

# Social Structure and Family Homicides

Chelsea Diem · Jesenia M. Pizarro

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**Abstract** To date, few studies have analyzed the relationship that economic deprivation and social disorganization have with disaggregated family homicide types. This study utilized data from the FBI's Supplementary Homicide Reports from years 2000–2007 in order to explore the effect social structural variables have on rates of family homicides—specifically, intimate partner, filicide, parricide, and siblicide. Cities with more than 100,000 residents were analyzed using ordinary least squares regression. Findings showed that economic deprivation had a significant and positive relationship with all types of disaggregated family homicides, but were stronger for intimate partner homicides and filicides. Social disorganization, however, showed a negative relationship with these types of homicides. Our study provides a basis for possible policy implications, such as economically based institutions to help those in need before financial strain reaches a point of violence.

**Keywords** Social structure · Intimate partner homicides · Filicide · Parricide · Siblicide

## Introduction

To date, numerous studies have established a relationship between social structure and homicide rates (see Pridemore 2002 for a comprehensive review). Specifically, research has shown that geographic areas (i.e., census tracts, neighborhoods, cities, and/or metropolitan statistical areas) which

experience a higher rate of social disorganization (i.e. family disruption, residential instability, etc.) and economic deprivation also experience higher rates of overall homicides (Morenoff et al. 2001; Sampson et al. 1997; Crutchfield et al. 1982; Sampson 1987). Despite this knowledge, voids remain in the literature as to the effect social structure has on specific types of homicides. One group of homicides that has often evaded analyses at the macro level is family homicide. Indeed, with exception of intimate partner homicides, the effect of social structure on these types of murders has seldom been explored. Most studies in this area focus on situational and individual-level characteristics of incident, victims, and offenders. The dearth of knowledge is not due to lack of interest, but lack of incidents. Family homicides are rare, and thus do not have the number of incidents necessary for examination with robust quantitative analytic methods. Nonetheless, these types of murders are very important to study, not only because doing so might shed light on the links made to the economy by some media outlets and academics (Skipp and Campo-Flores 2010; Singletary 2008; Rodriguez 2009; Rucker 2009; Rosenfeld 2009; Friedman and Friedman 2010), but also because such inquiry may increase understanding of homicides generally and may contribute to the development of more effective prevention strategies.

This study is designed to address the aforementioned gaps in the literature by examining the covariates of family homicides in cities throughout the United States. For purpose of this inquiry, family homicide refers to a broad range of murders, each of which is committed by a family member of the victim. This study centers on intimate partner homicides (particularly those that involve married and common-law couples), filicide (including infanticide and neonaticide), parricide (which constitute matricide and patricide), and siblicide (made up of fratricide and

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C. Diem · J. M. Pizarro (✉)  
School of Criminal Justice,  
Michigan State University,  
522 Baker Hall,  
East Lansing, MI 48824-1118, USA  
e-mail: pizarros@msu.edu

soricide). We employ data from the Supplementary Homicide Reports (SHR) for the years of 2000 and 2007 and the United States 2000 Decennial Census, while focusing on disentangling the effect of social structure (i.e., economic deprivation and social disorganization) on family homicides disaggregated by type.

### Family Homicides: What We Know

The term family homicide is used to reference incidents that involve two family members as victim and perpetrator. It broadly encompasses multiple types of incidents such as the murder of a parent by an offspring (i.e., parricide), the murder of an offspring by a parent (filicide), the murder of a sibling (sibicide), and the murder of a spouse (intimate partner homicide). The literature available on family homicide is limited, mostly due to the low prevalence rate of the type of homicide. The few studies in this area often cite abuse as a common factor in many family homicides, whether it is abuse by the parent that encourages a child to kill for protection of themselves or other family members, or recurring abuse that eventually ends in murder of the abuser. The following subsections provide a brief discussion of the main research findings of studies that have examined the factors that lead to the occurrence of intimate partner homicide, filicide, parricide, and sibicide.

#### Intimate Partner Homicide

Most studies that have examined family homicides have focused on intimate partner homicides (IPH). These types of homicides are often gender specific, with men committing the majority of the offenses and females being the victims (Websdale 1999). IPHs are often the culmination of previous abuse in the household or sexual jealousy (Websdale 1999). The motives appear to vary based on the gender of the offender. Research has shown that women who commit an IPH are more likely to act in response to fear for their safety (Kruttschnitt et al. 2002; Websdale 1999). Specifically, they are abused by their intimate partners, feel helpless and trapped, and as a result resort to homicide in order to end the abusive relationship. Male IPH offenders, on the other hand, are more likely to commit the crime due to sexual jealousy and male proprietariness (Daly and Wilson 1988; Websdale 1999; Wilson and Daly 1993)

*IPH and Social Structure* Studies have found that economically disadvantaged and socially disorganized neighborhoods and cities have higher rates of IPH than neighborhoods not similarly disadvantaged (Miles-Doan 1998; Straus et al. 1980). Some scholars posit that this is

because economically disadvantaged areas have lower levels of social support offered to abused women (Browning 2002). Geographic areas with high economic deprivation may not have the tax base necessary to establish programs that can help women leave abusive relationships, or that help modify the behaviors of potential offenders. Similarly, victims in disorganized areas may experience a lack of both informal support (telling friends about violence) and formal support (access to domestic violence shelters). Residents may also be more hesitant to report incidents of abuse due to lack of social capital and/or trust in law enforcement. As a result, women who do not have the resources, both formal and informal, to leave abusive relationships, increase the likelihood they will be killed by an intimate partner or act out in self-defense against their attackers because they perceive few options otherwise.

#### Filicide

Filicide is the killing of a child by a parent (Palermo 2002). This crime includes infanticide and neonaticide. The bulk, if not all, of research examining filicide has concentrated on the micro level characteristics of these homicides. Despite this, micro level research suggests that, similar to IPH, economic disadvantage is related to occurrence of this type of homicide. Friedman et al. (2005) found in their review of thirty-nine studies of filicide and neonaticide that women who perpetrate these types of murders are often economically disadvantaged. According to their study women who commit neonaticides are on average in their late teens, of low socioeconomic status, unmarried, and live with their parents or other authority figures. Similarly, women who commit filicide are on average in their low 20s and unemployed.

The bulk of research on the causes of this crime has focused on incidents perpetrated by females. The studies that have examined differences in gender patterns suggest that males and females engage in this type of homicide for different reasons. Research suggests that men who perpetrate these murders often do so to exert their power over their family, while women who murder their children are acting out of helplessness and fear of continued abuse, fear of failing as a mother, or psychiatric episodes (Harris et al. 2006; Schwartz and Isser 2007). Oberman and Meyer (2008) found that women who murdered their children were victims of abuse or neglect themselves, whether in their childhood or by their significant others. Other explanations involve psychiatric episodes such as postpartum depression and Munchausen syndrome by proxy (Wilczynski 1997; Schwartz and Isser 2007; Firstman and Talan 1997).

## Parricide

Parricide is the murder of a parent by an offspring or stepchild. Parricides include patricides, when the father or stepfather of the assailant is the victim, and matricides, when the mother or stepmother of the assailant is the victim. Parricides are often, if not always, examined at the individual level; hence, the effect social structure has on these incidents is currently unknown. Heide and Petee (2007) found in their study that patricides make up the bulk of these incidents (Fox et al. 2005). Existing research suggests that prior child abuse is a common cause, followed by mental illness, and antisocial behaviors (Heide 1992). Physical abuse is usually committed at the hands of the fathers or stepfathers, which explains why most parricides are patricides (Ewing 1997). Mental illness is another proposed cause of parricide. Case studies show that many perpetrators suffer from severe depression, paranoid schizophrenia, and other illnesses. Lastly, some scholars have found a relationship with antisocial personalities. These offenders still suffer from low self-esteem, frequent contact with the criminal justice system, seemingly lack of ethics, or lack a feeling of belonging in social occasions (Ewing 1997).

Disaggregated analyses of incidents of parricides suggest that the motives vary based on the type of parricide. Ewing (1997) found that patricides are often motivated by severe physical abuse, while matricides are often motivated by previous psychological abuse of the child, and sometimes overt or covert sexual abuse (Heide 1992). Incident motive also appears to be dependent on the age of the perpetrator since adult perpetrators (i.e., those above 18 years of age) are more likely to suffer from mental illnesses in comparison with juvenile offenders (Marleau et al. 2006).

## Siblicide

Siblicide is the killing of one sibling by another, and includes sororicide (the killing of one's sister) and fratricide (the killing of one's brother). These incidents are one of the rarest types of family homicides. According to Underwood and Patch (1999), siblicides only accounted for approximately 1.12% of all homicides for the years of 1991–1995 in the United States. Due to the scarcity of incidents, these homicides are understudied, and to date the macro level correlates of this crime are unknown. The few studies in this area suggest that these murders are often the result of sibling rivalry, stress, unresolved conflicts, mental illness, and alcohol/other substance abuse (Ewing 1997). Although competition occurs in most sibling relationships, the majority of these rivalries subside as the children grow into adulthood and move out of their parents' homes. Many instances of sibling homicide are characterized by adult

siblings still living together in an environment in which the competition between intensified. This competition may be for things such as parental attention, status, or power (Ewing 1997). Stressors such as unemployment or substance abuse are also risk factors for siblicide (Ewing 1997).

## The Importance of Social Structure

There is an abundance of research that focuses on the effect of social structure on homicide rates within geographic units (see Pridemore 2002). Overall, this body of research has demonstrated that socially disorganized and economically disadvantaged areas have higher rates of homicide rates than social organized, economically well-off places. There are two general explanations for this pattern. First, some criminologists posit that socially disorganized cities and communities have weak informal social control networks. As a result, the community structure loses its ability to control residents and weakened informal social control mechanisms (collective efficacy) may result in violence going unmonitored. Low levels of informal social control emanates from factors such as economic deprivation, broken families, high residential turnover, and high population density (Sampson and Groves 1989; Shaw and McKay 1942). Economic deprivation inhibits the foundation and work of social organizations that provide formal and informal social control (Sampson 1995).

Extreme economic deprivation also impedes the ability of communities to sustain basic institutional structures that connect individuals to positive roles within society (Peterson et al. 2000). Family disruption contributes to levels of social disorganization by decreasing community networks, such as participation in voluntary organizations and local affairs of informal social control, and by inhibiting the informal social control of youths (Sampson and Groves 1989). High residential turnover may contribute to social disorganization by decreasing the ability of neighborhoods to control its citizens due to lack of social bonds among residents (Bursik and Grasmick 1993). Along this same line, Hunter (1985) hypothesized that mechanisms of social control in neighborhoods emerge slowly through interactions among the residents over time. Therefore, the greater the level of residential instability that exists in a neighborhood the less likely it is that such networks will emerge among residents. Furthermore, Bursik and Grasmick (1993) indicate that if the residents hope to leave their communities, institutions pertaining to internal control are difficult to establish because the residents are uninterested. Finally, population density and size are related to high homicide rates via social disorganization because they decrease

community integration and hinder surveillance mechanisms in neighborhoods (Sampson and Groves 1989).

Other criminologists posit that economic deprivation in itself contributes to homicide rates by increasing strain in communities as well as diminishing the ability of institutions of social control. Previous research suggests that economic disadvantage may also create an environment in which violence and aggression are accepted (Browning 2002; Sampson and Wilson 1995). Concentrated disadvantage not only deprives geographic areas of institutions of social control, but also increases social isolation among residents because as job opportunities flee the geographic area so do the “better off” residents, leaving behind the most economically deprived in the communities (Sampson and Wilson 1995; Wilson 1996). This in turn leads residents of these areas to adopt cultural mechanisms to enable their survival, which include aggressive behavior (Anderson 1999; Sampson and Wilson 1995; Wilson 1996). As more people adapt to violent/aggressive strategies, violence in these neighborhoods rises, leading residents to adopt behavior that is even more violent, which can result in the victimization of family members.

These theoretical assumptions have found ample support in the literature. Measures of economic status have shown a relatively consistent positive significant relationship with homicide rates within geographic areas (Almgren et al. 1998; Crutchfield 1989; Cubbin et al. 2000; Hsieh and Pugh 1993; Kovandzic et al. 1998; Lee 2000; Matthews et al. 2001; Shihadeh and Ousey 1998; Williams 1984). Sampson and Lauritsen (1994: 163) assert that “almost without exception, studies of violence find a positive and usually large correlation between measures of area poverty and violence, especially homicide.” Two of the numerous studies that have demonstrated a positive relationship between homicide and measures of poverty, are Land and colleagues’ 1990 seminal study and Titterington and colleagues’ more recent 2003 study. Land et al. (1990) analyses of the structural covariates of homicides showed that measures of poverty were consistently positively related with homicides across units of analysis (e.g., Standard Metropolitan Statistical Areas, cities, and states) and across different time-periods (e.g., the 1960s, 1970s, and 1980s). More recently, Titterington et al.’s (2003) study corroborated the findings of Land et al. Similar to Land et al. (1990), they found that homicide rates were higher in areas experiencing high poverty and disadvantage.

Measures of family disruption, residential instability, population density, and ethnic heterogeneity have also ample support in the literature. Land et al. (1990) found that family disruption, measured as the percentage of children living with only one parent, has a strong relationship with homicides regardless of the geographic unit of analysis. In terms of residential instability, Morenoff

and Sampson (1997) found that population turnover is positively related to homicides. Land et al. (1990) also found a positive significant relationship between population size and density and homicide rates. Specifically, they found that that population structure, measured as the unit population size and density, have a strong positive invariant effect on homicide rates. Research examining ethnic heterogeneity, however, have found less consistent results. Most studies that examine ethnic heterogeneity tend to measure this variable as the percentage of non-white or African Americans in geographic areas. Pratt and Cullen (2005) found in a meta-analysis of macro-level predictors of crime that racial heterogeneity, when measured as the percent of the population that is not Caucasian or the percent of blacks, is one of the strongest and most stable macro-level indicator of crime. Numerous studies corroborate these findings by showing a strong positive relationship between percentage of black or non-white residents in geographic areas and homicide rates (Block 1979; Fowles and Merva 1996; Kposowa et al. 1995; Kovandzic et al. 1998; Messner and Tardiff 1986; Patterson 1991; Roncek 1981; Sampson 1985; Shihadeh and Flynn 1996).

Although research has confirmed that social structure is related to overall homicide trends it is still necessary to examine whether the effect is present in specific types of disaggregated incidents. Research evidence suggests that social structural factors may have a different effect on varying types of homicides because the etiology of this crime varies greatly depending on the precipitating factors that lead to the event (Flewelling and Williams 1999). For example, Avakame’s (1998) findings suggest that the principal predictor of stranger homicides is social disorganization, while gender inequality is the dominant predictor of intimate homicides. Research also suggests that social structure is related to intimate partner homicides; however, the effect is not as robust as with other types of homicides. One possible reason for this is that collective supervision, which is a key variable in social structural theories (primarily social disorganization) may not extend into the “private” area in which domestic violence occurs (Browning 2002). Consequently, it is imperative to further examine this issue. As it was previously mentioned, very little research has focused on untangling the relationship between social structure and other rarer types of family homicides (i.e., filicide, parricide, and siblicide). Based on the few research in the area (as exemplified in the previous section of this article) one can assume that social structure may impact rates of distinct types of family homicides differently particularly because these types of homicides appear to be more precipitated by micro factors instead of macro. Nonetheless, it is imperative to examine how direct and robust the relationship is between social structure and these types of homicides.

## Purpose of Study

The goal of this study is to examine whether social structure significantly affects occurrence of family homicides. Research on overall homicides indicates that social structure indeed has an effect on occurrence of this crime. The literature indicates that homicides are more likely to occur in economically disadvantaged and socially disorganized areas. Based on this robust finding, one can assume that social structural factors may also influence the occurrence of family homicides. Based on what is currently known about these homicides, however, one can also assume that the relationship between social structure and these incidents may be more indirect and not as robust as with other types of murders.

This study explores the effect of social structure on family homicides as a whole as well as disaggregated family homicide types (i.e., IPH, filicide, parricide, and siblicide). A data disaggregation method is employed because some criminologists have found that the effect of social structure may vary based on homicide type (Kubrin 2003; Pizarro and McGloin 2006). Two research questions are explored. The first research question asks: *Does economic deprivation matter in the explanation of family homicides?* That is, are family homicides more likely to occur in cities with high rates of economic disadvantage, and does the effect vary by family homicide type? Based on previous homicide research we hypothesize economic disadvantage indeed has an effect on these types of homicides. That is, economic deprivation has a significant positive effect on the family homicide rates. We hypothesize, however, that this effect may vary based on family homicide type. The second research question centers on the effect of social disorganization on the prevalence rate of family homicides in cities. Specifically we ask: *Does social disorganization matter in the explanation of family homicides, and does the effect vary by family homicide type?* Similar to our first hypothesis, we hypothesize that social disorganization may result in higher rates of family homicides because social disorganization diminishes the effect and function of institutions of informal social control. This effect; however, may vary based on family homicide type.

## Data & Methods

### Unit of Analysis

Homicide studies often employ county-level variables to assess structural differences in homicide rates. County-level analysis masks significant socio-demographic and crime variation within county. A county might include urban cities largely comprised of economically deprived minorities and

predominately Caucasian low poverty suburban municipalities. Grouping these municipalities together as if they are one may result in aggregation bias if the relationship of interest is systematically different in municipalities within the county (Hammond 1973). Consequently, cities, the smallest spatial unit for which homicide data are publically available via the Supplementary Homicide Report, are employed as the unit of analyses.

Cities with a population of one-hundred thousand or more residents as reported by the United States 2000 Census Bureau<sup>1</sup> that reported homicide data to the Supplementary Homicide Report for the years of 2000–2007 are the unit of analyses for this study.<sup>2</sup> In total, two hundred and thirty-five cities, which jointly had approximately sixty-three thousand homicide incidents during the study period were examined. The average homicide rate per one-hundred thousand citizens for these cities for the years of the study period was 8.75 with a minimum of .11 (in Amherst Town, NY) and a maximum of 56.08 (in Gary, IN).

### Dependent Variables

Due to the unit of analysis being a geographic space (i.e., cities), homicide rates per one-hundred thousand citizens

<sup>1</sup> One reviewer asked whether we employed an average population estimate for the years of 2000–2007 or if we only relied on 2000 census data. As indicated in the text we employed 2000 Census population data. In order to ensure the validity of this approach, we conducted two tests. First, we calculated the average population for each city for the years of 2000–2007. This examination confirmed the cities included in the analyses. It is important to note, however, that ten of the cities averaged slightly under one-hundred thousand residents (i.e., some cities averaged from ninety-eight to one-hundred thousand). Due to slight difference we decided against excluding these cities. Second, we calculated population density with the average population, and reran the regression analyses with this measure. In both sets of tests, the results were consistent with those presented here-in, and thus we present our OLS regression results on the various homicide rates for parsimony and consistency with the other Census variables employed in the study.

<sup>2</sup> It is important to note that the bulk of social disorganization research has been conducted with smaller units of analyses (i.e., census tracts and neighborhoods). There have been studies; however, that test this construct in larger units such as cities, counties, and standard statistical areas (i.e., Beaulieu and Messner 2010 [examined cities]; McCall and Nieuwebeerta 2007 [examined cities]; Land et al. 1990 [examined cities, counties, and standard statistical areas]; Melde 2006 [examined counties]; Oh 2005 [examined cities]; Osgood and Chambers 2000 [examined counties]). This study models its methods on the aforementioned studies. The reason for this is twofold. First, the Supplementary Homicide Report (SHR) does not report homicide data for geographic units smaller than cities. Second, family homicides are extremely rare. Therefore, employing smaller units would not yield the necessary cases to conduct an analysis of this type. Nonetheless, it is important to note that employing cities and other bigger geographic units in the testing of social disorganization constructs poses the threat of not remaining theoretically “true” to the original assumptions posed by Shaw and McKay (1942).

calculated from the Uniform Crime Report's Supplementary Homicide Report (SHR) are the dependent variables for this study. Five homicide rates were computed: *overall family homicide* rate, *IPH* rate, *filicide* rate, *parricide* rate, and *sibicide* rate for each city. Table 1 contains a brief description of the dependent variables. Because the analyses focus on the years of 2000–2007, a homicide rate was created for each year. We then computed the average homicide rate for each city for the years of 2000–2007. As expected, rates for these homicides are very low when compared to the average overall rate for all incidents. The average homicide rate for all family homicides during the study period was less than one incident (i.e., .65) per one-hundred thousand citizens. Ten of the cities did not have any family homicides during the study period, and thus, had a rate of zero. Louisville-Metro, Kentucky had the highest family homicide rate with a rate of approximately 3.3 incidents per one hundred thousand residents. Rates for disaggregated family homicide types are even smaller.

The dataset consists of 1,692 intimate partner homicide cases. The mean IPH rate during the study period was .28 per one hundred thousand residents. Twenty-five of the cities in the study did not experience an IPH during the study period, and Woodbridge, NJ had the highest rate with a rate of 1.35 incidents. In terms of filicide, the data consists of 1,350 incidents, with a mean average rate of .22 per one hundred thousand residents. Thirty-nine of the two hundred and thirty-five cities in the study did not have any filicides during the study period, while Louisville, Kentucky had the highest rate with 1.59 filicides per one hundred thousand citizens.

When compared to IPH and filicide parricides are very rare. Indeed, the dataset consists of only 531 parricide cases, and the average rate is .09. Seventy-three of the cities analyzed did not have any parricides during the study period. Jackson, Mississippi had the highest parricide rate (.54).

Sibicides are the rarest type of family homicide when compared to IPH, filicide, and parricide. During the study period only 334 sibicides occurred in the two hundred thirty-five cities studied. Over half of the cities did not have any sibicide incidents. Gary, Indiana had the highest sibicide rate (.97). The mean average sibicide rate during the study period was .05 incidents per hundred thousand population.

### Independent Variables

Consistent with prior research (Land et al. 1990), variables measured at the city level from the United States 2000 Census File SF 3 were employed. Table 1 contains a description of these variables as well as the mean and standard deviations. The socio-structural variables are

comprised of two major theoretical concepts: economic deprivation and social disorganization.

Components of each variable were selected based on prior research, and each was validated using principal components factor analysis.<sup>3</sup> Factor loadings can be found in Table 2. Each structural variable is a standardized factor score created from the component variables, and thus has a mean of 0.0 and standard deviation of 1.0. *Economic deprivation* was created using seven variables that have often been employed in these types of analyses by criminologists (e.g., Land et al. 1990; Pridemore 2002): median family income; percent of families living below the poverty line; percent of population receiving public assistance; percent female headed households with children under eighteen years of age; percent of adults unemployed; percent of population that is non-white; and percent of adults without a high school diploma. Social disorganization is comprised of three variables: percent homeowners; percent of citizens who were not born in the U.S.; and population density. Percent homeowners was used to measure the mobility of residents throughout the city. It is assumed, that individuals are least likely to move if they have a stake in the community, such as a home. Percent of citizens who were not born in the United States was included in the factor variable in order to measure one of the original social disorganization variables—ethnic heterogeneity.<sup>4</sup>

<sup>3</sup> A multi-step approach was utilized when creating the components in order to ensure they are independent from each other. First, a factor analysis of all the theoretical relevant independent variables measuring social structure (see Table 1) included in the component matrix was employed. The results are available in appendix. The second step, involved selecting the variables in each component that had a factor score of .700 or more (see Kim and Mueller 1978). As seen in Appendix seven variables fit this criterion. In order to confirm the findings of the first component we reran the factor analyses with these variables. We also included in this analysis the % homeowner variable because it almost met the criteria with a factor loading of  $-.640$ . The results of this analyses yielded similar results from those presented in the table above (i.e., all of the variables with the exception of % home owner had factor loading above .700—% home owner had a factor loading of  $-.599$ ). As result, we excluded % homeowner from the component and based our economic deprivation measure on the seven variables presented in Table 2. We then reran the factor analyses with only the three variables not included in the first component (i.e., % homeowner, % foreign born, and population density). When examined separately these variables yielded factor loading over .700 (See Table 2). As result, we used these variables to create our second component—social disorganization.

<sup>4</sup> Shaw and McKay (1942) originally posited that communities with high number of immigrants from different countries could be related to high crime rates due to culture conflict through the inability of immigrants to communicate with one another in order to deal with community problems due to language barriers. This notion has recently been debunked with new research that shows a negative relationship between immigration and crime (Stowell et al. 2009).

**Table 1** Dependent and independent variable descriptions, means, and standard deviations

Variable	Description	Mean	Standard deviation
<b>Dependent Variables</b>			
Total Homicides	Homicide rate from 2000–2007 (SHR Data)	8.76	8.67
Family Homicides	Rate of total family homicides from 2000–2007 (SHR Data)	0.65	0.44
IPH	Rate of spouses that murdered each other from 2000–2007 (SHR Data)	0.28	0.22
Filicides	Rate of parents that murdered their children from 2000–2007 (SHR Data)	0.23	0.18
Parricides	Rate of children that murdered their parents from 2000–2007 (SHR Data)	0.09	0.09
Siblicides	Rate of siblings that murdered each other from 2000–2007 (SHR Data)	0.05	0.09
<b>Independent Variables</b>			
Median Family Income	Median family income in 1999 from 2000 US Census data	49419.62	12813.45
Percent Families in Poverty	Families with income below the federal poverty line from 2000 Census data	0.11	0.06
Percent Population with Public Assistance	Percent of population receiving public assistance from 2000 Census data	0.05	0.03
Percent Female Headed Households	Percent of female headed households with children under the age of 18 from the 2000 US Census data	0.14	0.05
Percent Unemployed	Percent of people, age 16 and over, who are in the work force but unemployed from the 2000 US Census data	0.04	0.01
Percent Non-white	Percent of the population who are non-white from the 2000 US Census data	0.46	0.21
Percent Without HS Diploma	Percent of adults without a high school diploma from the 2000 US Census data	0.21	0.09
Percent Homeowners	Percent of adults who owned homes from the 2000 US Census data	55.91	10.84
Percent Foreign-Born Citizens	Percent of the population born in foreign countries and outside of the United States from the 2000 US Census data	0.17	0.12
Population Density	People per square mile using data from the 2000 US Census	4236.82	3444.253

## Results

Similar to the analytic approach used by Land et al. (1990), Ordinary Least Squares Regression (OLS) was employed to answer the research questions.<sup>5</sup> Table 3 contains the regression results. Separate models were estimated for overall and disaggregated family homicide types. For the purpose of comparison the first model

<sup>5</sup> One reviewer appropriately pointed out that some of the outcome measures examined here had more ‘zero incidents’ (i.e., no specific types of homicides), which has the potential to skew the outcome variables modeled. This would make OLS regression susceptible to the skewed distribution and would have the potential to bias our estimates (see Long 1997). Consistent with the approach presented by Osgood (2000) dealing with the same situation (i.e., aggregate crime rates), we performed a two-step process to test for this issue. First, we re-estimated our OLS models using logged dependent variables. Second, we conducted count regression models, which specifically tests for an overdispersed outcome with a probability chi-square distribution. In four of the six models, the  $p$  value  $>.05$ , which indicated the outcome variable did not suffer from overdispersion (Long and Freese 2003: 269–70). When the distribution was not skewed, we used Poisson regression, and when it was skewed we used Negative Binomial estimation. In both sets of tests, the results were consistent with those presented here-in, and thus we present our OLS regression results on the various homicide rates for parsimony and consistency with prior research.

estimated focuses on the effect on social disorganization and economic deprivation has on overall homicide rates. Next, five models were estimated: one for overall family homicides and four for each disaggregated homicide type. This strategy was used in order to test the effect social disorganization and economic deprivation has on these incidents.

Consistent with prior research the model testing the effect of economic deprivation and social disorganization on overall homicide rates is significant. The model shows that social structure explains approximately 46% of the variation in homicide rates across the cities being studied. As expected, as economic deprivation increases so does the homicide rate. Contrary to our hypothesis, however, social disorganization has a negative relationship with overall homicide rate. That is, as social disorganization (i.e., percentage foreign born, population density, and percentage homeowners) increases, homicides decrease.

Results also show a relationship between social disorganization, economic deprivation, and aggregated family homicides. Interestingly, although the relationship is positive, the variation explained in these models decreases by nearly half. As shown in Table 3 social structure explains only approximately 22.3% of overall

**Table 2** Factor loadings of structural variables

Variable	Economic deprivation	Social disorganization
Median income	-.861	
% below poverty	.959	
% pub assist	.881	
% single female hhlds	.810	
% unemployed	.897	
% non-white	.726	
% adults without high school diploma	.820	
% home owners		-.758
% foreign born		.804
Pop density		.899
% explained variation	72.8	67.6

family homicides suggesting that other factors not included in the model also play an important role in the occurrence of these murders. Direction of the relationship between family homicide and social disorganization and economic deprivation is similar to that of overall homicide rates. However, the magnitude of the coefficients of the two independent variables decreases. This pattern is also evident with each of the disaggregated family homicide models. Specifically, social structure only explains 10.2% of the IPH variation, 17.1% of the filicide variation, 10.1% of the parricide variation, and 14.4% of the variation in siblicide. Economic deprivation had a stronger effect on IPH and filicide incidents. Specifically with every one unit increase in economic deprivation, IPHs increased by .071 ( $p < .000$ ) and filicides by .079 ( $p < .000$ ). A similar pattern emerged with the effect of social disorganization. Effects of economic deprivation and social disorganization on parricides and siblicides are miniscule even though they reach a level of significance. Parricides only increase by .030 ( $p < .000$ ) for every unit increase in economic deprivation, and social disorganization does not reach a level of significance. Similarly, the beta coefficient for the effect of economic deprivation on siblicide is .038 ( $p < .000$ ) indicating that the effect although significant, is small. Unlike parricide, social disorganization is significant in this model; however, the relationship is also very small ( $-.021, p = .001$ ).

In sum, our hypotheses received partial support since economic deprivation and social disorganization indeed are related with the occurrence of these specific forms of family homicide. The effect, however, does not vary much by family homicide type. The findings show a relationship between family homicide, economic disadvantage, and social disorganization, which is supported by empirical research. As indicated in the findings, however, the coefficients are not as robust as expected. Additionally, the relationship between these homicides and social

disorganization variables is in the opposite direction than what was hypothesized.<sup>6</sup>

### Discussion of Findings

Lack of current information regarding the relationship between social structure and family homicide types necessitates the analysis of such data. To this end, this study focused on economic deprivation and social disorganization, both of which we hypothesized would be positively related with family homicide. The findings show that increases in economic deprivation are associated with higher rates of family homicides as a whole, and disaggregated types. The relationship is not as robust as some (Skipp and Campo-Flores 2010; Singletary 2008; “California Dad,” 2009; Rodriguez 2009; Rucker 2009; Rosenfeld 2009; Friedman and Friedman 2010) suggest, however economic deprivation is related to family homicides as it similarly is to overall homicides. Its relationship, however, is not strong, suggesting that other factors come into play in the transactions that lead to these types of murders. As indicated in the literature review, family homicides are linked to micro-level processes such as mental illness. This should not be taken to mean that the relationship is not important. Economic deprivation may have more of an indirect relationship with family homicides through its impact on the deterioration of mental and overall health

<sup>6</sup> In order to shed some light into this unexpected finding we re-estimated the models testing each of the social disorganization variables independently from each other. The independent regression analyses suggest that the negative effect with social disorganization is being driven by the percentage foreign born variable. Percent foreign born had a significant negative relationship in all, but one, of the models we estimated (i.e., total homicides, total family homicides, IPH, filicide, and siblicide). Population density, on the other hand did not reach significance in of the models, and percent homeowners was only significant in the total homicide model.



**Table 3** OLS results

Variable	B	S.E.	$\beta$	B	S.E.	$\beta$	B	S.E.	$\beta$
	Total Homicides			Family Homicides			Intimate Partner Homicides		
Constant	8.713	0.411		0.658	0.026		0.282	0.014	
Economic Deprivation	6.256	0.453	0.732***	0.219	0.028	0.492***	0.071	0.015	0.322***
Social Disorganization	-1.885	0.448	-0.223***	-0.144	0.028	-0.327***	-0.053	0.015	-0.244***
R <sup>2</sup>	0.458			0.223			0.102		
	Filicides			Parricides			Siblicides		
Constant	0.228	0.011		0.092	0.005		0.054	0.006	
Economic Deprivation	0.079	0.012	0.421***	0.03	0.006	0.345***	0.038	0.006	0.406***
Social Disorganization	-0.058	0.012	-0.313***	-0.011	0.006	-0.124	-0.021	0.006	-0.230***
R <sup>2</sup>	0.171			0.101			0.144		

\* $p \leq .05$ ; \*\* $p \leq .01$ ; \*\*\* $p \leq .001$

services in communities. For example, communities that lack economic resources may also lack formal social and medical support (e.g., services that provide mental health counseling for mothers suffering from post partum depression or children who have been abused by their parents) for their citizens that can reduce these homicides. Coupled with the issue of lack of services is that individuals in economically depressed areas may also lack health insurance, and thus, are unable to seek professional help. These geographic areas may also lack resources such as battered woman shelters and counseling for batterers. Additionally, as mentioned previously, economic deprivation may also contribute towards the development of violent subcultures, which could translate into more violence in the home.

In terms of social disorganization, our findings show a significant relationship with family homicides, but the relationship was not as expected. Contrary to our hypothesis, total homicides and family homicides showed a negative relationship with social disorganization. As social disorganization increases, most types of family homicides (in addition to total homicides) decrease. This finding is a product of the inclusion of the Percent foreign-born variable. Although the findings appear surprising in the outset they are consistent with recent research (Stowell et al. 2009), which have shown that immigration levels in communities are related to low crime rates. According to Sampson (2006), a possible reason for this is that many immigrant communities, particularly those dominated by Hispanics, have strong family values. In addition, Hispanics are often cohesive and socially support each other, which in turn leads to an increase in the collective efficacy in the communities where they reside.

Results of this study have implications for both theory and policy. Theoretically, this study joins others (Stowell et al. 2009; Sampson and Bean 2006) in suggesting the variables set forth by the original formulations of social disorganization may no longer have the same relationship

with crime rates. As a result, this study further confirms the need to reassess social disorganization theory. In doing this, future studies should also take into account the effect economic deprivation has on the social disorganization or organization of geographic areas. Poverty and economic disadvantage may indeed be one of the more significant determinants of social organization.

In terms of policy, the results of this study show that economic deprivation is indeed related with family homicide rates. Lawmakers and social institutions need to consider this, especially in a time of financial crisis. While the findings in this study were significant, the effect of economic deprivation is small, suggesting that the relationship may be more indirect. Economic deprivation and social disorganization, coupled with other possible factors (e.g., mental health), may actually have more robust relationship with family homicide rates. As such, practitioners can use these findings in the development of services, such as providing mental health services, in areas where the downfall of the economy has hit the hardest. Services may include increasing public assistance so that anger, frustration, and competition do not build among family members, which can ultimately lead to homicide. Services should also focus on aiding individuals to deal with mental health issues.

**Conclusion**

This study attempted to shed light into the links between family homicides and social structure. Our findings show that there is indeed reason to be concerned about the relationship between the economy and family homicides; however, it is not something that should lead to a moral panic. Due to low prevalence of family homicides, our findings should be interpreted with caution. While homicides in general are rare phenomena, disaggregating this

crime into types of family homicides creates even less incidents to study, which can lead to problems when analyzing these data with robust quantitative methods. Additionally, this study only examined data from cities with populations of 100,000 or more, which excluded all family homicide events that may have occurred in rural areas. Family homicides in rural areas may be vastly different from those in urban areas, which may alter the analysis conducted here. Further research may look at combining both urban and rural areas, as well as taking a longitudinal look at family homicides.

The lack of family homicide incidents should not dissuade researchers from tackling this important crime. This study suggests that economic deprivation *may* have an indirect causal effect on rates of family homicides. Consequently, future research should explore the mechanisms by which social structure impact the occurrence of this crime. In doing so, future studies should examine incidents of family violence in geographic areas with a large percentage of foreign born population, in order to better understand the dynamics that lead to fewer homicides in these communities. Researchers should also

examine how the presence of social support and medical services affect the prevalence of these incidents in geographic areas. That is, do the presence of mental health providers that cater to individuals at-risk of committing these types of murders decrease the rates of these homicides? Along this line, there is also a need for the retrospective examination of whether individuals who engage in these types of homicides had access to social support services prior to the incident. With the vast amount of existing literature that cites mental health as being a precursor to family homicide, empirical data supporting such a claim would be extremely useful. In addition, since much of the literature focuses on previous abuse (e.g., Kruttschnitt et al. 2002; Websdale 1999; Harris et al. 2006; Schwartz and Isser 2007; Oberman and Meyer 2008; Heide 1992), research examining the effects of abuse on family homicides would provide further support (or lack thereof) for such propositions. These types of study will shed further light into these very rare types of incidents, and provide more concrete analyses so that public officials can work to create policies that may successfully prevent their occurrence.

## Appendix

**Table 4** Factor loadings: all structural variables together

Variable	Component 1	Component 2
Median income	-.809	.425
% below poverty	.939	-.230
% pub assist	.873	-.057
% single female hhlds	.764	-.486
% unemployed	.867	-.238
% non-white	.757	.368
% adults without high school diploma	.837	.228
% home owners	-.640	-.228
% foreign born	.285	.918
Pop density	.461	.670
% explained variation	56.1	20.6

## References

- Almgren, G., Guest, A., Immerwahr, G., & Spittel, M. (1998). Joblessness, family disruption, and violent death in Chicago, 1970–1990. *Social Forces*, 76(4), 1465–1493.
- Anderson, E. (1999). *Code of the street: Decency, violence, and the moral life of the inner city*. New York, NY: W.W. Norton & Company.
- Avakame, E. F. (1998). How different is violence in the home? An examination of some correlates of stranger and intimate homicide. *Criminology*, 36(3), 601–632.
- Beaulieu, M., & Messner, S. F. (2010). assessing changes in the effect of divorce rates on homicide rates across large U.S. Cities, 1960–2000: revisiting the Chicago School. *Homicide Studies*, 14(1), 24–51.
- Block, R. (1979). Community, environment, and violent crime. *Criminology*, 17(1), 46–57.
- Browning, C. R. (2002). The span of collective efficacy: extending social disorganization theory to partner violence. *Journal of Marriage and the Family*, 64(4), 833–850.
- Bursik, R. J., & Grasmick, H. G. (1993). *Neighborhoods and crime: The dimensions of effective community control*. New York: Lexington Books.

- Crutchfield, R. D. (1989). Labor stratification and violent crime. *Social Forces*, 68(2), 489–512.
- Crutchfield, R. D., Geerken, M. R., & Gove, W. R. (1982). Crime rate and social integration: the impact of metropolitan mobility. *Criminology*, 20(3), 467–478.
- Cubbin, C., Pickle, L. W., & Fingerhut, L. (2000). Social context and geographic patterns of homicide among US black and white males. *American Journal of Public Health*, 90(4), 579–587.
- Daly, M., & Wilson, M. (1988). *Homicide*. New York: A. de Gruyter.
- Ewing, C. P. (1997). *Fatal families: The dynamics of intrafamilial homicide*. London: Sage.
- Firstman, R., & Talan, J. (1997). *The death of innocents*. New York: Bantam Books.
- Flewelling, R. L., & Williams, K. R. (1999). Categorizing homicides: The use of disaggregated data in homicide research. In M. D. Smith & M. A. Zahn (Eds.), *Homicide: A sourcebook of social research* (pp. 96–106). California: Sage.
- Fowles, R., & Merva, M. (1996). Wage inequality and criminal activity: an extreme bounds analysis for the United States, 1975–1990. *Criminology*, 34(2), 163–182.
- Fox, J. A., Levin, J., & Quinet, K. (2005). *The will to kill: Making sense of senseless murder* (2nd ed.). Boston: Pearson Education Group, Inc.
- Friedman, S. H., & Friedman, J. B. (2010). Parents who kill their children. *Pediatrics in Review*, 31(1), 10–16.
- Friedman, S. H., Horwitz, S. M., & Resnick, P. J. (2005). Child murder by mothers: a critical analysis of the current state of knowledge and a research agenda. *American Journal of Psychiatry*, 162(9), 1578–1587.
- Hammond, J. L. (1973). Two sources of error in ecological correlation. *American Sociological Review*, 38(6), 764–777.
- Harris, G. T., Hilton, Z., Rice, M. E., & Eke, A. K. (2006). Children killed by genetic parents versus stepparents. *Evolution and Human Behavior*, 28(2), 85–95.
- Heide, K. M. (1992). *Why kids kill parents*. Ohio: Ohio State University Press.
- Heide, K. M., & Petee, T. A. (2007). Parricide: an empirical analysis of 24 years of U.S. data. *Journal of Interpersonal Violence*, 22(11), 1382–1399.
- Hsieh, C. C., & Pugh, M. D. (1993). Poverty, income inequality, and violent crime: a meta-analysis of recent aggregated data studies. *Criminal Justice Review*, 18(2), 182–202.
- Hunter, A. J. (1985). Private, parochial, and public school orders: The problem of crime and incivility in urban communities. In G. D. Suttles & M. N. Zald (Eds.), *The challenges of social control: Citizenship and institution building in modern society* (pp. 230–242). New Jersey: Ablex.
- Kim, J., & Mueller, C. W. (1978). *Introduction to factor analysis: What it is and how to do it*. California: Sage.
- Kovandzic, T. V., Vieraitis, L. M., & Yeisley, M. R. (1998). The structural covariates of urban homicide: reassessing the impact of income inequality and poverty in the post-Reagan era. *Criminology*, 36(2), 569–599.
- Kposowa, A. J., Breault, K. D., & Harrison, B. M. (1995). Reassessing the structural covariates of violent and property crimes in the USA: a county analysis. *British Journal of Sociology*, 46(1), 79–105.
- Kruttschnitt, C., Gartner, R., & Ferraro, K. (2002). Womens involvement in serious interpersonal violence. *Aggression and Violent Behavior*, 7(6), 529–565.
- Kubrin, C. E. (2003). Structural covariates of homicide rates: does type of homicide matter? *Journal of Research in Crime and Delinquency*, 40(2), 139–170.
- Land, K. C., McCall, P. L., & Cohen, L. E. (1990). Structural covariates of homicide rates: are there any invariances across time and social space. *American Journal of Sociology*, 95(4), 922–963.
- Lee, M. R. (2000). Concentrated poverty, race, and homicide. *Sociological Quarterly*, 41(2), 189–206.
- Long, J. S. (1997). *Regression models for categorical and limited dependent variables. Volume 7 of Advanced Quantitative Techniques in the Social Sciences*. California: Sage.
- Long, J. S., & Freese, J. (2003). *Regression models for categorical dependent variables using STATA*. Texas: Stata.
- Marleau, J. D., Auclair, N., & Millaud, F. (2006). Comparisons of factors associated with parricide in adults and adolescents. *Journal of Family Violence*, 21(5), 321–325.
- Matthews, R. A., Maume, M. O., & Miller, W. J. (2001). Deindustrialization, economic distress, and homicide rates in midsized rustbelt cities. *Homicide Studies*, 5(2), 83–113.
- McCall, P. L., & Nieuwebeerta, P. (2007). Structural covariates of homicide rates: a European city cross-national comparative analysis. *Homicide Studies*, 11(3), 167–188.
- Melde, C. (2006). Social disorganization and violent crime in rural Appalachia. *Journal of Crime & Justice*, 29(2), 117–140.
- Messner, S. F., & Tardiff, K. (1986). Economic inequality and levels of homicide: an analysis of urban neighborhoods. *Criminology*, 24(2), 297–317.
- Miles-Doan, R. (1998). Violence between spouses and intimates: does neighborhood context matter? *Social Forces*, 77(2), 623–645.
- Morenoff, J. D., & Sampson, R. J. (1997). Violent crime and the spatial dynamics of neighborhood transition. *Social Forces*, 76(2), 623–645.
- Morenoff, J. D., Sampson, R. J., & Raudenbush, S. W. (2001). Neighborhood inequality, collective efficacy, and the spatial dynamics of urban violence. *Criminology*, 39(3), 73–102.
- Oberman, M., & Meyer, C. L. (2008). *When mothers kill*. New York: New York University Press.
- Oh, J. (2005). Social disorganization and crime rates in U.S. central cities: toward an explanation of urban economic change. *Social Science Journal*, 42(4), 569–582.
- Osgood, D. W. (2000). Poisson-based regression analysis of aggregate crime rates. *Journal of Quantitative Criminology*, 16(1), 21–43.
- Osgood, D. W., & Chambers, J. M. (2000). Social disorganization outside the metropolis: an analysis of rural youth violence. *Criminology*, 38(1), 81–115.
- Palermo, G. B. (2002). Murderous parents. *International Journal of Offender Therapy and Comparative Criminology*, 46(2), 123–143.
- Patterson, B. E. (1991). Poverty, income inequality, and community crime rates. *Criminology*, 29(4), 755–776.
- Peterson, R. D., Krivo, L. J., & Harris, M. A. (2000). Disadvantage and neighborhood violent crime: do local institutions matter? *Journal of Research in Crime and Delinquency*, 37(1), 31–63.
- Pizarro, J. M., & McGloin, J. M. (2006). Explaining gang homicides in Newark, NJ: collective behavior or social disorganization. *Journal of Criminal Justice*, 34(2), 195–207.
- Pratt, T. C., & Cullen, F. T. (2005). Assessing macro-level predictors and theories of crime: a meta-analysis. *Crime and Justice: A Review of Research*, 32(1), 373.
- Pridemore, W. A. (2002). What we know about social structure and homicide: a review of the theoretical and empirical literature. *Violence and Victims*, 17(2), 127–151.
- Rodriguez, B. (2009, March 26) Domestic violence kills 131 people in NC in '08. *USA Today*. Retrieved from [www.usatoday.com](http://www.usatoday.com).
- Roncek, D. (1981). Dangerous places: crime and residential environment. *Social Forces*, 60, 74–96.
- Rosenfeld, R. (2009). Crime is the problem: homicide, acquisitive crime, and economic conditions. *Journal of Quantitative Criminology*, 25, 287–306.
- Rucker, P. (2009, April 8). Some link economy with spate of killings. *The Washington Post*. Retrieved from [www.washingtonpost.com](http://www.washingtonpost.com).

- Sampson, R. J. (1985). Neighborhood and crime: the structural determinants of personal victimization. *Journal of Research in Crime and Delinquency*, 22(1), 17–40.
- Sampson, R. J. (1987). Urban black violence: the effect of male joblessness and family disruption. *American Journal of Sociology*, 93(2), 348–382.
- Sampson, R. J. (1995). The community. In J. Q. Wilson & J. Petersilia (Eds.), *Crime* (pp. 193–216). California: ICS.
- Sampson, R. J. (2006, March 11). Open doors don't invite criminals: Is increased immigration behind the drop in crime? *New York Times*. Retrieved from [www.nytimes.com](http://www.nytimes.com).
- Sampson, R. J., & Bean, L. (2006). Cultural mechanisms and killing fields: A revised theory of community-level racial inequality. In R. D. Peterson, L. Krivo, & J. Hagan (Eds.), *The many colors of crime: Inequalities of race, ethnicity and crime in America* (pp. 8–38). New York: New York University Press.
- Sampson, R. J., & Groves, W. B. (1989). Community structure and crime: testing social disorganization theory. *American Journal of Sociology*, 94(4), 774–802.
- Sampson, R. J., & Lauritsen, J. L. (1994). Violent victimization and offending: Individual-, situational-, and community level risk factors. In A. J. Reiss Jr. & A. Roth (Eds.), *Understanding and preventing violence: Social influences, vol. 3* (pp. 1–114). Washington: National Academy Press.
- Sampson, R. J., & Wilson, W. J. (1995). Toward a theory of race, crime, and urban inequality. In J. Hagan & R. D. Peterson (Eds.), *Crime and inequality* (pp. 37–54). California: Stanford University Press.
- Sampson, R. J., Raudenbush, S. W., & Earls, F. (1997). Neighborhoods and violent crime: a multilevel study of collective efficacy. *Science*, 277(5328), 127–157.
- Schwartz, L. L., & Isser, N. K. (2007). *Child homicide: Parents who kill*. Florida: Taylor & Francis Group.
- Shaw, C. R., & McKay, H. D. (1942). *Juvenile delinquency: A study of delinquency in relation to differential characteristics of local communities in American cities*. Illinois: The University of Chicago Press.
- Shihadeh, E. S., & Flynn, N. (1996). Segregation and crime: the effect of black social isolation on the rates of black urban violence. *Social Forces*, 74(4), 1325–1352.
- Shihadeh, E. S., & Ousey, G. C. (1998). Industrial restructuring and violence: the link between entry-level jobs, economic deprivation, and black and white homicide. *Social Forces*, 77(1), 729–751.
- Singletary, B. (2008, Oct. 10). Man murders family over economy. *The Reflector: The online student newspaper of Mississippi State University*. Retrieved from [media.www.reflector-online.com](http://media.www.reflector-online.com).
- Skipp, C., & Campo-Flores, A. (2010, Feb. 11). Inside the minds of family annihilators. *Newsweek*. Retrieved from [www.newsweek.com](http://www.newsweek.com).
- Stowell, J. L., Messner, S. F., McGreever, K. F., & Raffalovich, L. E. (2009). Immigration and the recent violent crime drop in the United States: a pooled, cross-sectional time-series analysis of metropolitan areas. *Criminology*, 47(3), 889–928.
- Straus, M. A., Gelles, R. A., & Steinmetz, S. K. (1980). *Behind closed doors: Violence in the American family*. New York: Doubleday.
- Titterton, V. B., Vollum, S., & Diamond, P. M. (2003). Neighborhoods and homicide: sex- and type-specific variations across three cities. *Homicide Studies*, 7(3), 263–288.
- Underwood, R. C., & Patch, P. C. (1999). Siblicide: a descriptive analysis of sibling homicide. *Homicide Studies*, 3(4), 333–348.
- Websdale, N. (1999). *Domestic homicide*. Boston: Northeastern University Press.
- Wilczynski, A. (1997). *Child homicide*. London: Greenwich Medical Media Ltd.
- Williams, K. R. (1984). Economic sources of homicide: reestimating the effects of poverty and inequality. *American Sociological Review*, 49(2), 283–289.
- Wilson, W. J. (1996). *When work disappears: The world of the new urban poor*. New York: Vintage Books, Random House.
- Wilson, M., & Daly, M. (1993). Spousal homicide risk and estrangement. *Violence and Victims*, 8(1), 3–16.