we include a mother's perception of neighborhood danger in the model. Likewise, living in an area with a greater percentage of Hispanics or foreigners is associated with a lower likelihood of drinking alcohol during pregnancy. Once we control for perceived neighborhood danger, living with a higher percentage of blacks is associated with drinking as well. Finally, living in an area with a larger percentage of blacks is associated with a marginal increase in drug use, but this effect goes to non-significance once we control for perceived danger. Turning to neighborhood socioeconomic composition, Models 1 and 2 indicate that living in a tract with a higher percentage of poor families is generally associated with a higher likelihood of smoking and taking drugs during pregnancy but that the effect disappears when perceived neighborhood danger is controlled. For all three outcomes, individual level controls entirely mediate the influence of tract characteristics except in one case: living among Hispanics continues to have a marginally significant, negative association with smoking.

Among neighborhood variables, perceived danger appears to be the key determinant of substance use. Greater perceived danger within neighborhoods is strongly and significantly associated with the odds of smoking, drinking, or doing drugs, and once perceived danger and other background characteristics are controlled, measures of neighborhood demographic composition generally fall to statistical insignificance. Considering the results of Model 3 for each behavior, we see that each point increase in perceived danger yields a 21 percent increase in the odds of smoking cigarettes, a 24 percent increase in the odds of drinking alcohol, and a 31 percent increase in the odds of using illegal drugs. Holding all other variables constant at their mean values, predictions indicate that the probability of smoking increased from 12 percent to 19 percent if mothers lived in very unsafe rather than very safe neighborhoods. For drinking, the probability increased from 7 percent in very safe neighborhoods to 13 percent in very unsafe neighborhoods, and for drug use the increase was from 2 percent to 4 percent.

Table 3: Logit models showing the effect of neighborhood context on smoking, alcohol use, and drug use during pregnancy

	Smoking			Alcohol			Drugs		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Contextual variables									
Tract proportion black	–.66** (.18)	–.81** (.18)	–.24 (.23)	–.54 (.21)	–.65** (.22)	–.27 (.28)	.53^ (.31)	.36 (.32)	–.14 (.40)
Tract proportion Hispanic	–1.22** (.25)	–1.34** (.25)	–.56^ (.31)	–1.01** (.31)	–1.09** (.31)	–.34 (.35)	–.60 (.52)	–.75 (.53)	–.76 (.62)
Tract proportion foreign born	–1.60** (.37)	–1.70** (.37)	.16 (.42)	–.91* (.45)	–.98* (.46)	–.37 (.54)	–.88 (.75)	–.98 (.76)	.29 (.88)
Tract proportion poor	1.96** (.40)	1.61** (.41)	.33 (.43)	.64 (.49)	.34 (.51)	.02 (.52)	1.35* (.60)	.98 (.63)	–.16 (.64)
Perceived neighborhood danger		.30** (.06)	.19** (.07)		23** (.07)	.22** (.08)		.34** (.12)	.27*(.12)
Individual controls									
Mother's demography									
Race									
White			1.28** (.16)			.57** (.18)			–.05 (.29)
Mexican			–.85** (.23)			–.35 (.26)			–.40 (.38)
Other Hispanic			–.20 (.20)			–.23 (.24)			–.76* (.36)
Other			.33 (.31)			–.92* (.45)			–.84 (.76)
Foreign born			–1.26** (.28)			–.22 (.25)			–1.65** (.59)
Interviewed in Spanish			–1.29** (.48)			–.68^(.36)			–1.73^ (1.04)
Age at child's birth			.23** (.06)			.31** (.08)			.24* (.10)
Square of age at child's birth			–.003** (.001)			–.004** (.001)			–.003 (.002)
Married			–1.38** (.17)			–.37* (.15)			–1.41** (.36)
Length of neighborhood residence in years						–.003 (.007)			–.004 (.009)
Mother's education									
High school or GED			–.78** (.11)			–.58** (.15)			–.80** (.18)
Some college or more			–1.32** (.14)			–.40* (.16)			–1.17** (.25)
Annual household Income									
$10,000–$24,999			–.25* (.12)			–.32* (.16)			–.30 (.20)
$25,000 or more			–.51** (.13)			–.42* (.16)			–.78** (.26)
Income missing			–.02 (.14)			.12 (.17)			.20 (.21)
Constant	–1.11** (.09)	–1.54** (.13)	–4.41** (.82)	–1.76** (.11)	–2.08** (.15)	–7.09**(1.07)	–3.32** (.18)	–3.82** (.25)	–6.36**(1.38)
Log likelihood	–1947.62	–1935.96	–1680.75	–1341.24	–1337.05	–1257.29	–757.56	–752.79	–675.70
Model chi sq	88.78	106.93	399.09	26.20	39.01	166.48	48.07	57.18	162.36
Pseudo R^2	.03	.03	.16	.01	.01	.07	.03	.03	.13
Total number of subjects	4,064	4,064	4,064	4,064	4,064	4,064	4,064	4,064	4,064

** p<0.01; * p<0.05; ^ p<0.10 two tailed

Coefficients are shown with standard errors in parentheses.

A supplementary set of analyses (not shown) indicates that individual level control variables, rather than perceived danger, mediate the influence of neighborhood racial and ethnic or socioeconomic composition on substance use. Though effects of control variables differ slightly depending on the substance under investigation, several consistent patterns emerge. White mothers are generally more likely than black mothers to smoke or drink during pregnancy, while mothers interviewed in Spanish and those who are foreign born are less likely to use substances. More educated mothers and those with higher incomes are less likely to smoke, drink, or use drugs. Married mothers are less likely than unmarried to smoke or use drugs but more likely to drink. Oddly, up until about the age of forty, the probability that a mother will use substances during pregnancy increases; beyond that age, the trend reverses.

6.3. Influences on Birth Weight

Table 4 presents results of OLS models that estimate the influence of neighborhood circumstances, perceived neighborhood danger, and substance use on birth weight. Model 1 includes only objective neighborhood characteristics; Model 2 adds in perceived danger; Model 3 adds in substance use; and Model 4 includes all other controls. Considering objective neighborhood characteristics, two factors consistently predict birth weight across all models. As can be seen, the tract black percentage generally has a negative association with birth weight, with the estimated size of the effect shifting from a highly significant 232 grams in Model 1 to a marginally significant 86 grams (14 percent of a standard deviation) in Model 4. In concrete terms, this shift implies that compared with an entirely non-black neighborhood, living in a neighborhood in which 40 percent of residents are black (the mean value) predicts a 34 gram decline in birth weight once all controls are included. However, in preliminary HLM models (not shown), this effect becomes non-significant. In contrast, the tract foreign percentage predicts greater birth weights, an effect that remains quite strong even after controlling for the influence of respondent nativity status and other background variables. Compared with a neighborhood where no residents are foreign-born, living in one where 14 percent are foreign-born (the mean value) predicts a 27 gram increase in birth weight.

Although the perceived danger of the neighborhood has a significant effect in Model 3, it is not significant in Model 2 and only marginally significant in Model 4, once background controls are added. Thus neighborhood danger itself does not seem to have a strong direct effect on birth weight. To the extent that perceived danger affects birth weight it seems to be through the intervening influence of substance use. Perceiving a neighborhood as unsafe associates with higher rates of substance abuse, which in turn associate with lower birth weights. Both Models 3 and 4 indicate that smoking and drug use during pregnancy have large and highly significant negative effects on birth weight. Consistent with previous research, Model 4 shows that women who reported smoking had babies who weighed 228 grams less at birth (37 percent of a standard deviation) whereas mothers who took illegal drugs had babies who weighed 171 grams less at birth (28 percent of a standard deviation), compared with mothers who did not smoke or use drugs, respectively.

After accounting for neighborhood factors and substance use, a number of individual controls also influence birth weight. As in the case of substance use models, supplementary analyses indicate that these individual controls mediate the influence of neighborhood factors on birth weight, rather than the key predictors under investigation here. Despite the rich set of effects included in the model, other groups continue to maintain a birth-weight advantage over blacks – 203 grams in the case of whites, 118 grams in the case of Mexicans, and 73 grams in the case of other Hispanics. Mothers interviewed in Spanish had babies who weighed 95 grams more at birth than those interviewed in English, consistent with the notion that foreign-born women have a birth-weight advantage over American-born women (Frisbie 1994; Frisbie and Song 2003). Mothers who were married, had a boy, and who received prenatal care had children with significantly greater birth weights. In contrast, first births tend to be somewhat lower in weight.

Table 5 concludes the analysis by showing coefficients from logistic regressions predicting whether or not the birth was classified as being of low weight. On the whole, effects are consistent with OLS models for birth weight in grams, though the patterns of significance change somewhat.

Table 4: OLS models exploring the effect of neighborhood context and risk behaviors on birth weight measured in grams

	Model 1	Model 2	Model 3	Model 4
Contextual variables				
Tract proportion black	–232.45 (41.25)**	–243.23 (41.99)**	–268.30 (40.61)**	–85.70 (50.52)^
Tract proportion Hispanic	–31.66 (52.45)	–39.89 (52.63)	–93.58 (51.03)^	–55.53 (59.91)
Tract proportion foreign born	208.03 (69.99)**	199.79 (70.42)**	143.20 (68.48)*	186.63 (76.51)*
Tract proportion poor	–80.85 (91.33)	–110.62 (92.92)	–36.48 (88.13)	17.15 (89.75)
Perceived neighborhood danger		23.33 (15.43)	37.56 (15.14)*	29.09 (14.95)^
Risk behaviors				
Smoking			–227.94 (26.54)**	–227.58 (27.50)**
Alcohol use			–1.20 (36.41)	–15.81 (35.91)
Drug use			–216.47 (52.87)**	–171.44 (51.28)**
Individual controls				
Mother's demography				
Race				
White				202.67 (36.46)**
Mexican				117.81 (39.37)**
Other Hispanic				73.35 (39.03)^
Other				10.49 (54.78)
Foreign born				2.00 (36.89)
Interviewed in Spanish				95.03 (46.33)*
Age at child's birth				22.77 (13.90)
Square of age at child's birth				–.46 (.25)^
Married				61.02 (26.56)*
Length of neighborhood residence in years				–.29 (1.23)
Mother's Education				
High school or GED				–38.43 (23.96)
Some college or more				–3.33 (28.17)
Annual Household Income				
$10,000–$24,999				–.08 (28.62)
$25,000 or More				21.08 (27.59)
Income Missing				–45.54 (31.86)
Birth/pregnancy characteristics				
Male				91.74 (18.28)**
First birth				–77.96 (21.73)**
Any prenatal care				142.20 (70.58)*
Constant	3314.53 (22.85)**	3282.05 (31.49)**	3324.00 (31.13)**	2738.32 (203.49)**
R^2	.03	.03	.06	.09
Total number of subjects	4,064	4,064	4,064	4,064

** p<0.01; * p<0.05; ^ p<0.10 two tailed

Standard errors are provided in parentheses.

Table 5: Logit models exploring the effect of neighborhood context and risk behaviors on the probability of having a low birth weight

	Model 1	Model 2	Model 3	Model 4
Contextual variables				
Tract proportion black	.76 (.21)**	.79 (.22)**	.89 (.21)**	.40 (.27)
Tract proportion Hispanic	–.10 (.33)	–.07 (.33)	.15 (.33)	.14 (.39)
Tract proportion foreign born	–1.13 (-.15)*	–1.11 (.48)*	–.89 (.47)^	–1.00 (.54)^
Tract proportion poor	–.15 (.46)	–.07 (.48)	–.32 (.47)	–.52 (.47)
Perceived neighborhood danger		–.07 (.09)	–.13 (.09)	–.11 (.09)
Risk behaviors				
Smoking			.76 (.13)**	.69 (.13)**
Alcohol use			.10 (.17)	.04 (.18)
Drug use			.68 (.20)**	.52 (.21)*
Individual controls				
Mother's demography				
Race				
White				–.45 (.20)*
Mexican				–.59 (.27)*
Other Hispanic				–.12 (.23)
Other				.00 (.32)
Foreign born				–.21 (.24)
Interviewed in Spanish				–.32 (.35)
Age at child's birth				–.03 (.07)
Square of age at child's birth				.001 (.001)
Married				–.39 (.19)*
Length of neighborhood residence in years				–.00 (.01)
Mother's Education				
High school or GED				.07 (.14)
Some college or more				–.07 (.17)
Annual Household Income				
$10,000–$24,999				.31 (.17)^
$25,000 or More				–.01 (.17)
Income Missing				.57 (.17)**
Birth/pregnancy characteristics				
Male				.28 (.13)*
First birth				–.18 (.11)^
Any prenatal care				–.63 (.27)*
Constant	–2.36 (.13)**	–2.27 (.18)**	–2.46 (.19)**	–1.61 (1.06)
Log likelihood	–1296.29	–1295.94	–1259.86	–1229.66
Model chi sq	55.06	57.51	135.63	195.35
Pseudo R^2	.02	.02	.05	.07
Total number of subjects	4,064	4,064	4,064	4,064

** p<0.01; * p<0.05; ^ p<0.10 two tailed
Coefficients are shown with standard errors in parentheses.

According to Model 4, we see that neither the socioeconomic nor the demographic composition of neighborhoods, nor perceived danger, have any real influence on the likelihood of a low weight birth once substance use and background controls are included in the equation. The percentage foreign-born does have a small and marginally significant effect in reducing the odds of a low weight birth, but apart from this one minor effect neighborhood circumstances seem not to matter except for how they influence substance use. Consistent with the OLS model for birth weight in grams, smoking cigarettes and using illegal drugs during pregnancy significantly raises the probability of having a low weight birth, increasing the odds by 99 percent and 68 percent, respectively. Likewise, white and Mexican mothers are less likely to give birth to low weight babies than black mothers, as are those who are married, received prenatal care, and were not delivering a first birth. Unlike the prior OLS model, however, missing data on household income is associated with a higher probability of having a low birth weight baby, suggesting that mothers who refuse to report or do not know their income tend to live in more disadvantaged households.

7. Discussion

In this analysis we sought to connect neighborhood conditions to birth outcomes both directly and through their intermediate effects on perceived danger and substance abuse. We hypothesized that neighborhood poverty and racial-ethnic concentration combine to produce environments perceived by mothers as dangerous, increasing the likelihood of negative coping behaviors such as substance abuse (see Fig. 1). Using data from the Fragile Families Study we found little evidence to suggest that neighborhood circumstances have strong direct effects on birth weight, except perhaps for a positive effect of living in a neighborhood with more foreigners and a slight negative effect of living in a neighborhood with more blacks. However, the latter effect is not robust in multilevel modeling.

To the extent that neighborhood conditions had any influence at all on birth outcomes they seemed to occur mainly indirectly – through their influence on perceived neighborhood danger and substance use. All four tract characteristics considered here – the proportion of residents who are black, the proportion who are Hispanic, the proportion who are foreign, and the proportion who are poor – were found to increase a mother's sense that her neighborhood was unsafe. The perception of a dangerous and unsafe neighborhood was, in turn, associated with a greater likelihood of smoking cigarettes and using illegal drugs, and these behaviors themselves had strong and significant effects in reducing birth weight. However, despite the strong relationship between the tract characteristics and perceived danger, it appears that individual level controls, rather than danger or substance use, mediate the influence of neighborhood characteristics on birth weight.

Given extensive evidence that neighborhood deprivation associates with birth weight (Buka et al. 2003; O'Campo et al. 1997), we were surprised to find that poverty had no direct effect in this investigation. Perhaps an alternative indicator of deprivation such as neighborhood unemployment or the prevalence of single-mother households would show a stronger association. Consistent with Gorman (1999), on the other hand, the concentration of the foreign-born has a positive association with birth weight (and a negative effect on the probability of a low birth weight) even after accounting for individual-level race, ethnicity, and nativity. By living in a community with many foreign born residents, one may acculturate to a set of practices that promote positive birth outcomes. Despite high rates of poverty, women of Mexican origin, for example, are relatively unlikely to have a low weight newborn (Frisbie 1994; Frisbie and Song 2003). This apparent advantage of women of Mexican origin dissipates with time spent in the United States and across immigrant generations (Guendelman and English 1995).

Why does perceived neighborhood danger associate with substance use? We expect that these behaviors are a response to the stress of living under deprived, chaotic, and even violent conditions. In the United States, mothers living in high-poverty neighborhoods or among minorities are likely to experience elevated levels of crime, violence, and social disorder (Massey and Denton 1993). As we saw here, these conditions elevate their sense of danger. Previous research indicates that perceiving one's neighborhoods as dangerous leads to higher levels of psychosocial stress (Hill and Angel 2005; Hill, Ross, and Angel 2005; Ross and Mirowsky 2001). That stress can then trigger an *allostatic*

response (i.e. mechanisms that are employed by the body to respond to stress) that is potentially harmful to health (Bremner 2002; Massey 2004).

The allostatic response is nature's way of maximizing an organism's resources to meet an immediate threat. Long-term physiological functions are temporarily sacrificed to put more energy into the bloodstream for evasive or aggressive action (McEwen and Lasley 2002). In the short run, the allostatic response is a healthy, adaptive mechanism; but its repeated triggering through chronic exposure to stressful events – as when someone is compelled by poverty and discrimination to live in a dangerous and threatening neighborhood – raises a person's *allostatic load* (i.e. cumulative strain on the body caused by stress) to unhealthy levels. When such exposure to stress-inducing conditions persists over time, it has powerful negative effects on a variety of bodily systems (Bremner 2002) and leads to negative coping behaviors like substance abuse, which provide temporary relief from stress. To address the role of psychosocial stress in the path from neighborhood circumstances to birth weight, future investigations should explicitly question mothers on different types of stress in their lives, including neighborhood-induced stress. To explicitly test the role of allostatic load, investigators would ideally use biomarkers such as cortisol readings from blood or saliva. These biomarkers are currently being collected in Wave IV of the U. S. Adolescent Health Survey, offering scholars new opportunities to assess the relative importance of this biosocial pathway.

The present investigation suffers from a number of limitations. First and foremost, our analyses employed a one-item measure of perceived danger, creating concerns for reliability. Though the measure showed significant relationships with both census tract characteristics and substance use in expected directions, a stronger measure may also highlight the expected relationship with birth weight. Such a finding would be consistent with previous investigations that have identified a relationship between perceived neighborhood characteristics and birth weight (Buka et al. 2003; Morenoff 2003). Future analyses should employ multi-faceted measures of neighborhood danger.

Second, our sample only included mothers from large cities. While the breadth of cities exceeds those used in most other studies of birth weight, it nonetheless means that our results are not necessarily generalizable to women in smaller cities or rural areas. Future analyses should aim to include women from these settings as well. Third, our data do not allow us to make causal claims. Mothers reported their substance use during pregnancy, perceived neighborhood danger, and the weights of their babies in the same interview. Perhaps mothers perceive their neighborhoods as dangerous because they abuse substances, rather than the other way around. Similarly, though we controlled for the length of mothers' residence in their current neighborhoods, we could not determine whether they were smoking, drinking, or using drugs prior to living in economically deprived, segregated, or dangerous neighborhoods.

Birth weight shapes a lifetime of outcomes. In this investigation, we showed that while neighborhood conditions have little direct effect on birth weight, they relate quite strongly to behaviors critical to a healthy birth. Mothers who saw their neighborhoods as dangerous or threatening – a likely scenario in violent, crime-ridden areas – smoked, drank, and used drugs more often than mothers who felt safer in their communities. In order to promote positive birth outcomes for women in dangerous settings, neighborhoods should strive to provide mothers alternatives to substance use for coping with their environments.

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Crossing the Rubicon: Deciding to Become a Paramilitary in Northern Ireland

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Northern Ireland has endured a history of violence since its inception in 1922. The last forty years have been characterised by sustained political conflict and a fledging peace process. We conducted a series of interviews with individuals who had used violence to pursue political goals during the conflict. This article focuses on the processes involved in their joining of paramilitary groups and engaging in violent actions. The participants' accounts resonate with factors that other researchers have identified as being antecedent to paramilitary membership, such as having the support of the immediate community (e. g., Crawford 2003; Silke 2003). However, the rational decisions that are revealed in these accounts also show that participants engaged in rational decision making as opposed to being mindlessly provoked into membership in response to an environmental stimulus. These results highlight the degree to which individuals bear, and accept, personal responsibility for joining a paramilitary group (as opposed to membership simply being stimulated by uncontrollable dispositional or situational forces).

Northern Ireland was formed when the Anglo-Irish Treaty of 6 December 1921 partitioned Ireland into two political entities. Northern Ireland was formed from the predominantly Protestant six counties of the north, and remained an integral part of the United Kingdom. The majority of the island (the remaining twenty-six counties), which was predominantly Catholic, split from the United Kingdom. Initially this was known as the Irish Free State, and became the Republic of Ireland in 1949. Significant violence has occurred in almost every decade since the inception of Northern Ireland. However, the focus of this article will be the latest and most sustained period of violence that began in the late 1960s when claims by the Catholic population of Protestant discrimination in jobs, education, housing and local elections led to a civil rights campaign which quickly escalated into violence, resulting in the deployment of British troops in 1969 to try to restore order (Whyte 1990).

Over the last forty years, the conflict in Northern Ireland has been responsible for over 3,700 deaths and more than 40,000 injuries, with civilians bearing the brunt of all deaths (53 percent) and injuries (68 percent) (Smyth 1998; Smyth and Hamilton 2004). The vast majority of deaths have been attributed to paramilitaries (87 percent of the total; 59 percent by Republicans, 28 percent by Loyalists), with a minority (about 11 percent of the total) caused by the security forces (Smyth 1998).

The Northern Ireland peace process, which began with the signing of the Downing Street Declaration in December 1993, followed by the paramilitary ceasefires in 1994, and finally leading to the Good Friday Agreement in 1998, has resulted in a reduction in paramilitary activity, but not to a disappearance of violence. Paramilitary groups are still involved in murder and vigilante-style punishment attacks.

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In conjunction with this violence, post-1998 Northern Ireland still suffers an annual cycle of dispute and civil disorder surrounding controversial Orange Order demonstrations and increasing residential segregation (McKittrick et al. 2004, Police Service of Northern Ireland 2005; Shirlow 2003).

The persistence of Northern Ireland's *Troubles* (as the conflict is euphemistically known) and the long resistance to diplomatic or political intervention has been due to a clash "between a culture of violence and a culture of co-existence" (Darby 1997, 116). In other words, there is a proportion of Northern Ireland's populace that embrace conflict and uphold their community's paramilitary activists as heroes, while rejecting the peace process as a series of concessions to the other side. This clash of cultures has the potential to derail the current peace process in Northern Ireland and has prompted recent research to explore the processes involved in joining a paramilitary group (Burgess, Ferguson, and Hollywood 2005a, 2005b) and the potential for future violence (Burgess, Ferguson, and Hollywood 2007). This article will begin by reviewing the research exploring the antecedents of militant activism in Northern Ireland before progressing to discuss an important additional factor which was extracted from an analysis of face-to-face interviews with current and former Northern Irish paramilitaries conducted by the authors. This additional dimension involves a process initiated by exposure to direct or indirect political violence, which stimulates a period of deep reflection resulting in the individual committing themselves to engage in political violence to change their current circumstances.

1. The Road to Militant Activism

It must be noted that paramilitary groups in Northern Ireland are not irregular militias who assist the regular military, as in the common definition of the term. The Northern Irish paramilitary groups that are the focus of this article, the Irish Republican Army (IRA) and the Ulster Volunteer Force (UVF), are armed insurgent groups whose members are viewed by supporters as "resistance fighters" or "counter-terrorists" and by opponents as "terrorists".

Research focusing on the reasons why people join armed insurgent groups or commit acts of terrorism has generally explored intra-individual explanations, with terrorists being labelled or diagnosed as mad or sociopathic (for review, see Silke 1998). Traditionally they have been seen as possessing psychological disorders that make them capable of committing murderous atrocities (see Horgan 2003; Silke 1998 for reviews). However, there is a growing awareness that these reductionist explanations based on individual abnormality are inadequate and are often no more than wishful thinking (Burgess, Ferguson, and Hollywood 2005a, 2005b; Horgan 2003; Louis and Taylor 2002; Oberschall 2004; Silke 1998; Victoroff 2005). Darley (1999) indicates that these cognitive strategies are founded on a general motivation to view the majority of society as normal, and therefore non-threatening, thereby making us able to consider ourselves predominantly safe.

Victoroff's recent review of the research (2005) suggests that an understanding of violent insurgency requires a more comprehensive analysis than has traditionally been undertaken. In addition to intra-individual factors, such an analysis would need to incorporate wider social factors and the dynamics of the conflict. Reviews of research on terrorism (Silke 1998, 2001; Victoroff 2005) have also exposed the shortcomings of terrorism research, generally concluding that the quality and validity of the research is poor. For example, 80 percent of studies relied on the secondary analysis of data from journals, books, or other media for their findings, while only 13 percent of data are derived from interviews with terrorists (Silke 2001). Despite these methodological shortcomings, research with individuals from insurgency groups from across the globe has consistently uncovered an inventory of factors that increase the likelihood of participation in a campaign of violence. Some of our own previous work has supported the efficacy of these factors, which include: (a) The existence of a grievance or perceived injustice by a sub-group of the population (see Burgess, Ferguson, and Hollywood 2005b for first hand accounts; Crenshaw 2003); (b) Age and gender (terrorist acts are generally committed by young males aged 15 to 25) (Silke 2003); (c) Past family involvement with or support for the movement (promoting membership through historical connections within the family) (Burgess, Ferguson, and Hollywood 2005b; Crawford 2003); (d) Community support for the insurgent group, or high status associated with membership of the group (Burgess, Ferguson, and

Hollywood 2007; Post, Sprinzak, and Denny 2003); (e) Coercion or conscription into the movement (Bruce 1992); (f) Eventual membership as the result of an incremental process of increasing acts of insurgence (Burgess, Ferguson, and Hollywood 2005a); this process may start with relatively mundane behaviour such as spray painting, before progressing to destroying property and finally becoming involved in injuring and killing opponents (Oberschall 2004). (g) Vengeance as the individual's motivation, feels a need to hit back and right wrongs (Burgess, Ferguson, and Hollywood 2005a, 2005b, 2007; Crenshaw 2003; Silke 2003). And finally (h), obviously to become a member of an armed group there must be an organisation that the individual has the opportunity to join, and that wants his or her membership (Silke 2003). These studies indicate the complexity involved in trying to unpick how the antecedent conditions impact on the individual. This study aims to explore the role of the risk factors involved in joining armed paramilitary groups in Northern Ireland.

2. Method

Our research is based on face-to-face interviews with paramilitaries or former paramilitaries. In keeping with previous research on complex issues that directly impact the lives of individual participants (Smith 1995), interpretative phenomenological analysis (IPA) was used in the current study as the analytical methodological tool. IPA is concerned with how people *think* or what people *believe* about the topic under discussion and is particularly appropriate for detailed studies of small groups and for research that addresses decision-making processes of participants. IPA is based upon Husserl's phenomenology whereby the experience of individuals is privileged in the research endeavour (Smith 1996). The IPA approach acknowledges that a "real world" exists, but attempts to gain an insider's perspective of the living conditions and experiences prior to engaging in a more critical and abstract interrogative process of interpretation.

The authors conducted a detailed analysis of each interview, annotating and coding each participant's transcript fully before starting the next one. Broad themes were developed for each transcript in turn and these themes became more focused with successive readings of the transcripts and construction of code summary documents. This system of analysis is in line with Smith's second recommendation of analyzing interview data from groups (1996). In this case, summary documents of master codes were determined for each individual without attempting to read the next individual's transcript. This was done to reduce the tendency of codes from one interview to completely determine the construction of themes identified in subsequent transcripts. Eventually, a set of superordinate master themes was achieved by identifying relevant extracts across all participants. Rereading the transcripts and summary documents helped the researchers to identify themes that were repeated across individuals and to identify themes that were specific to particular individuals. The overall list of themes included such issues as abuse of authority, denial of basic human rights, support of the wider community, and awareness of risk. Here, we present a subset of the themes that most directly address participants' interpretations of how they became involved in paramilitary violence. We also draw on interviews conducted with peaceful campaigners in order to illustrate the points we make.

3. Analysis and Discussion

Although our previous findings support many of the above inventory of terrorist induction, and most of the interviewees demonstrated an accumulation of these expected antecedent factors, we would like to point out here how participants' accounts also add another important dimension to eventual membership in a paramilitary group. We interviewed eight members of the IRA and eight members of the UVF and discovered that in addition to this list of risk factors, the interviewees had each instigated their violent activism after a *critical incident* that had precipitated a period of reflection in the potential new recruit. Such critical incidents generally involved a notable example of unjust victimisation at the hands of an outgroup. So, for those living in a Catholic community, examples would include being attacked by the British military. For those living in a Protestant community, examples would include being attacked by members of the IRA. On the face of it this type of experience may appear to fall neatly into the seventh of the above inventory, *hitting back in vengeance*. Our concern is that such a simple way of describing paramilitary membership may suggest almost a stimulus-response relationship between perceived injustice and action. To view the relationship between victimisation and paramili-

tary membership in this way may mask the sophistication of the processes individuals engage in prior to committing themselves (or not committing themselves) to a period of sustained violent action. It may also underplay the degree to which individuals are responsible for their own decision to join a paramilitary group. In the following section we draw on interview excerpts to illustrate participants' experiences.

For each of the participants these critical incidents were attacks on themselves, their family or their wider community. For example a former member of the UVF decided to become involved in terrorism after he heard that a young man with the same name, age and background as him had been killed by one of the twenty-two bombs the IRA exploded on Bloody Friday in 1972. He explains the impact this had on him:

> And I thought, "That's my fence sitting days over," and I joined the UVF. And there's so many stories like that where you talk to Republicans or Loyalists and you find out there was a moment. There was a moment when they crossed the Rubicon.

The demographics of this participant did indeed fit with many of the antecedents described earlier. He was a young man living in a community that would be supportive of his action and he knew that the UVF existed and would welcome his membership. The following account though is from a young woman (less typically associated with paramilitary activity) and she indicates how her experience led her to decide to join an opposing paramilitary group, the IRA, after witnessing police and security forces violently engaging a group of protestors:

> . . . a lot of [peacefully protesting] women and children would have been beaten with batons and it was just messy. You begin to think, "this is not good" . . . I decided in '69 when the troubles really began and I'd watched a lot of people being hurt and a lot of friends die for standing up for what they believed in. I quickly, not through anger, but through sadness and fear, decided, "OK, I'll take up this cause and I'll try and bring change".

We can see that these accounts mark decisions being made rather than these individuals mindlessly responding to unfortunate environmental events. This is once again underlined in the account of a young man (at that time) who engaged in a sustained period of reflection prior to joining the IRA. He had run to help a teenage boy who had been shot by an army sniper. The boy died and the participant described withdrawing to an abandoned building for a period of hours in order to decide how to act. He explained this incident as being one in a series that had had an impact on him, but the first that had made him stop in such a deliberate fashion and consider joining the IRA. This type of experience is echoed in the comments of another member of the UVF, also a young man at the time of the re-emergence of violence in the late 1960s and early 1970s. Despite originally having no intention to become involved in the conflict, incidents such as the death of a former school friend (the first policeman to be killed in the modern conflict) were significant milestones on his journey to eventually deciding to engage in paramilitary activity:

> I can remember things like running down the street, my father was in the British Legion the night the first big bomb went off in the town and I was running down the street expecting him, and I remember the relief when I seen him walking down past the fire station you know and he was OK. And all those things just impacted on you and there's no religious or political motivation for it at that time, it was just purely personal.

In a sense, there is no way of being certain which incidents will impact a person to deliberate about whether they will join a paramilitary group. Indeed Jaspers (1970) believes that this analysis may be outside the realm of objective scientific study. However, the larger incidents, such as the Bloody Friday bombings and the Bloody Sunday shootings will probably increase the chances that some will engage in just this type of deliberation. This point was also mentioned by many of the non-combatants we interviewed. They also recognized that critical incidents acted to fuel recruitment into Northern Irish paramilitary groups. In one interview a peaceful civil rights activist remarked how large-scale violent confrontation provided people with a critical incident that increased IRA membership:

> It's easy, after Bloody Sunday, for ten or twenty young fellas to be so angry. They've seen their mates shot and they go down and see about joining the IRA.

Another non-violent individual, though, gives us a greater understanding of the very personal nature of the decision to join a violent campaign. This individual had lost a brother in the Bloody Sunday march. Yet his contemplation of action took him in a different direction to similar young men in his neighbourhood. He said:

> You felt you had to help through that whole period of time. I would not carry a gun. I've never had a gun in my hand in my life. I've experienced the pain of losing someone and I wouldn't wish it on anyone else.

It is clear that people can experience the same objective victimisation yet react differently and that reaction may not simply be due to the number of "risk factors" a person has (e.g., being a young male within a supportive community), but critically also involves the volition of the individual. In this sense the members of paramilitary groups are truly more responsible (and generally our participants acknowledge this) for their actions than research that focuses on dispositional factors (for a review see Silke 1998) or simple responses to environmental circumstances (e.g., Zimbardo 2004) may have suggested.

These quotes illustrate how the use of military force to tackle problems may lead to more violence, creating the destructive spiral that Crenshaw labels an "action-reaction syndrome" that serves to fuel further conflict (2003, 95). It should also be remembered that in the cases cited above the individual was not the target of the aggression. All that was needed was that s/he identified with the person or persons who were subjected to the violence and s/he perceived this assault as an injustice to them and their wider community.

Burgess et al. (2005a; 2005b) also demonstrated that it is not simple exposure to these events that results in taking up arms. Indeed, many of the participants who suffered from indirect and direct violent experiences did not join paramilitary groups. Instead they became involved in peace work or civil protest or simply did nothing. Previous research shows that only a small section of the populace take up arms regardless of the brutality and oppression they collectively face (Crenshaw 2003; Silke 2003). All of our interviewees who took action, whether peaceful or violent, reported *periods of reflection* after these critical incidents during which the individual consciously considered how he or she would act to change the status quo, or hit back at those who were threatening their community. This act of reflection is an important consideration as many insurgents project a view that they had no choice, that the socio-political conditions forced them to use violence (Crenshaw 2003). The fact that these individuals do make a conscious decision to engage in terrorism is further demonstrated by the fact that not everyone from an oppressed and/or victimised community engages in terrorism, serving to underline the essential personal choice involved in becoming a paramilitary. These findings have support from two other recent studies. In a study of why adolescents join legitimate and illegal armed groups across the globe Brett and Specht (2004) interviewed fifty-three adolescent males and females from nine armed groups involved in various conflicts across the globe in addition to young serving British soldiers. While the key factors involved in their interviewees deciding to join an armed group (ranging from the LTTE to the Mojahedin) map very clearly to the antecedent factors listed previously, they also note the importance of a *critical moment*, (such as the death of a family member or having their homes come under attack) in distinguishing those who decide to join an armed group from their peers who do not. Additionally, Talari's interviews with six incarcerated Indian Islamic insurgents (2007) also suggested that particular socio-political incidents (e.g. the Babri Mosque demolition and the communal riots in Gujarat) the interviewees had experienced acted as the key *turning points* in their lives as they made the transition from civilian to insurgent. It was the change in attitudes, motivations, emotions caused by these events that began their transformation into a violent insurgent, not their prior religious beliefs or exposure to radicalisation processes. Indeed the philosopher Jaspers (1970) recognises the importance of the "grenzsituationen" or *boundary situations* created by having to deal with a situation that prior knowledge or rational objective reasoning cannot prepare a person to overcome. Jaspers believed having to deal with these boundary situations (such as facing death, the death of a child, or an inevitable

struggle) causes a radical change in an individual's thinking, rousing them from normal spontaneous instinctive thinking, creating a radical change in personality and world view in which they take responsibility for their new future, and that is confirmed by the experiences reported by the participants in our study (see Salamun 1998 and 2006 for further discussion of Jaspers' philosophical conceptions).

As noted, the interviews point to intra-individual causes based on the decision-making processes experienced by an individual following a critical incident, which combine with demographic characteristics such as age, gender, employment status, level of education, and family and social history. Another important ingredient that is added to this mix involves the dynamics of the violence, with our interviewees reporting that the use of violence on communities will be reciprocated with violence from some members of that community, while other members will offer support and succour. This indicates that terrorism is not simply a precursor of military intervention but also a likely result of perceived injustice and violent oppression.

This data adds to a growing understanding of the complexity involved in attributing the causes for terrorism. These findings build on previous research and illustrate that normal people can choose to do abnormal things (such as engage in terrorist activity) under abnormal circumstances (Crenshaw 2003; Silke 1998, 2003; Horgan 2003). The data generated is based on semi-structured interviews with individuals who were involved in armed insurgency, rather than following an approach based on secondary accounts or an analysis of open source material, therefore this study addresses some of the shortcomings common in this area of research (see Silke 2003; Horgan 2003; Victoroff 2005). Also the findings provide a new and novel avenue for further enquiry which may go some way to addressing the concern that to fully understand why people engage in insurgent activities the research needs to focus on the dynamics occurring at the intersection between psychological dispositions, prior experiences, socialization and the external environment (Crenshaw 1986; Victoroff 2005).

4. Conclusion

The findings offered support for most of the antecedent factors linked with involvement in armed insurgency (such as living in a community supportive of the use of political violence and having access to armed groups that welcomed their membership; see Burgess, et al., 2005a, 2005b; Crawford 2003; Crenshaw 2003; Oberschall 2004; Post et al., 2003; Silke 2003 for more detail), with the exception that none of our participants were coerced or conscripted into a paramilitary organization; all were volunteers who actively decided to seek membership of an armed group after witnessing a critical incident.

Importantly the findings also demonstrate that the individual has agency and plays an active role in determining the boundaries of their own actions. The findings also indicate that acts of political violence are not the acts of "evil" men, and neither are they due to purely switching on and off social situational factors as proposed by Zimbardo (2004, 47) in which the social circumstances in which the interviewees were immersed acts as "a barrel filled with vinegar [which] will *always* transform sweet cucumbers into sour pickles – regardless of the best intentions, resilience, and genetic nature of those cucumbers".

Instead the findings suggest that researchers should move towards researching and potentially manipulating the decision making processes an individual experiences when faced with a critical incident or boundary situation which causes them to self-reflect and imagine an altered future in which they purposely challenge the status quo and strive to act in a manner which will alter the socio-political situation. A deeper understanding of these processes which take place after a critical incident will help build a better picture of how the antecedent factors combine with the individual to produce someone who is willing to alter their social-political environment through violent confrontation with those who are challenging them, their family or the wider community they identify with.

In addition to suggesting this potential new avenue for research, the findings also address some of the limitations common to this area of research (see Horgan 2003; Silke 2003; Victoroff 2005) and demonstrate the complexities involved in attributing the causes for terrorism.

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Policing and Islamophobia in Germany: The Role of Workplace Experience

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This study starts from a recognition that the German police have a significant potential to promote integration in contemporary multiethnic Germany. It employs three measures of Islamophobic attitudes and contact quality amongst a sample of 727 German police officers, and relates these to measures of job satisfaction, political affiliation, individual responsibility, and recognition. The data reveal Islamophobia to be significantly linked to these variables. Detailed analyses indicate that the respondents' experience of policing may produce levels of dissatisfaction that impacts upon their outgroup attitudes. The implications of this for initiatives to promote police-Muslim relations are explored.

1. Introduction

This paper has its roots in an extensive study of attitudes towards Islam in Germany which was initiated and carried out under the direction of Professor Rainer Dollase.[1] This study was itself an element in a larger programme entitled *Disintegration Processes – Strengthening the Integration Potentials of Modern Society* under the direction of Professor Wilhelm Heitmeyer funded by the German Federal Ministry of Education and Research (June 2002–May 2005). The author wishes to acknowledge her indebtedness to Prof. Dollase for permission to draw on the data collected while she was a member of this research team. Additionally she wishes to acknowledge the support of Professor Charles Husband in developing this paper.

Police forces in modern European democracies continue to operate in a web of sometimes conflicting expectations held by the state, the populace and the police themselves. Given political legitimacy and a legal armoury of supportive legislation by the state, the police are mandated to secure the safety of all citizens and their property and to guarantee the formal civility in social interactions that en ables a free public sphere and open daily contact between citizens. However, the changing composition of the actors negotiating the social relations of today's European countries places new demands upon the police.

In Germany, as in other European countries, the presence of minority ethnic communities has been observed to present a specific challenge to police forces as they negotiate their unique role in managing the interface between the majority society and minority ethnic communities. More particularly, in recent years Muslim communities within European nation-states have been perceived as presenting a distinct challenge to national political aspirations for the integration of minority populations (Ahmed 1992; Halliday 1996; Lewis 2003). Consequently this article will focus on police-Muslim interactions in contemporary Germany. In the current context of the "war on terror" and concerns about the long-term implications of anti-Muslim sentiments in contemporary multi-ethnic societies this is an issue that merits serious and considered attention (Modood et al. 2006).

1 Perceptions of Islam in a Multicultural Population: An Empirical Examination of Perceptions of Islam to Determine the Conditions and Possibilities of Religious Integration and/or the Mobilization of Right-Wing Extremist Attitudes.

Whilst many members of majority ethnic communities may choose to avoid contact with Muslim communities or individuals or may be demographically excluded from routine contact with them, contact with Muslim individuals is an inevitable aspect of their routine work for many police officers. This may make police officers disproportionately salient members of the majority society in shaping the Muslim communities' experience of engagement with German society. Put another way, the police have a significant potential to facilitate the integration of members of Muslim minorities into majority German society. This article seeks to acknowledge this positive potential and examine factors which may impact upon police officers' capacity to successfully fulfil it.

Clearly, police officers' attitudes towards Muslim members of their community will be one significant variable in shaping their performance, and with this in mind three measures of anti-Muslim sentiment will be presented below as dependent variables in our analysis. However, in rejecting any simplistic notion of the inherently prejudiced personality (Billig 1978) we will explore aspects of the relationship between police officers' attitudes and behavioural dispositions toward Muslim persons in Germany and their experience of their working environment. Thus, following earlier research, we will introduce below the independent variables of *job satisfaction* and *recognition*. These variables tap aspects of police officers' experience of serving under the discipline and procedures of the force and of policing per se. Our argument is that Islamophobic attitudes and dispositions are not acquired and expressed in a social vacuum, and that by engaging with individual officers' experience of the generic process of working within the institutional regime and cultural milieu of specific police forces, we may gain insights into how non-racialized, routine work-related experience may impact upon the intergroup dynamics of police officers' engagement with Muslim members of their community. Evidence of such linkages would have significant implications for future initiatives aiming to prepare the police to work equitably in multi-ethnic Germany.

In pursuing this agenda we will also introduce *political affiliation* and a sense of *individual responsibility* as independent variables shaping the emergence of anti-Muslim sentiments. Finally, reflecting its centrality in the literature on inter-group relations, we also engage with the issue of *contact* as a critical variable in the shaping of interethnic relations. Typically presented as an independent variable in relation to the expression of prejudices, we hope to show here – in addition to examining its role as a mediator – that it may also be legitimately perceived as a dependent variable.

By exploring the linkage between these variables, using a data set that provided privileged access to a large sample of serving police officers, this analysis will enable us to open up for scrutiny something of the dynamics of the relationship between the generic experiences of policing and the specific context of engaging with Muslim members of German society. Thus, this analysis locates itself within the established literature which places any understanding of individual officers' behaviour within the framing context of police services as organizations with quite distinct routines, managerial ideologies and workplace cultures (Hüttermann 2000). As the argument is developed below we will initially provide a brief European context within which we may later locate the specifically German experience of ethnic diversity. This will be followed by consideration of the concept of "integration" and its relation to framing models of state multiculturalism. Specific attention will be given to the German experience of developing multicultural policy and practices. Having sketched this context we will then review the nature of police-minority ethnic relations before moving on to introduce our variables and their operationalization.

2. Policing, the State, and the Changing Demography of Europe

Across Europe the post–Second World War processes of migration have cumulatively and significantly changed the demography of national populations, leading a new segment of society to experience the intrusive and repressive powers of policing as specifically impacting upon them both individually and collectively (Biemer and Brachear 2003). The interaction of their class and ethnic identities, and their localized concentration in specific urban areas, have rendered ethnic minority communities a critical interface between the espoused rights and values of liberal democracies and the functions of policing in the contemporary political context.

Although active recruitment of migrant labour to Europe ended in the 1970s, family reunification continued the en-

try of immigrants. Since the 1980s the global movement of refugees and asylum seekers has created new sources and patterns of immigration (Castles 2000). And more recently the expansion of the European Union has prompted a significant flow of migrant labour from Eastern Europe into the more affluent West. The ethnic diversity of contemporary European states presents a distinct set of challenges to national police forces. The increasingly vehement rhetoric against refugees and asylum seekers is not confined to the ideologies of the far-right (Cheles et al. 1991) but is frequently the routine discourse of mainstream parties. As European governments line up to assert that multiculturalism was flawed in its conception and has failed in practice (Husband 2007; Modood 2007), majority populations feel legitimated in resenting the recognition and resources granted to minority ethnic communities (Hewitt 2005; Schiffauer 2006). If we then add to this the global impact of the "War on Terror" rhetoric and policies, and particularly its specific expression in the growth of Islamophobia in particular states (EUMC 2006), it becomes clear that contemporary policing in ethnically diverse states places individual police officers and particular police forces, in a political and social milieu that makes their interaction with minority ethnic communities potentially fraught. Thus in a variety of European contexts Muslim communities have become a particular focus of political anxiety and surveillance. They have come to have reason to feel particularly subject to intrusive police powers (Choudary et al. 2006; OSCE 2006).

Thus it is in this political and social climate that we wish to recognize the specific significance of individual police officers as unique agents in the integrative processes of contemporary multi-ethnic Germany.

3. Integration and Multiculturalism as a Context for Policing

In seeking to explore the relationships between police officers' experience of their work and the development and maintenance of negative or positive dispositions toward Muslim citizens and denizens* resident in Germany our concern is to recognize the police as a significant presence in shaping integration in multi-ethnic Germany. In the words of the OSCE's *Recommendations on Policing in Multi-Ethnic Societies*: "States should adopt policies which clearly recognize the importance of policing for interethnic relations." (OSCE 2006, 4). Given that the police are routinely one institutional facet of majority society that may be expected to interact with minority ethnic communities and individuals, their capacity to promote processes of integration or to generate interethnic suspicion and conflict has been widely recognized (Charter for European Security 1999).

Integration is, however, a problematic goal and an ambiguous process in the field of ethnic relations in multi-ethnic societies. As a major review for the British Home Office expressed it: "there is no single agreed understanding of the term 'integration': Meanings vary from country to country, change over time, and depend on the interests, values and perspectives of the people concerned" (Castles et al. 2002, 112). Castles and his colleagues are clear that in order to be equitable and politically meaningful, integration must be a two-way process in which adaptation on the part of the minority ethnic community must be matched by reciprocal movement within the host community (ibid., 113).

Yet, speaking as a major European voice for minority ethnic communities, the European Network Against Racism (ENAR) suggests that in the realpolitik of European ethnic relations integration frequently takes a different form. In their words: "EU Member States have defined integration as a 'two-way process'. Nevertheless, ENAR members have identified a tendency to operationalise integration as a 'one-way process' where the migrant is expected to adapt to the majority communities, and where very little attention is paid to the role of majority communities in fostering 'integrated societies'" (ENAR 2006, 18).

Given this ambivalence regarding the de facto experience of integration within Europe it is appropriate to recognize the distinct nature of the German experience of ethnic diversity. Although more than four million people moved into the Federal Republic of Germany between 1988 and 1992 (Geddes 2003), Germany officially remained a "non-immigration country" (*kein Einwanderungsland*). As Brubaker puts it (1992, 174), this counter-factual position should be seen as a "political-cultural norm" and an aspect of national self-understanding. As Kraus and Schönwälder (2006, 203) recently phrased it: "Multiculturalism emerged late in West German debates, and it was and remains

* In the context of Germany, where access to citizenship for the settled minority ethnic populations has been slow and difficult very many persons remain without full citizenship rights, although they are legally resident. In this sense they are denizens as defined by Hammar (1990).

mostly a slogan rather than a precise policy." They go on to show that in the 1990s, in the absence of a clear federal multicultural policy, initiatives to recognize the cultural and political rights of ethnic minorities have been developing at the local and regional level. Thus if there has been a reluctance to recognize and promote ethnic plurality at the level of national policy and political discourse then we must acknowledge this as a significant element in the cultural and political context within which police personnel have developed their corporate and personal responses to engaging with the German Muslim populations.

Additionally, within this context of the late development of state policy it has been argued that the Muslim populations in Germany have in recent years been the object of state-led and populist anxiety regarding their unassimilable difference and their threat to normative German values and interests (Schiffauer 2006). As in other countries, one focus of this outgroup hostility has been the wearing of the veil by Muslim women (Oestreich 2004). In studies of discrimination in Germany, Goldberg and Sauer (2004) found people of Turkish origin reporting significant levels of perceived discrimination during the period 1999 – 2003, while Salentin (2007) found that persons of Turkish background report significantly more incidents of discrimination than ethnic German immigrants from the former Soviet Union (Aussiedler) or persons of Greek origin. Thus we have reasons to believe that within contemporary German ethnic relations the situation of persons of Muslim background is particularly problematic.

We are aware that in popular and policy discourse Turkish ethnicity and Muslim religious identification are frequently conflated. Such essentialism is misplaced since the Muslim population of Germany is not identical with the German-Turkish communities and the Turkish population itself has significant intra-group differences. However the attribution of Muslim identity to specific urban communities is a recognizable element in the contemporary social imaginary in Germany (Taylor 2004).

On the face of it, it seems to be an awkward idea to consider the police force as a mediator of integration, knowing that it – more than any other occupation – is defined by state policy and regulation. Through their occupational identity police officers express the will of the state. As described above, if the state does not actively support multicultural policies why should the police? Nevertheless it is the police's high visibility on the intercultural interface of society that justifies a closer look at their existing inherent potential for promoting integration. In doing so we have to concentrate on the basic minimum prerequisites, or necessary conditions (rather than sufficient conditions), which need to be in place. Regarding necessary conditions this article focuses on officers' attitudes towards minorities which need to be if not positive then at least neutral in order to enable them to act as mediators of integration.

4. Police – Ethnic Minority Relations

Policing and minority relations have figured prominently in the international literature reflecting upon the nature of ethnic relations in multi-ethnic societies. Some of this literature has emerged as a concerned policy response to breakdowns in police/community relations and associated major civil disturbances such as the Watts Riots of 1965 in the United States and the subsequent Kerner Report (1968), or the Scarman Report on the 1981 riots in England (Scarman 1981). Others have addressed sustained institutional racism, perhaps revealed through specific catalytic events: for example aboriginal deaths in custody in Australia or the 1998 Lawrence Inquiry in England. It is evident that the dangers to society posed by real failings of policing in multi-ethnic societies have for a long time been a salient policing issue (Banton 1994; Byron 2001; Wortley and Homel 1995). This development has been accompanied by the cumulative development of literature and policing initiatives seeking to positively intervene in the hope of facilitating the development of a routine police practice that is equitable in its application and integrative of ethnic relations in its effect (OSCE 1996; Chan 1997; EUMC 2006).

Regarding the German context, the initial situation concerning police officers' interactions with and attitudes towards minorities seems to be problematic. At the beginning of the 1990s there were increasing indications of a deteriorating climate of relationships between the police force and different groups of immigrants (Leenen 2005). Although no study stands out as proving that there is a substantially high level of xenophobic attitudes amongst German police officers (e.g. Jaschke 1998), the police created a decidedly poor image for themselves through a large

number of proven cases of discrimination (Amnesty International 1997). One political response to these alarming incidents has been to promote research projects analyzing police officers' attitudes toward foreigners (Bornewasser et al. 1996; Backes et al. 1997; Jaschke 1998; Mletzko and Weins 1999; Dollase 2000).

In developing the independent variables employed in this study we were aware of the pre-existing literature relating to policing and outgroup attitudes. In particular we are concerned to address features of routine police performance that have been identified as impacting on police officers' xenophobic attitudes. In the literature briefly summarized below it is apparent that a holistic view of police officers in relation to their workplace and their social context is necessary for any understanding of the development and expression of their inter-group behaviour.

The first widely acknowledged study was conducted by Bornewasser and colleagues in 1995 (Bornewasser et al. 1996). The qualitative research (workshops and group discussions) traced police officers' xenophobia back to inadequate coping strategies. The author identified five facets of the policing experience that may impact on their expression of xenophobia: (1) foreigners are expected to adapt to German law more than locals; (2) police officers experience their work as a Sisyphean task because the courts negate their work, causing feelings of helplessness and powerlessness; (3) street cops are often seen as the bottom of a hierarchy, they have to accept whatever decisions the authorities make and are given no space for discussion of this situation within the organization; (4) the cumulative workload may contribute to increased emotionality towards foreigners; or (5) result in resignation which is often associated with a tendency to avoid difficult situations.

The findings of the state-level parliamentary commission of inquiry into the Hamburg police (Bürgerschaft der Freien und Hansestadt Hamburg 1996) were in line with the results of Bornewasser et al. (1996). The commission argued that both structural and individual factors and their interaction play an important role in motivating inappropriate behaviour amongst police officers. The report defined police officers' inclinations towards violence and their attitudes towards foreigners as individual factors, while working in extremely troubled neighbourhoods, the absence of psychological monitoring, and the failure to rotate officers in their area of work were defined as structural factors. An additional study commissioned by the government of the city-state of Hamburg (Backes et al. 1997) describes risk constellations causing deficits in conflict resolution in police-minority relations. The factors identified include stress in daily work routines, the impact of the potential of self-regulation and its relation to creating a wide range of discretion in routine policing, and prejudices against the police held by members of the community.

Mletzko and Weins (1999) developed a survey on the basis of the qualitative research performed by Bornewasser and colleagues (1996) and added contact as a variable. The authors indicated that for the surveyed police officers high levels of stress in professional interethnic contacts are associated with higher levels of xenophobia. For the contact variable their findings verified the hypothesis – derived from previous research where positive contact quality was shown to be associated with more positive attitudes towards foreigners (e.g. Pettigrew and Troop 2000, Viki et al. 2006) – that police officers who have foreigners as friends or family (contact quality) display less xenophobic attitudes. Multivariate analyses revealed stress – in comparison to contact – to be the more influential variable in predicting xenophobic attitudes.

More recently a quantitative study by Manzoni and Eisner (2006) examined the significance of stress and workload within a more complex framework. The resulting empirical data indicated, inter alia, that high levels of stress due to workload and consequent job dissatisfaction and also the degree of job commitment were significantly correlated with the use of force against suspects. Although these bivariate results showed a significant relationship between the use of force and work stress, job satisfaction, and commitment, multivariate analyses using structural equation models indicated no influence of stress-related factors on the amount of force.

The studies reviewed above provide strong support for our focus upon the routine experience of policing and its potential impact on the inter-group behaviour of police officers. Risk constellations or combinations of different

interacting mechanisms rather than just a single factor are identified as explaining the phenomenon of inapproprate inter-group behaviour. Thus in this paper we focus on significant variables emerging from previous research and integrate them in one study.

Adding to previous studies on police officers' general outgroup hostility, we locate the present study in the ongoing political discussion on diversity concepts and Islamophobia in Germany, examining job satisfaction, recognition, individual responsibility, and political affiliation as shaping police officers' Islamophobic sentiments and perceptions of the quality of contact. In the following section the dependant and independent variables analyzed in this study are outlined in relation to the relevant literature.

4.1 The Police and Muslim Communities

4.1.1 Measures of Islamophobia as Dependent Variables

The aim of this analysis is to shed some light on the relationship between police officers' experience of their working environment and their attitudes and behavioural disposition toward Muslim persons in Germany. Within a wide-ranging project (Dollase, in press), the inclusion of a specific focus on police-Muslim relations was a response to the salience of Islam and Muslim communities in contemporary Europe. As noted above, Muslim communities have become the focus of generalized Islamophobic sentiments and specific forms of racist discrimination and assault. The significant role of the police as a key interface between the ethnically German majority and Islamic citizens underlined the relevance of this focus in our analysis.

In order to access police dispositions toward Muslim people three measures were developed: (1) *a general evaluation of Muslim people*, which might be regarded as an indication of generalized Islamophobia; (2) a short scale, tapping specific expressions of *Islamophobia*, and (3) a short scale tapping the behavioural disposition of *distancing behaviour* toward Muslim people.

The long history of social psychological research has recurrently identified cognitive, affective, and behavioural dynamics as being intrinsically interwoven in the complex phenomenon that is prejudice (Brown 1995; Dovidio et al. 1996). A related but relatively autonomous body of work has added to the understanding of stereotypes as a discursively constructed set of beliefs about all members of a social group. Whilst social psychology has continued to add to our understanding of the ways in which individuals may deploy stereotypes in negotiating intergroup relations (e.g. Brown et al. 1999; Locke and Walker 1999), an understanding of the social construction of stereotypes owes much to discourse analysis (Potter and Wetherell 1987; van Dijk 1991, 1993) and to contemporary political science. Thus, in addressing the assessment of Islamophobic tendencies amongst this substantial sample of German police officers, a degree of reflexive caution must be exercised. The literature on Islamophobia points towards a Eurocentric construction of difference in which an "Orientalist" historiography (Said 1995) has provided a complex, but consolidated, set of negative stereotypes about Islam and its followers. Such a perspective might suggest that Islamophobically informed prejudice is essentially driven by a historically derived set of rather rigid stereotypes of the outgroup. However, this historically informed perspective is itself somewhat ahistorical in that it fails to address the current socio-political dynamics that shape contemporary anti-Islamic sentiments (Halliday 1996). However, the contributions of social identity theory (Tajfel and Turner 1979) and self-categorization theory (Turner et al 1987; Turner and Reynolds 2001) continue to argue strongly for the relevance of group social identity – rather than only individual psychological dynamics – for any adequate understanding of the nature of prejudice.

The processes of recent European migration have frequently created distinct majority-minority ethnic inter-group relationships with attendant stereotypes and hostility (Modood et al. 2006). In Germany localized bitter hostility between majority autochthonous Germans and established Turkish communities has been paralleled by widespread Islamophobic sentiment (EMUC 2006). Within such national inter-group dynamics specific issues emerge as defining features of intergroup tension. Education, the construction of mosques, perceived sexual threat, association with crime, and resentment about consumption of state welfare resources are typical examples of the mediated moral panics that frame inter-group relations in multi-ethnic societies (Chritcher 2006). However, here again a complex mix of available foci for outgroup hostili-

ties typically reveal the importance of specific contexts and their unique characteristics in shaping the nature and behavioural expressions of prejudice (Keith 2005; Alexander 2000; Back 1996; Eade 1997). More particularly, whilst prejudice has been understood as a phenomenon including a dynamic interplay of affective, cognitive, and behavioural elements, the affective component of prejudice has attracted recent emphasis (Fiske 2004). Thus, for example, differing facets of the outgroup community may elicit different emotional responses from majority ethnic actors (Smith 1999). Cuisine and cooking habits may elicit disgust, forms of religious practice may generate outrage and anger, or perceived machismo and overt sexuality may attract fear and resentment (Hüttermann 2006). Different emotions are likely to match quite specific elements of outgroup stereotypes and elicit correspondingly specific behavioural responses.

Thus, in a study such as this the pragmatic use of modest measures of Islamophobia and distancing behaviour should not, and cannot, be used to suggest that Islamophobia is a unitary attitudinal disposition with relatively linear predictive relations between the cognitive, affective, and behavioural components. The measures developed in this analysis provide a heuristic tool for exploring police/Muslim relations and their determinants.

4.1.2 Contact Quality as a Dependent and Mediating Variable

Contact, as a behavioural variable, is widely acknowledged as influencing prejudice and intergroup bias. Gordon Allport (1954) conceptualized the contact hypothesis which defines four basic conditions that need to be present in order for contact between members of different social groups to yield positive effects: equal status, common goals, intergroup cooperation, and institutional support. Pettigrew (1998) added a fifth key condition: the potential for the members of different groups to become friends. Obviously inter-group contact between the police and members of the public, especially when they are suspects, violates most of these conditions. In interactions there are practically always status differences, with the police holding the authority (Hüttermann 2000). Moreover the police and members of the public may not have common goals, and therefore the contact may not be cooperative (still less a basis for forming friendships). More recently the importance of institutional support for contact has been underlined by initiatives taken by police authorities (Bundeszentrale für politische Bildung 2005).

Thus, whilst the frequency and quality of contact may influence the development and expression of prejudiced sentiments, it is also clear from Pettigrew's analysis (1998) that the perception of a contact experience and the management of frequency of contact are themselves subject to influence by other factors. Hence given the context of police-Muslim contacts noted above we may hypothesize that the personal motivations, affective states, and prior beliefs a police officer brings to an interethnic encounter may shape their perception of it. Consequently, the perception of contact quality as operationalized below is employed as a dependent variable. Additionally as Pettigrew and Tropp have shown (2006), even sub-optimal conditions of contact can reduce prejudice to a meaningful degree, thus contact, as included in our study, is also considered as a mediating variable.

The general evaluation of Muslim people, Islamophobic attitudes, distancing behaviour and contact quality are the dominant dependent variables relating to police officers' relationships towards Muslim populations that we focus on in this study. We define them as integrative potentials of the individual police officer. Following our argumentation we assume that neutral (or ideally positive) weightings on these variables are necessary preconditions for enabling the police force and its members to act as facilitators of integrative processes.

4.1.3 Independent Variables

As attitudes towards Muslim people and evaluations of contact with them develop in the context of policing and the prevailing attitudes of wider society we have identified a number of relevant independent variables.

Previous research (see above) recognized several factors in police officers' daily routines that cause discontent. The concept of *job satisfaction* is therefore an important aspect to take into account in analyzing job performance. The association of job satisfaction and job performance is a widely acknowledged finding indicating that job dissatisfaction is an antecedent of counterproductive work

behaviour (Lau et al. 2003). Much of the work on counterproductive work behaviour has roots in the study of human aggression. In most theories it is linked to negative emotions, such as anger and/or frustration in response to environmental conditions in both the social psychological (e.g. Anderson et al. 1995; Berkowitz 1998) and workplace (Fox and Spector 1999; Neuman and Baron 1997) literatures. Links between stressors at work and counterproductive work behaviour directed toward others have been shown (Fox and Spector 1999, Fox et al. 2001). Thus stressful work conditions and job dissatisfaction, as increasingly experienced by police officers (Bosold and Ohlemacher 2003), might lead to abuses in settings where such behaviour is considered acceptable, or at least is not explicitly negatively sanctioned.

Most theoretical concepts on *recognition* emphasize the central significance of objective injuries to recognition (or subjective fears of them) in explaining hostile behaviour (e.g. Anhut and Heitmeyer 2000, Anhut 2005). Behaviour to defend self-esteem (Honneth 2003, Baumeister et al. 1996) and related forms of aggression which result from a threatened self have been extensively explored in social psychology from initial writing on frustration-aggression (Dollard et al. 1939, Berkowitz 1989) to contemporary social identity theory (Tajfel and Turner 1979, Capozza and Brown 2000). Thus we may argue that every human has the need to maintain and/or enhance self-esteem and that when it is diminished, hostile acts are one potential response (Albrecht 2003).

Recognition as defined in Anhut and Heitmeyer's disintegration theory (2000) is a core element influencing integrative processes and therefore inter-group contacts. They identify three dimensions of recognition: (1) positional recognition as being recognized because of the value a person has for society; (2) moral recognition is based on equality of rights for all citizens; (3) emotional recognition is described as the respect and social support of close associates. Following Anhut and Heitmeyer (2000) we measured police officers' evaluation of perceived recognition in the different dimensions described above. Focusing on workplace experience and the negotiation of individual agency we introduced a third variable: *individual responsibility*. Dollase and Koch (2007) argue that a lack of individual responsibility is closely related to xenophobic attitudes. Analyses by Zick and Küpper (2006) demonstrate the relationship between political affiliation and prejudice – the more right-wing people's self-categorization is, the more they agree with hostile attitudes (Zick 1997). Therefore *political affiliation* is also taken into account in this analysis.

5. Context and Operationalization of Concepts

The data was collected in the context of an empirical examination of different professions' perceptions of Islam in German society (Dollase 2007, Dollase and Koch forthcoming). The findings for the police, as one of the participating groups, are based on 727 returned questionnaires using five different versions of the survey which in total included over nine hundred items. Thus not all of the 727 respondents were required to address all of the items, different subsets being administered to each of the five sub-samples. A fixed set of items preface each version. It is for this reason that some of the following analyses used less than the full sample. Indications of the exact N are given where relevant.

The data was collected in Saxony, Saxony-Anhalt, and North Rhine-Westphalia and was supported by the relevant state ministry of internal affairs. The questionnaires were sent to the largest police authorities in the states, and the heads of department were in charge of distribution. Only fifty-four of the respondents worked exclusively in the office as case managers, the rest can be categorized as beat officers. The average age of the participants (122 women and 603 men; two answers were missing) was forty and the average period based at their current department was nine years. Ninety-seven percent of the surveyed police officers were born in Germany and are German citizens.

As already mentioned, in measuring police officers' *attitudes* towards Muslim people we focused on three aspects:

1. A general evaluation of Muslim people
2. Islamophobia
3. Distancing behaviour

The *general evaluation* was measured by asking participants: "How would you generally evaluate Muslim people?" Police officers answered on a 6-point scale ranging from

1 = very positive to 6 = very negative. For measuring *Islamophobic attitudes* and *distancing behaviour* we constructed short scales following existing instruments (Table 1, Heimeyer 2000; Leibold and Kühnel 2003, 103). Police officers indicated their acceptance of the presented statements on a 4-point scale ranging from 1 = I totally agree to 4 = I don't agree at all, with lower scores representing higher Islamophobia and more distancing behaviour.

Table 1: Scale construction for Islamophobia and distancing behaviour

Construct	Items	Cronbach's alpha
Islamophobia	(1) With so many Muslims living in Germany, I sometimes feel like a stranger in my own country. (2) Immigration to Germany should be prohibited for Muslims.	.65
Distancing behaviour	(1) I would have a problem moving into a neighbourhood with many Muslims. (2) I do not necessarily like shopping in stores owned by Muslims.	.71

The *quality of contact* was measured by asking the participants: "How do you get along with Muslim people during your daily work?" Scaling ranged from 1 = very good to 5 = not at all.

As to the factors influencing the variables above, we examined:

1. Job satisfaction
2. Recognition: positional
   moral
   emotional
3. Individual responsibility
4. Political affiliation

Job satisfaction was assessed by an index computed from police officers' agreement or disagreement concerning five different statements on general contentment with their job (see appendix 1). Responses were scored on a five-point scale, with higher scores representing higher job satisfaction. *Individual responsibility* was assessed by a scale (α = .62) computed from eight items asking for officers' appraisal of their individual capacity to reduce tension and conflict between people of different religion, nationality, or skin colour (see Appendix 2). Scaling ranged from 1 = I totally agree to 6 = I don't agree.

For measuring *political affiliation* participants were asked for a self-categorization of their general political opinion on a five-point scale ranging from 1 = extremely left-wing to 5 = extremely right-wing.

Following Anhut and Heitmeyer's disintegration theory (2000) we constructed short scales for perceived *positional recognition* (α = .74), *moral recognition* (α = .76), and *emotional recognition* (α = .50) (see Appendix 3). Responses were scored on a six-point scale, with higher scores representing stronger experience of recognition. (Table 2 summarizes the dependent and independent variables.)

In the actual analyses we were interested firstly in the descriptives of attitudes towards Muslim people and the evaluation of contact quality. We then computed correlations between the constructs measuring outgroup hostility and the contact variable to verify the existing literature on contact.

In a next step two analyses were carried out to test the predictive function of the independent variables in influencing outgroup dispositions (i.e. the general evaluation of Muslims, Islamophobia, distancing behaviour and contact quality). Using regression analyses the first case employed the independent variables of job satisfaction, individual responsibility, and political affiliation as predictors; and in the second case the predictors were positional, moral and emotional recognition. (The two groups were considered separately in order to maximize the number of cases included in the regression analyses, because not all variables could be related to each other.)

Because prior research strongly emphasizes the mediating effect of *contact quality* (e.g. Viki et al. 2006) we computed a mediation analysis using the evaluation of how police officers get along with Muslim people during their daily work as mediator. We hypothesized that the quality of contact would mediate the relationships between job satisfaction and the evaluation of Muslim people, job-

Table 2: Dependent and independent variables

IV	DV
Job satisfaction	Evaluation of Muslim people
Recognition: Positional Moral Emotional	Islamophobia
Individual responsibility	Distancing behaviour
Political affiliation	Contact quality

Table 3: Means and standard deviations of orientation towards Muslim people

	M	SD	N
Evaluation of Muslim people	3.44	1.03	684
Islamophobia	2.72	0.74	119
Distancing behaviour	2.62	0.74	119
Contact quality	2.99	0.91	678

satisfaction and Islamophobia, and job satisfaction and distancing behaviour.

6. Results

6.1 Attitudes towards Muslim People and the Correlations between Constructs

Positive attitudes towards Muslim people are a precondition for police officers to deal equitably with Muslim citizens. Therefore we first explored the items *evaluation of Muslim people, Islamophobia and distancing behaviour.* Table 3 shows officers responses on the three constructs.

The results indicate that there is neither a strong rejection nor a distinct positive view of Muslim people. These findings are strengthened by examining the frequencies. For all three constructs the mid-point of the scale was chosen by most of the participants.

6.1.1 Evaluation of Muslim People

As Fig. 1 shows, 46.1 percent of the respondents evaluate Muslim people in a relatively neutral manner, scoring three on a six-point scale. A very small minority (1.6 percent) were very positive and only 5 percent were at the negative extreme.

6.1.2 Islamophobia

As Fig. 2 shows, 39.5 percent would not necessarily agree with the Islamophobic statements and only 5 percent totally agree with the statements.

The results present a view of the police force far removed from the stereotypical image of a cadre of right-wing xenophobes that some popular accounts would suggest. Given that there was almost certainly a degree of social desirability response in shaping police officers' responses

Figure 1: Evaluation of Muslim people

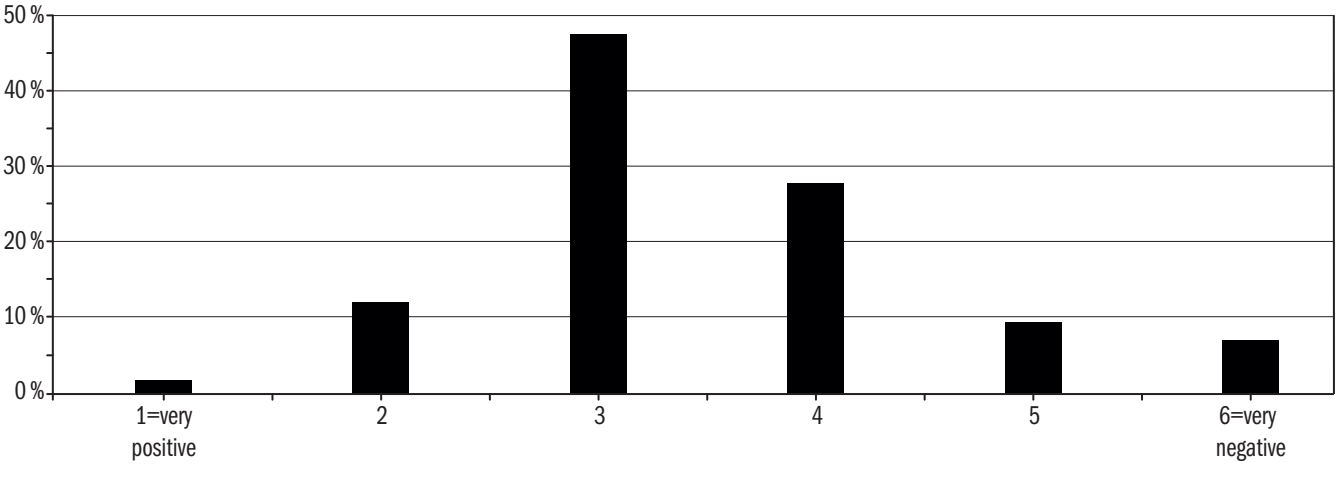
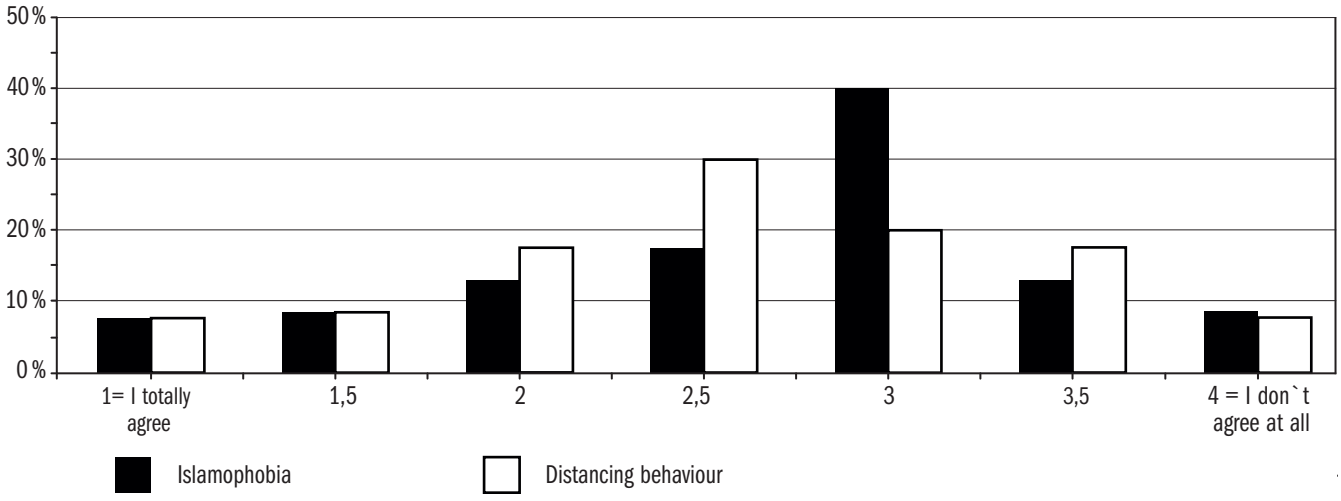


Figure 2: Islamophobia and distancing behaviour



to such questions in a university-initiated survey we may speculate that this picture is somewhat optimistic, but it provides a positive platform from which to consider the future development of police-Muslim relations.

6.1.3 Distancing Behaviour

When we look at the profile of responses in Fig. 2 outlining the responses relating to distancing behaviour it is apparent that the distribution of responses is more negative than the attitudinal measures. Five percent of officers would totally agree with the statements indicating distant behaviour and 20.2 percent would not necessarily agree.

The measures of Islamophobia and the general evaluation of Muslim people present the respondent with rather generalized issues whereas the two questions addressing distancing behaviour place the respondent in a specific relationship to members of the Muslim community. Interpersonal avoidance behaviour elicits a stronger response, reminding us that the relationships between generalized beliefs and specific behaviours are complex and situation ally sensitive.

The data reviewed above present a profile of the police service as being free from a collective xenophobic or Islamophobic taint. On the contrary they would appear to have less than the ten percent of bigots typically found in studies of racism. Seen from a different perspective there is evidence here for a positive platform upon which programmes to foster better police-Muslim relations might be built.

6.1.4 Contact

Having outlined the basic profile of results on outgroup dispositions toward Muslims, we turn now to an analysis of the relationship between contact quality and the variables outlined above. On a descriptive level the police officers position themselves at the mid-point of a five-point scale (41.6 percent). A correlational analysis revealed that all correlations are close to r= .50, which according to Cohen (1992) indicates strong effect sizes.

In line with the existing literature on contact (Allport 1954; Pettigrew 1998; Pettigrew and Tropp 2006) the results indicate that a negative evaluation of contact quality is associated with a devaluation of Muslim people in general,

Table 4: Correlations between attitudes and contact quality

		1	2	3	4
1	Evaluation of Muslim people	1.00			
2	Islamophobia [a]	−0.59**	1.00		
3	Distancing behaviour [a]	−0.62**	0.68**	1.00	
4	Contact quality	0.46**	−0.50**	−0.44**	1.00

** p < 0.01
Note: **a** Version 4, N= 119

higher scores on Islamophobia, and more distancing behaviour. The implications of this will be explored more fully following our discussion of the data on police workplace variables and political affiliation below.

6.2 Political Affiliation and Workplace-related Factors Impacting on Outgroup Attitudes

This study, as part of a wider examination, of police-Muslim relations, is concerned with revealing the impact of the professional context of policing on outgroup attitudes. Political affiliation is formed in the wider context of the officers' biographies, but may be reinforced or challenged by the workplace atmosphere and ethic. The stress of police work is also likely to impact upon officers' sense of job satisfaction and their sense of personal and collective professional recognition: factors identified by Anhut and Heitmeyer (2000) as having an impact upon social cohesion and conflict. These variables are now examined below in relation to their impact on the dependent Islamophobic dispositions reviewed above.

6.2.1 Political Affiliation

There is an established link between political affiliation and prejudiced attitudes toward ethnic and religious outgroups (Zick and Küpper 2006; Zick 1997). As Table 5 indicates, police officers place themselves in the centre ground of political opinion.

6.2.2 Job Satisfaction, Individual Responsibility, Recognition

On a descriptive level police officers are quite satisfied with their job. They only show a moderate feeling of individual responsibility to reduce tension and conflict between people of different religion, nationality, and complexion. Positional and emotional recognition may be described as moderate, whereas moral recognition is slightly less positive (Table 5).

Table 5: Means and standard deviations of independent variables

	M	SD	N
Job satisfaction	3.82	0.95	723
Individual responsibility	3.24	0.69	705
Political affiliation	2.99	0.74	698
Positional recognition	2.85	0.71	118
Moral recognition	3.62	0.90	118
Emotional recognition	3.13	0.69	118

In order to measure the predictive function of the variables presented in Table 2 we then ran two regression analyses. The independent variables used in the regression analyses were considered separately in order to maximize the number of cases included, because not all variables could be related to each other. A prior correlational analysis of the independent variables revealed them to be correlated. Therefore in the subsequent regression analyses we used centred variables which allow us to address the problem of multicolinearity.

In the first analysis job satisfaction, individual responsibility, and political affiliation were entered simultaneously as predictors of *evaluation of Muslim people, Islamophobia, distancing behaviour, and contact quality* (see Table 6). Across all three analyses, the three predictors account for a significant proportion of the variance in the dependent measures (see Table 6).

Table 6: Regression analyses I

	Evaluation of Muslim people		Islamophobia		Distancing behaviour		Contact quality	
	B	Beta	B	Beta	B	Beta	B	Beta
Job satisfaction	−.15	−.14***	.25	.32***	.19	.23**	−.14	−.15***
Individual responsibility	−.29	−.19***	.28	.26**	.35	.32***	−.36	−.26***
Political affiliation	.30	.15***	−.33	−.26**	−.29	−.21*	.21	.12***
	$R^2 = 0.094$		$R^2 = 0.239$		$R^2 = 0.207$		$R^2 = 0.128$	

*** p < 0.001, ** p < 0.01, * p < 0.05

Table 7: Regression analyses II

	Evaluation of Muslim people		Islamophobia		Distancing behaviour		Contact quality	
	B	Beta	B	Beta	B	Beta	B	Beta
Positional recognition	.01	.00	.07	.07	.09	.09	.45	.31*
Moral recognition	−.01	−.01	−.18	−.23	−.21	−.26*	−.07	−.06
Emotional recognition	.50	.32**	−.14	−.13	−.24	−.22*	.32	.21
	R^2 = 0.102		R^2 = 0.076		R^2 = 0.126		R^2 = 0.182	

*** p < 0.001, ** p < 0.01, * p < 0.05

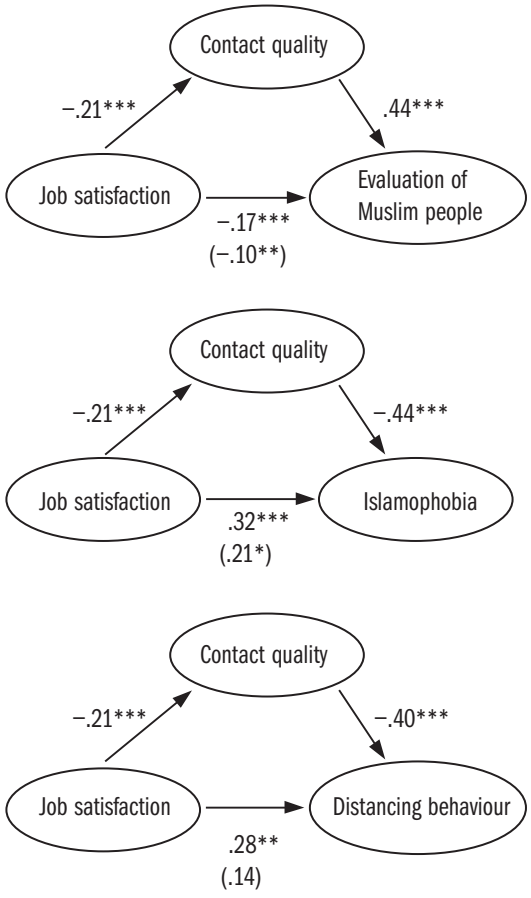
In a second regression analysis positional, moral, and emotional recognition were entered simultaneously as predictors of the same dependent variables (see Table 7). For the evaluation of Muslim people only emotional recognition accounts for a significant proportion of variance. For distancing behaviour moral and emotional recognition account for a significant amount of variance, and contact quality is predicted significantly by positional recognition (see Table 7).

6.2.3 Contact as a Mediating Variable

To test the mediating effect of contact quality, separate mediation analyses (using regression analyses) were performed to examine the role of contact in the relationship between job satisfaction and *the evaluation of Muslim people, Islamophobia, and distancing behaviour.* The analyses revealed that the conditions for mediation were met (Baron and Kenny 1986). The independent variable significantly predicted the mediator (contact quality) and the dependent variables (*evaluation of Muslim people, Islamophobia, distancing behaviour*). Furthermore, the mediator significantly predicted the dependent variables (Fig. 3).

As expected, the direct effects between job satisfaction and *evaluation of Muslim people*, job satisfaction and *Islamophobia*, and job satisfaction and *distancing behaviour*, were significantly reduced once the potential mediator was included (as indicated in Fig. 3). These results indicate that the effects of job satisfaction on the *evaluation of Muslim people*, Islamophobia, and *distancing behaviour* are partially mediated by quality of contact. The Sobel's test significance of the indirect paths via contact quality supported this proposition. The scores for the paths were Z= −5.28, p< .001 for job satisfaction/evaluation of Muslim people, for Z= 4.69, p< .001 for job satisfaction/Islamophobia, and Z= 4.38, p< .001 for job satisfaction/distancing behavior.

Figure 3: Contact quality as mediator



7. Discussion

The data presented in this paper does not claim to be exhaustive in providing an analysis of police-Muslim relations. However, it does provide an insight into the factors determining the development of Islamophobia that builds on the previous literature and usefully contributes to contemporary debates around policing. Whilst the scales employed in this study are relatively short, and require caution in extrapolating from them, they do offer a viable basis for developing the policy debate around the professional preparation of police officers to serve a multi-ethnic citizenry.

As noted above there is an issue related to the salience of Islam as a marker of identity. The data presented above invited serving police officers to indicate their feelings toward Muslim citizens. This they willingly did in response to the questionnaire items. However, as discussed above (section 2) there remains the question of where and under what circumstances Islam becomes salient in police interaction with the community. Part of the answer lies in the current social context, outlined in the introduction where the contemporary politicization of Islam in Germany was noted. This data points to the possibility (and in certain areas potentially the probability) that specific local communities will have a Muslim identity attributed to them by police officers, with consequent effects on the officers' attitudinal and behavioural response to members of that community.

In an analysis which aspires to contribute to the further positive development of police / Muslim relations within the context of policing in Germany there is much in this paper which is positive. The initial review of findings on the three measures of Islamophobic attitudes and distancing behaviour shows the German police not to be worryingly different from other professionals and the general population in their attitudes towards Muslims (Dollase and Koch 2007; EUMC 2006; Asbrock et al. 2007). Both in the range of their political affiliations and in their attitudes toward Muslims there is no evidence here to support the view that the German police are especially disposed toward Islamophobia. This at least provides a positive platform on which to build future initiatives in police training and intercultural practice.

Given the extensive literature on communities of practice in general (Lave and Wenger 1991; Burkitt et al. 2001; Husband 2005), and the specific literature on "cop culture" (Behr 2000) it is telling that job satisfaction should emerge as having such a strong relationship with Islamophobic tendencies. It is consistent with the arguments of Anhut and Heitmeyer (2000) that frustrations and conflicts in the workplace may be projected outward in outgroup hostility. Contrary to our expectations, which were based on existing literature, the three elements of recognition do not figure as consistently strong determinants of Islamophobic attitudes, although moral recognition and emotional recognition are linked with distancing behaviour. Since both of these variables reflect the presence or absence of a positive sense of autonomy and civility in the officers' lives, this finding at least supports the emerging picture that positive self-regard and a sense of personal and professional worth are relevant to police officers' outgroup attitudes.

However, the relationship between professional identity and outgroup attitudes becomes much clearer in the significant relationship between positional recognition and contact quality (the only significant relation for positional recognition). It is precisely in relation to the negotiation of contact between members of the police service and Muslim members of the German public that issues relating to the maintenance of the power and worth of professional identity become salient. Police contact with Muslim members of the population may not be restricted to the context of interpersonal relations, but may slip from an interpersonal to an intergroup engagement when the perceived power and status of the police force are in question. As Hüttermann so graphically indicated in his ethnographic research (2000), it is here that "face" can be lost, and intergroup dynamics may be salient.

The data on the significance of individual responsibility also remind us that all professions must negotiate the tension between the multiple responsibilities society lays upon them and their institutional capacity to fulfil them. These data suggest that where police officers are more sceptical, or possibly in some cases cynical, about their capacity to have a positive impact in society then they are also more likely to be dismissive and / or more negative to-

ward the citizens they purportedly serve. In this instance, given the national context, the Muslim community are vulnerable to becoming recipients of such sentiments. As the analysis of the quality of contact reveals, contact – as might have been anticipated from previous literature – is a highly salient variable (Fig. 3). The analysis of the relationship between job satisfaction and the dependent variables, with contact as a mediating variable, reveals that job satisfaction impacts upon the perceived quality of contact, thus underlining the subjective construction of the contact experience. Bringing negative personal work-related sentiments into the encounter with Muslim citizens increases the likelihood of a negative interpretation of the event. The perceived quality of contact then impacts upon the probability of the officer holding Islamophobic attitudes.

These data remind us that the experience of a contact situation is not some veridical reading of an encounter taking place in an ahistorical social and cultural vacuum. As the literature on intercultural behaviour repeatedly indicates, such experiences are always situationally specific; in this instance, societally specific in terms of the general late development of German multicultural thinking, and the current pervasive anxiety and xenophobia surrounding Islam. For the police, too, such encounters take place in the specific context of police authorities and minority ethnic individuals, where past relations may reasonably be expected to have engendered mutual wariness, and potentially mutually negative stereotypes.

Taken together, these findings contribute to the current initiatives to promote improved police/Muslim relations. They indicate that something as multiply determined as job satisfaction impacts upon outgroup attitudes. The salience of job satisfaction, recognition, and individual responsibility in shaping the attitudes towards Muslims of the participants in this research suggests a powerful intersection of job-related experiences, beliefs, and values as individual officers seek to sustain meaning and worth in their professional lives. It seems apparent that the psychological dynamics unleashed in this process may find negative expression in outgroup hostility. The very particular dynamics of police work, where mutual interdependence in their daily work is crucial to personal safety and well-being, as well as generating professional esprit de corps, may amplify this generic process (Hüttermann 2000). It suggests, not for the first time, that initiatives in intercultural training that do not engage with the internal dynamics of 'cop-culture' and individual officers' experience of their workplace are always likely to be partial in their success.

There is a broad and developing commitment to training police officers in intercultural competencies to enable them to operate within ethnically diverse communities, in Germany and elsewhere (Leenen 2002, 2005). Indeed there is a degree of international networking and collaboration across European police services in sharing and developing best practice. As we have seen, there is some reason to remain cautious about the extent to which training inputs translate into change in routine practice (Chan 1997). However, our argument here makes a generic point which relates to the communities of practice in which police officers operate. Focusing on enhancing police training in intercultural competences may improve this repertoire of knowledge, but the motivation to employ this knowledge in practice will to a significant extent remain contingent upon the level of job satisfaction which frames the experience of serving police officers. Consequently, addressing the managerial and administrative institutional context that determines job satisfaction remains a necessary complement to intercultural training.

The findings further suggest that promoting contact between police and Muslim communities outside of routine policing functions may well be a fruitful strategy. However, we must note the strictures of Pettigrew and Tropp (2006) regarding the necessary conditions which must be in place in order to facilitate a positive outcome from such contact. Additionally we might propose that increasing the proportion of Muslim and ethnic minority officers within the German police services might also be an appropriate strategy. The experience of serving ethnic minority police officers does not, however, at present allow for optimism that this would be a viable option for changing attitudes within a community of practice defined by the majority (Blom 2005; Ghaffur 2006).

The data also reveal the police officers as having a range of attitudes that suggests that they could be responsive to

appropriate and well planned initiatives in intercultural training. However, the data regarding job satisfaction and perceived individual responsibility powerfully remind us of the strong collective solidarity and workplace culture that bind police officers together. Where initiatives are part of a top-down programme of change that introduces new additional competences and responsibilities without additional resources and rewards for the participating officers, strong resistance may be expected. If job satisfaction is already a significant issue within German police forces then externally imposed programmes promoting the interests of Muslim communities may be seen as being tokenistic political manipulation. As one state police chief commented, when saying how he understood his officers' sentiments, the police are not the "social engineers of the republic."

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Appendix 1: Construction of the job satisfaction index

Construct	Items
Job satisfaction	(1) I like my job
	(2) I do my duty – nothing more
	(3) My job is a burden to me
	(4) If I could I'd like to do things differently
	(5) My professional work is more important to me than payment

All items coded in the same direction

Appendix 2: Scale construction for individual responsibility

Construct	Items	Cronbach's alpha
Individual responsibility	(1) I personally achieve very little	.62
	(2) Problems can only be solved by society	
	(3) The influence of the individual is mostly overestimated	
	(4) Structures in society need to change if people are to live peacefully together	
	(5) I personally achieve something only occasionally	
	(6) If many people would act like me, things would change for the better	
	(7) Achieving peaceful coexistence is the task of politics	
	(8) I believe that I can influence others	

All items coded in the same direction

Appendix 3: Scale construction for positional, moral, and emotional recognition

Construct	Items	Cronbach's alpha
Positional recognition	(1) My recognition compared to others doing the same job	.74
	(2) Recognition within society	
	(3) Recognition of my job through other professional groups	
	(4) My jobs' material returns	
Moral recognition	(1) My personal possibility to take part in political decision making	.76
	(2) The representation of my profession's interests within society	
	(3) Fair and supportive treatment by society	
Emotional recognition	(1) My personal relationship to others within my professional group	.50
	(2) The interpersonal climate within our society	

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