

Twenty Years of Rural and Urban Trends in Family and Intimate Partner Homicide

Does Place Matter?

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Descriptive analyses of the 1980 to 1999 FBI Supplementary Homicide Report data show that rates of family and intimate partner murder increased with rurality. Population-based rates for murders in general were higher in the most rural counties than in the most urban, but family and especially intimate partner murders were affected by population and proximity to a metropolitan area. For the entire 20-year period, rates for family and intimate partner murders declined regardless of place, whereas rates of intimate partner murders increased only with rurality. Possible explanatory variables are discussed and steps for future research are suggested.

Keywords: rural; family; intimate partner

Murders of family members and intimate partners differ from stranger and acquaintance murders in several important ways. First, community and legal responses to family and intimate partner murders are complicated by societal norms governing proper behavior among family members—wife to husband, child to parent, and so forth. Historically, unlike other types of unlawful violence that can lead to murder (Shortland & Straw, 1976), violence against women and children in the family was tacitly accepted (Sigler, 1989; I. M. Johnson & Sigler, 2000). For example, corporal punishment against children was (and is) condoned in the name

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of discipline (Gelles & Strauss, 1979; Gil, 1970; Greven, 1990; Milner & Crouch, 1999), and with respect to violence against women by their partners, the legal system was until recently loathe to intervene into what were considered private affairs within families and the male's prerogative to do whatever necessary to assert control over his household (Browne, 1987; Dobash & Dobash, 1979; Friedman & Schulman, 1990; Geberth, 1998; Gelles, 1999).

Second, unlike stranger or acquaintance murders, family and intimate partner murders are usually culminating events stemming from a pattern and practice of abuse (Websdale, 1999). Mercy and Saltzman (1989) found that the same demographic variables determine the risk of both fatal and nonfatal spousal abuse. Even in cases of murder of parents by children or of one sibling by another, abuse is typically part of the family dynamic (Ewing, 1997).

Third, some of the variables that research has linked to stranger and acquaintance murder do not apply to family and intimate partner murder. Peterson and Krivo (1993) showed that although racial segregation was a major factor in stranger and acquaintance murders of African Americans in cities (see also Parker & McCall, 1997), it fared poorly as a variable in explaining family and partner homicide, which were better explained by educational attainment, region, and the percentage of African American professionals in the community.

Fourth, there are differences in the gender breakdowns of victims and perpetrators. Although males are far more likely to be murdered by a stranger or acquaintance, women are at a far greater risk than men of being victims of intimate partner murder. From 1976 to 1996, intimate partner homicide accounted for 30% of female victims but only 6% of male victims (Greenfield et al., 1998). During the same time period, males accounted for more than 90% of the perpetrators of stranger and acquaintance murder; however, when women kill, it is usually within a family context (Browne, 1987; Bureau of Justice Statistics, 1994; Fox & Zawitz, 2001).

There is one additional factor about which little has been documented: mainly, that the difference between family/intimate partner and stranger/acquaintance murders is a function of place—or more specifically, degree of urbanicity or rurality.

However, our current understanding is constrained because, with rare exceptions (Logan, Walker, & Leukefeld, 2001; Sinauer, Bowling, Morracco, Runyan, & Butts, 1999), the research is generally silent on the construct of place. In those cases where place is considered, family and intimate partner violence and murder are treated as uniquely urban problems (Bureau of Justice Statistics, 1995), probably because the greatest numbers of murders are committed in urban areas, family and intimate partner murders included. But do mere counts reflect the true risk to individuals in any given community? The answer is no, based on a small but growing body of research that suggests that when it comes to murder, the smaller the population and the further the distance from a major urban area, the greater the chances are that the person doing the killing will be a family member or an intimate partner.

THE IMPORTANCE OF PLACE

There are several differences between urban and rural areas with respect to geography, community dynamics, crime control strategies, and family and intimate partner abuse patterns that underpin rural-urban variations in the kinds of family and intimate partner violence that can lead to murder. The geography of rural areas facilitates the isolation that accompanies and supports rural family violence (Gagne, 1992; Goeckermann, Hamberger, & Barber, 1994; Justice Research and Statistics Association, 1998; Strickland, Welshimer, & Sarvela, 1998; Websdale, 1995; Women's Services Network, 2000). Although Kowalski and Duffield (1990) found that the kind of tight community controls that characterize rural areas tended to lower homicide rates overall, they did not control for homicide categories. Wilkinson (1984) noted that social insularity stemming from isolation actually precludes the kinds of constraints that a broader community can bear on a troubled family, making family violence a more likely occurrence in rural areas.

The nature of interpersonal relationships in rural communities is very different from that in cities, where individuals are less likely to know each other. In fact, the close-knit nature of rural life, which precludes anonymity, can exert a chilling effect on those

seeking help for domestic violence and child abuse (Fishwick, 1993; Goeckermann et al., 1994; R. M. Johnson, 2000; Websdale, 1998), which in turn can increase the likelihood of family and intimate partner murder. By the same token, if the spatial geography of rural areas that shapes interpersonal relationships can account for higher rates of family and intimate partner murders in those areas, that of urban areas might explain the higher rates of acquaintance and stranger murders in cities. Several scholars have linked so-called urban disadvantage with urban homicide rates overall (Avakame, 1998; Kubrin & Weitzer, 2003; Parker, 2001; Parker & Johns, 2002). As noted earlier, Black and White segregation in cities was positively associated with stranger and acquaintance murders when perpetrated by Blacks (Peterson & Krivo, 1993; Shihadeh & Maume, 1997). However, this begs the question: Is the driving variable the density of the urban place that exacerbates segregation's effects, or racial segregation (and racism) per se? Although the link between urban density and stranger-acquaintance crime has not been categorically established to date, social disorganization theories do suggest that the disconnectedness, high family mobility, and overcrowding that characterizes urban life can be linked to murders of acquaintances and strangers in urban areas (Morenoff, Sampson, & Raudenbush, 2001; Sampson, Morenoff, & Gannon-Rowley, 2002).

Residents of rural and smaller areas must often deal with the inaccessibility of health care services (Fishwick, 1993; Wagner, Mongan, Hamrick, & Hendrick, 1995). Websdale (1999) suggested that many homicides in rural communities were actually assaults that became murders because adequate and immediate medical care was not available. By the same token, although leading causes of injuries among inner-city women between 1987 and 1990 was violence (Grisso, Schwartz, Miles, & Holmes, 1996), the greater availability to medical resources may have prevented these injuries from becoming life threatening. According to the National Crime Victimization Survey, the rate of self-reported intimate violence victimizations per 1,000 females 12 years and older from 1992 to 1993 was 10.7 for urban residents, 9.2 for suburban residents, and 7.7 for rural residents (Bachman & Saltzman, 1995): Could the lack or inaccessibility of medical facilities account for higher murder rates for rural women although their victimization rates are lower? In 1998, the Council on Graduate

Medical Education classified 62% of rural counties as health professional shortage areas.

The degree of rurality or urbanicity affects access and availability to other kinds of services (Adler, 1996; Goeckermann et al., 1994; Strickland et al., 1998; Websdale, 1998). For example, it is required by law in all states that those responsible for the care of children—teachers, child care workers, physicians, as well as other social service providers—report suspected cases of child abuse; because urban residents encounter the social service system at greater rates than their rural counterparts, this could also have the effect of keeping the family and intimate partner murder rates down in cities but not in rural areas. This is compounded by the fact that battered women's shelters and programs tailored to help batterers tend to be concentrated in cities (Tolman & Bennett, 1990).

Crime control differs by place as well. Many homicide reduction strategies (community policing, illegal firearm reduction, etc.) are most useful in larger, urban areas with greater support resources and less so in rural areas (Clark, Burt, Schulte, & Maguire, 1996; Forsdick Martz & Sarauer, 2000; U.S. Department of Housing and Urban Development, 1999). For example, illegal firearm reduction efforts have little to no impact in rural counties, where many residents own legal firearms (Linsk, 2000; Weisheit et al., 1995). The distribution of law enforcement personnel is very different in rural areas—for example, one sheriff may be responsible for a large geographic tract (Weisheit, Wells, & Falcone, 1995). Cultural differences can also affect the purported efficacy of particular crime control strategies. Websdale wrote of the effects of a "rural collective conscience," which reflects the notion that because violent crime in general is ostensibly less of an issue in rural communities, so it is the case with violent crimes perpetrated against family members and intimate partners (Websdale, 1998, pp. 57-58). In addition, there is a greater distrust of law enforcement among rural residents, many of whom prefer to settle disputes privately (Weisheit et al., 1995).

Several studies have linked rurality with domestic and family abuse in and of itself, either directly or indirectly. The literature on rural women and children in the United States and abroad cite the factors noted above, and add community economic distress (Donnermeyer, 1994; United Nations Children's Fund [UNICEF],

2000, 2001; Websdale, 1999; Weisheit et al., 1995) as well as less political and social autonomy for women than for men (Johns Hopkins School of Public Health and Center for Health and Gender Equity, 1999; UNICEF, 2001), stemming from a more traditionalist, conservative view of women and children (Gagne, 1992; Websdale, 1998).

These rural-urban differences provide some support for the hypothesis that family and intimate partner murders will be more prevalent in rural rather than in urban communities. However, none of this proves an irrefutable connection between place and family and intimate partner homicide, and we are quite far from any theories that are more than highly speculative in scope. What would bring us closer to a better defined theory of family and intimate partner homicide, where place and those characteristics associated with place are integral, are two exploratory steps. First, I employ a descriptive yet empirical approach that does not rely on a simple count of murders. Instead, I borrow from public health models and calculate a series of population-based rates to determine whether the rates of family and intimate partner murder do in fact differ by place and, if so, how they differ and whether any differences fluctuate or remain constant over time. Second, as I discuss the findings based on the first step, I present data for other selected explanatory variables that suggest that rural-urban trends for those variables may be connected to those for family and intimate partner murder. These two steps together will provide the springboard for future researchers in their efforts to develop more cogent and theoretically defensible place-based models of the correlates of family and intimate partner homicide.

RESEARCH STRATEGY

The research involves quantitative analyses of 1980-1999 FBI Supplementary Homicide Report (SHR) public use data, downloaded from the University of Michigan's Interuniversity Consortium for Political and Social Research. The SHR data contain details about murders and nonnegligent homicide in the United States, including information about the geographic location and, when known, the relationship between the victim and the perpetrator (Fox, 2001).

Preparing the data for analysis required several steps. First, the data were aggregated by county, each of which was then categorized as rural, urban, or something in between. Several categorization options were explored. A simple rural and urban split based on the Census definition of urban—incorporated or Census-designated places with 2,500 or more residents—would have treated both small and large cities alike: For example, a 15,000-person factory town would be lumped in with larger cities with more diverse economies. Similarly, a metropolitan and non-metropolitan division, based on the U.S. Office of Management and Budget's identification as metropolitan, those counties with cities or urbanized areas of more than 50,000 people as well as surrounding counties based on population and commuting patterns, would not have allowed for any isolation of low population counties that happen to surround some of those metropolitan counties. At the other end of the spectrum are more elaborate classification schemes, the most common of which is the Beale code system (also known as the rural-urban continuum), a 10-point scale that classifies every county in the United States by population size and proximity to a metropolitan area (Economic Research Service, 2001).¹ Beale codes, developed by the Economic Research Service of the U.S. Department of Agriculture, are based on Census county estimates and definitions of metropolitan and nonmetropolitan areas. The rural-urban continuum's advantage is that it reflects the real economic and social consequences borne of proximity to a metropolitan area and population. However, such a fine breakdown could be problematic for many analyses of rural areas because the population base of the rural categories becomes too small. Given that homicide in general is a relatively rare event, efforts to analyze homicide patterns would be particularly prone to error, especially for rural counties. Focusing solely on proximity to a metropolitan area was another possibility; however, the effects of small population size would not have been captured. The ten Beale code classifications were thus collapsed into four categories that for the most part still captured both population and proximity to metropolitan areas, while dealing with the small base issue: 1 = metropolitan counties; 2 = nonmetropolitan counties adjacent to a metropolitan area; 3 = nonmetropolitan counties not adjacent to a metropolitan area; and 4 = all rural, or

population under 2,500 (see a similar treatment in Edwards, 1997).

Next, the SHR data were adjusted to account for nonreporting by agencies and missing relationship information. Approximately 92% of all murders reported to the FBI Uniform Crime Report (UCR) are represented on the SHR data files (Fox & Zawitz, 2001). To correct for this, I used the reporting agency (the lowest unit of analysis available on the SHR) and calculated an annual agency-wide adjusted weight using the FBI's UCR "Offenses Known and Clearances by Arrest" data files by the number of murders reported on the SHR. This weight reflected the number of murders in the SHR files by the number of murders on the UCR. Thus, a weight of one (1) indicates that the number of murders on the SHR was identical to the number of murders on that SHR for any given reporting agency and year.

Additionally, about 32% of all of the records on the 1980-1999 SHR data file were missing information about the victim and offender relationship. To correct for missing relationship data, I used a weighted, within-county adjustment strategy by modifying the method proposed by Pampel and Williams (2000; Williams & Flewelling, 1987). First, I extracted five circumstance categories: felony, other felony, nonfelony, other nonfelony, and unknown. Then, after weighting for nonreporting using the FBI-supplied weights, I adjusted for each type of murder—intimate partner, family, all other murders ($i=3$)—by taking each circumstance ($j=5$) as per the following formula:

$$\text{adjusted rate}_i = \{[\sum_{j=1 \dots 5} (a_{ij} + (a_{ij} / n_j)m_j)] / P\} * 100,000, \text{ where}$$

a_{ij} = the number of incidents in a relationship category i for circumstance j , n_j = the number of circumstances, j for which a relationship is known, m_j = the number of circumstances for which a relationship is unknown, and P = the population. Murder types for which the circumstance was missing were adjusted using a simple proportion of the known cases for that murder type. Each year was treated separately.

After the SHR data adjustments, the murders were grouped into three categories: (a) family, (b) intimate partner, and for comparison purposes, (c) all other murders. Intimate partners were defined as current and former spouses (including common law),

and current and former boyfriends and girlfriends (including same gender relationships). Family members were defined as parents, siblings, aunts, uncles, step-parents, step-siblings, in-laws, and other family. All other murders included any that did not fit into either of the above categories. Data from the 1980, 1990, and 2000 U.S. Census were used to calculate county-level population-based rates—per 100,000 age 15 years and older for intimate partner homicide, and per 100,000, all ages, for all other homicide types; populations for inter-Censal years were estimated via straight-line interpolation, using the percentage change from one decennial Census to the next. Within the 20-year time period, the data were grouped in 5-year averages to account for instability in both the annual murder counts and in the population, especially for low population counties. I also calculated averages against a pooled 1980 to 1999 data set. Using the adjusted data (collapsed into 5-year averages) and four population and proximity categories, the average rates for each of the three murder types for the four population and proximity categories were calculated, then bivariate Pearson correlations were used to gauge the strength of the connection between place and murder type over time. Throughout this article, I present selected 5-year averages (1980 to 1984, 1985 to 1989, 1990 to 1994, and 1995 to 1999), rolling 5-year averages, and pooled 1980 to 1999 averages to illustrate particular points.

RESULTS

Table 1 contains the population-based rates of intimate partner, family, and all murders between 1980 and 1999, broken down in selected 5-year and overall averages for each of the four place classifications. Overall, the population-based rates in the rural counties were far greater not only for family and intimate partner murders but for all other murders. Does this mean, then, the higher rates in the rural areas for all murder types is simply an example of an ecological fallacy? The answer is no. Foremost, the patterns of increases and declines differed by murder type. Although rates of intimate partner and family murder did increase with rurality, the case was not as linear when it came to all other murders; here, most of these murders were in the urban

TABLE 1
Average Rates of Intimate Partner, Family, and All Other Murders per 100,000,
for Selected 5-Year Averages and for 1980 to 1999

	<i>Metropolitan</i>	<i>Nonmetropolitan or Adjacent</i>	<i>Nonmetropolitan or Not Adjacent</i>	<i>Rural</i>
Intimate partner murder ^a				
1980 to 1984	2.0	2.5	2.7	5.6
1985 to 1989	1.8	2.2	2.8	6.6
1990 to 1994	1.7	2.2	2.8	5.9
1995 to 1999	1.5	2.0	2.5	9.0
1980 to 1999	2.0	2.3	2.8	8.3
Family murder				
1980 to 1984	1.0	1.6	1.8	3.7
1985 to 1989	0.9	1.5	1.7	3.8
1990 to 1994	1.0	1.4	1.6	3.6
1995 to 1999	0.7	1.1	1.3	3.1
1980 to 1999	1.0	1.5	1.7	4.3
All other murder				
1980 to 1984	8.8	7.3	8.0	15.9
1985 to 1989	7.8	6.3	7.4	16.3
1990 to 1994	11.5	8.1	8.1	16.5
1995 to 1999	8.3	6.3	7.4	13.9
1980 to 1999	8.8	7.1	7.8	17.7

SOURCE: FBI Supplemental Homicide Report (SHR) data file, 1976 to 1999; U.S. Census. All data were adjusted for nonreporting and missing relationship information on the SHR file.

a. Calculated per 100,000 age 15 and older.

as well as the rural areas, with lower rates in the two nonmetropolitan county groups (the lowest rates were in the nonmetropolitan and adjacent counties for all years but from 1990 to 1994, where the rates in both nonmetropolitan categories are identical).

Intimate Partner Murder

What is particularly striking is the difference between the rural rates and those of the other more populous counties, both in terms of actual rates as well as in movement patterns over time. Rates of intimate partner murder were clearly higher with rurality, and this is illustrated all the more dramatically in Figure 1, which presents the rates in rolling 5-year averages. The differences in the rates among the metropolitan, three most populous county categories were marginal, as was the extent of the increases or declines over time. In sharp contrast, not only were the rates in the rural counties considerably higher, but they were quite variable

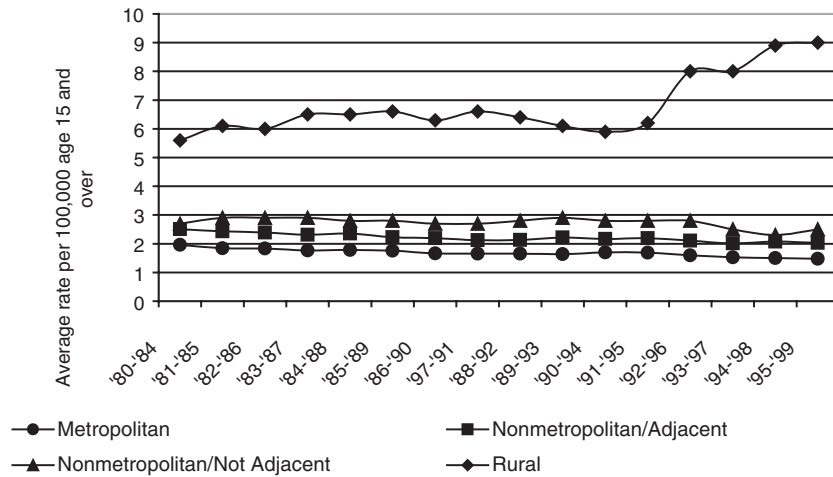


Figure 1: Intimate Partner Murder Trends (Average Rates per 100,000, Age 15 and Older), Rolling 5-Year Averages

SOURCE: FBI Supplemental Homicide Report (SHR) data file, from 1976 to 1999; U.S. Census. All data were adjusted for nonreporting and missing relationship information on the SHR file.

and the rises were dramatic, particularly between the early to the mid- to late 1990s. In fact, from 1980 to 1985 until 1995-1999, all intimate partner murder rates fell (by varying degrees) for all but the rural counties, where rates increased from 5.6 per 100,000 ages 15 years and older to 9.0, or by more than 60%.

Family Murder

Rolling average rate patterns of family murder were somewhat similar to those of intimate partner murder; that is, they were higher in the rural areas than in the other areas and tended to rise with population and proximity (Figure 2). However, for family murders overall, the rates fell from the beginning of our time period to the end, regardless of population or proximity. Family murder rates in the rural areas were not as variable over time as they were in the case of intimate partner murder. In addition, although the metropolitan counties had the lowest rates and the rural the highest, the rates themselves did not always rise or fall

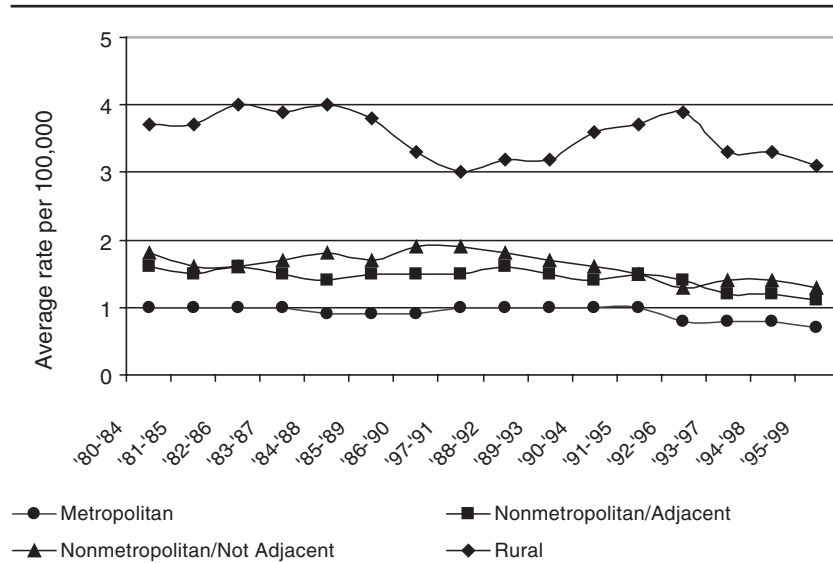


Figure 2: Family Murder Trends (Average Rates per 100,000), Rolling 5-Year Averages
 SOURCE: FBI Supplemental Homicide Report (SHR) data file, from 1976 to 1999; U.S. Census. All data were adjusted for nonreporting and missing relationship information on the SHR file.

with rurality, as evidenced by the intertwining pattern of rises and declines in the two nonmetropolitan groups of counties. The metropolitan and rural rates fell and rose in different patterns until the early 1990s, when declines were seen in both sets of counties. Rates in the two nonmetropolitan county categories were higher than in the metropolitan counties, and the gap between them was slightly wider than was the case with intimate partner murder. Still, consistent with intimate partner murder, family murder rates in the rural counties were markedly higher than in the other three county categories.

All Other Murders

The rolling average rate patterns of all other murders differed from those of family and intimate partner murders in that the rates did not rise or fall with population or proximity (Figure 3). Instead, the lowest rates were in the two nonmetropolitan counties. In addition, all but the rural counties seemed to operate more or less in tandem with each other: falling in the mid-1980s, rising

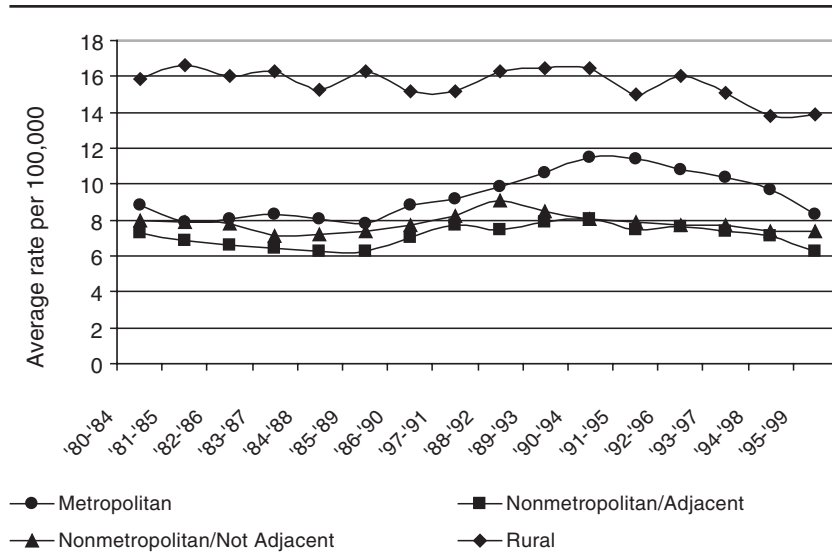


Figure 3: All Other Murder Trends (Average Rates per 100,000), Rolling 5-Year Averages

SOURCE: FBI Supplemental Homicide Report (SHR) data file, from 1976 to 1999; U.S. Census. All data were adjusted for nonreporting and missing relationship information on the SHR file.

from 1990 to 1994, and then falling again from 1995 to 1999. In the rural counties, the rates on average were fairly consistent until the early 1990s before declining in the later part of the 1990s. If there was any commonality at all among the county groupings, it was in that there were either declines or at least no increases from the later part of the 1990s onward; because all other murders comprised 81% of all murders on average for the 1980 to 1999 time period,² it stands to reason that trends in all other murders would most closely resemble those of all murders in general.

Patterns of Declines and Increases in Intimate Partner, Family, and Other Murders

It seems as if the story is as much in the higher risk of murder in rural counties, as calculated by population, as in the degree to which the trends moved within each county category by each 5-year grouping and how close or how far those rates were from those of the other county categories. This becomes clearer on an examination of the percentage change for each murder category

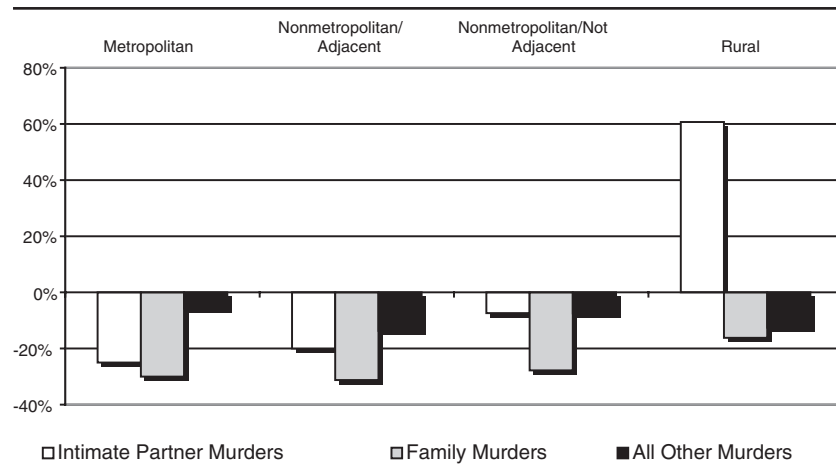


Figure 4: Percentage Changes From 1980 to 1999 in County-Level Rates of Intimate Partner, Family, and All Other Murders, by Population-Proximity Grouping
 SOURCE: FBI Supplemental Homicide Report (SHR) data file, from 1976 to 1999; U.S. Census. All data were adjusted for nonreporting and missing relationship information on the SHR file.

by county grouping (Figure 4). The largest percentage declines were experienced for family murder; however, family murder had the lowest rates overall, making any percentage change appear greater than for intimate partner or all other murders, for which the rates were larger.³ That said, the greatest declines in family murders were in the nonmetropolitan and not adjacent counties (but not the metropolitan counties, which has the lowest family murder rates of all) and the lowest in the rural counties.

We also see that family and all other murder trends declined across the board, whereas this was not the case with intimate partner murder for rural counties (which was noted previously). Patterns of decline were not uniform for all murder types: The greater the population and closer to a metropolitan area, the greater the decline in intimate partner murder. This linear pattern was not seen for family murder, and declines for all other murders seemed to fall into no particular pattern except by time. Although declines for family and all other murders were largest in the nonmetropolitan and adjacent counties, the largest declines in intimate partner murder were found in the metropolitan counties (which also had the lowest declines in all other murders).

TABLE 2
Bivariate Analyses (Pearson Correlations) of Population and Proximity With Intimate Partner, Family, and All Other Murders, 20-Year and Selected 5-Year Time Periods

	1980 to 1984	1985 to 1989	1990 to 1994	1995 to 1999	1980 to 1999
Intimate partner	.160***	.149***	.175***	.122***	.135***
Family	.193***	.198***	.154***	.169***	.220***
All other	.087***	.107***	.018	.061**	.107***

** $p \leq .01$. *** $p > .001$.

Empirical Connections Between Place and Murder

One other way to approach, test, and thereby confirm the connection between place and proximity and rates of intimate partner, family, and all other murders is to empirically measure the strength and significance of the relationship by way of a series of exploratory bivariate Pearson correlational analyses. The bivariate scores, or r scores (Table 2), shown for the 1980 to 1999 pooled average and the four selected 5-year averages, show that the relationship between place and proximity and all of our murder categories is modest but positive and, with one exception (all other murders from 1990 to 1994), statistically significant, most at the $p \leq .001$ level. When it came to family and intimate partner murders, the 1980 to 1999 average and all but the 1990 to 1994 averages for family murder were higher than those for intimate partner murder. However, the most notable finding is that for the overall averages and for the selected four 5-year groupings, the r scores for both intimate partner and family murders were markedly higher than those for all other murders, indicating a stronger connection between place and family and intimate partner murder than between place and all other murders.

DISCUSSION

Did place matter when it came to family and intimate partner murders from 1980 to 1999? Yes—particularly if the place was rural. The descriptive analyses showed that rural residents were far more likely to be victims of an intimate partner or family murder than those living in counties of central cities. Living close to a

metropolitan county decreased one's risk of intimate partner or family murder, although the risk for those living in the nonmetropolitan and nonadjacent counties was closer to that of the nonmetropolitan and adjacent group than to the rural group. In contrast, metropolitan county residents were at greater risk of being murdered by someone other than an intimate partner or family member. All of these patterns held for both the overall 20-year and the four 5-year time periods.

What is more, place mattered more over time. In the earlier discussion, I outlined why rates of family and intimate partner murders may be higher in general rural communities due to several factors, including geography, lack of access to health and other services, differing crime control strategies, economics, and education. The question now is, did any of these variables worsen over time in rural communities within the time period of interest? To answer that, I now turn to an examination of trend data for six selected variables (Table 2): (a) access to health care (hospitals per 100,000), (b) poverty, (c) employment ratio, (d) job gain or loss, (e) population gain or loss, and (f) educational attainment (percentage of persons age 18 years and older with less than 12 years of education). Because the data came from various sources, the counties needed to be categorized as *metropolitan* or *nonmetropolitan* for uniformity; therefore, in this section, the counties will generally be referred to as such rather than as *rural* or *urban*. Although the strategy is not ideal—particularly given the previous discussion on the dilemmas involving rural and urban designations—this examination is still useful for contextual purposes. With one exception (educational attainment), the data were grouped into the same 5-year averages as in the previous section.⁴

During the time period from 1980 to 1999, the trends in metropolitan and nonmetropolitan counties generally moved in tandem with each other, which meant that if the nonmetropolitan counties started off as worse than their metropolitan counterparts, they remained worse if they improved and fared even more poorly if they did not. For example, the number of hospitals per 100,000 in metropolitan counties was 4 times that of nonmetropolitan counties during the entire time period from 1980 to 1984 and from 1995 to 1999; and although the rates fell (worsened) during that same time period in both groups of counties, the decline

was greater in nonmetropolitan areas (13%) than in metropolitan counties (10%).

Similarly, the economic fortunes in rural areas did improve from 1980 to 1999, but they did not come close to meeting those in metropolitan areas. Earlier, there was a brief mention of linkage between urban disadvantage and urban homicide. But the relationship between violence and economic hardship (Chalk & King, 1998; Hampton & Gelles, 1994)—defined by job loss, unemployment, poverty, and population loss—can be just as pronounced in rural or small population areas (Arthur, 1991; Lee, Maume, & Ousey, 2003; National Center for Rural Justice & Crime Prevention, 1999; Weisheit et al., 1995). Job loss in particular can have devastating effects in rural communities, many of which are characterized by single economies (e.g., farming, mining, etc.). Matthews, Maume, and Miller (2001) found that the effects of 1990s deindustrialization in smaller, midsized rustbelt cities (i.e., populations less than 150,000) drove overall homicide rates upward; although they did not control for homicide type, it is not unreasonable to assume that intimate and family homicide rates might be affected as well. The data in Table 3 show that although the percentage increase in number of part- and full-time jobs in nonmetropolitan areas was lower than that in urban areas except in the 1990 to 1994 period, there was a marked increase of 0.3% growth to 1.7% growth from 1980 to 1984 and from 1985 to 1989 and that the growth remained relatively stable through 1995 to 1999. However, the number of farming proprietors (not shown in the table) decreased between 1980 and 1989 in the nonmetropolitan counties by 9.4%, and from 1990 to 1999 there was an additional, albeit negligible, decrease of 0.4% (Bureau of Economic Analysis, 2002).

Poverty among nonmetropolitan families has historically been consistently higher than that experienced by their metropolitan counterparts. Between 1980 and 1999, poverty rates in nonmetropolitan counties have been anywhere from 13% (1994) and 47% (1986) higher than those in metropolitan counties (U.S. Census Bureau, 2002a). However, as shown in Table 2, poverty rate declines from 1980 to 1984 and from 1995 to 1999 were greater for nonmetropolitan counties (15%) than for metropolitan counties (8%). The same relative improvement can be seen for employment ratios (the number employed divided by the population).

TABLE 3
Trend Data for Selected Explanatory Variables

	<i>Metropolitan Counties</i>	<i>Nonmetropolitan Counties</i>
Hospitals per 100,000		
1980 to 1984	5.1	1.2
1985 to 1989	5.1	1.2
1990 to 1994	4.9	1.1
1995 to 1999	4.6	1.1
Poverty (%)		
1980 to 1984	13.3	17.9
1985 to 1989	12.2	16.7
1990 to 1994	14.2	16.6
1995 to 1999	12.3	15.1
Employment ratio		
1980 to 1984	0.52	0.44
1985 to 1989	0.56	0.46
1990 to 1994	0.57	0.48
1995 to 1999	0.59	0.51
Full- or part-time average annual job gain (%)		
1980 to 1984	1.4	0.3
1985 to 1989	2.7	1.8
1990 to 1994	0.8	1.7
1995 to 1999	2.4	1.7
Average annual population gain (%)		
1980 to 1984	1.1	0.4
1985 to 1989	1.2	0.1
1990 to 1994	1.3	1.1
1995 to 1999	1.3	0.8
Persons age 18 and older with less than 12 years of education (%)		
1979 to 1983	26.0	35.4
1987 to 1989	21.6	29.9
1991 to 1993	19.3	26.0
1995 to 1999	17.4	22.6

SOURCES: For hospitals per 100,000, *Area Resource File*, 2002 edition, and in-house calculations; for poverty, U.S. Census Bureau (2002a); for employment ratio, U.S. Department of Commerce (2003); for full- or part-time job gain or loss, U.S. Department of Commerce (2003); for population gain or loss, U.S. Census Bureau (2002a); for percentage age 18 and older with less than 12 years of education, Current Population Survey, March Supplement.

Again, although the ratios were lower for nonmetropolitan areas, and the 1980 to 1984 to 1995 to 1999 increases were greater in these counties (17%, as opposed to 13% for metropolitan counties), there remained fewer employed persons per capita in metropolitan counties than in urban counties. Job loss, employment, and poverty are exacerbated by population loss, particularly of young

families and those who contribute most to the tax base (K. M. Johnson, 1993; McGranahan & Beale, 2002, 2003; U.S. Department of Housing and Urban Development, 1999; Wesheit et al., 1995). Five-year average population increases in metropolitan counties were relatively stable, at 1.1% to 1.3%. This was not the case in nonmetropolitan counties, where the rates of change were highly unstable, declining from 1980 to 1984 and from 1985 to 1989, increasing dramatically in 1990 to 1994, and again declining from 1995 to 1999.

As noted earlier, yet another rural-urban difference can be found in a greater traditionalist view of women and children (Gagne, 1992; Websdale, 1995), which research has attributed to lower educational attainment (Bishop, 1976; Bobo & Licari, 1989; Schreiber, 1978). This in turn can be linked to fewer educational opportunities in rural areas (Gagne, 1992; Justice Research and Statistics Association, 1998; Lamorey & Leigh, 1999; Websdale, 1998). Arguably, this scenario creates the philosophical underpinnings of family and intimate partner violence (Dobash & Dobash, 1979; Johns Hopkins School of Public Health and Center for Health and Gender Equity, 1999; UNICEF, 2000). Current Population Survey data comparisons of the educational attainment of persons 18 years and older by metropolitan and nonmetropolitan status show that those who completed less than 12 years of education were more likely to live in nonmetropolitan areas: For example, the metropolitan-to-nonmetropolitan rate of completion through the 11th grade was 26% to 35% from 1979 to 1983, 22% to 30% from 1987 to 1989, 19% to 26% from 1991 to 1993, and 17% to 23% from 1995 to 1999 (U.S. Census Bureau, 2002b, 2002c, 2002d). Although the high school noncompletion rates decreased over time in the nonmetropolitan areas, they remained considerably higher than those in metropolitan areas with no prospects toward convergence.

On one hand, the trend data alone (as least as presented here) shed little light on why rurality would be associated with family and intimate partner murder over time because, as stated above, trends in the two groups of counties ran virtually parallel to each other with some exceptions (i.e., job gains and losses). On the other hand, however, the fact that metropolitan residents seemed to fare better in almost every respect than their nonmetropolitan

neighbors suggests that where the trends go, the rates in family and especially intimate partner homicide may follow.

Although this modest first step demonstrates the need to distinguish family and intimate partner murders by rurality or urbanity, there are limitations to the study and many lingering questions. Foremost is this: Are the rate differences merely a fiction of small population sizes—even when adjusted for missing data—or do they truly reflect something other than a *prima facie* ecological fallacy? The best way to answer that question is to test those factors that purportedly explain the variation of family and intimate partner murder rates among the four rural-urban classifications, and one place to start is with a more fully specified model—using the variables discussed earlier and perhaps additional ones—and a more sophisticated analysis. Only then can we determine how and in what ways they affect the changes in homicide rates by place over time. For example, borrowing from the work of Matthews et al. (2001), we can control for murder types to determine whether the extent of job loss in smaller areas affected the rates. Or we can create a model in which we control for the quality and not just the availability of medical facilities in any given county, to truly discern the effects of timely medical attention. Findings based on research by Harris, Thomas, Fisher, and Hirsch (2002) suggest that improvements in medical care may have contributed to the decline in homicide rates from 1960 to 1999: Was there a rural-urban differential in such improvements as to explain the higher rates of rural family and intimate partner homicide? To explain the connection between place and homicides in urban areas, a model that more fully incorporates social disorganization theories, race, and urban distress could better establish the purported link between urban places and murders of strangers and acquaintances. Additional research will also allow for a finer tuning of critical variables, such as educational attainment and economic distress; a metropolitan-nonmetropolitan breakdown is helpful as an introductory contextual explanation, but clearly more refinement is necessary.

A well-developed theory based on a well-defined model will go far to establish the connection between both rural and urban places and homicide types. If further research confirms that place plays a critical role in the rate of family and intimate partner murder, then knowing those characteristics that define places—along

with differences in terms of economics, social structure, geography, demographics, culture, and resources—can lead to more effective policies and locally tailored strategies for improving the safety of women and families in communities both large and small.

NOTES

1. Metropolitan counties are assigned one of four codes: 0 = Central counties of metropolitan areas of 1 million population or more, 1 = Fringe counties of metropolitan areas of 1 million population or more, 2 = Counties in metropolitan areas of 250,000 to 1 million population, and 3 = Counties in metropolitan areas of fewer than 250,000 population. The nonmetropolitan counties are designated as 4 = Urban population of 20,000 or more, adjacent to a metropolitan area; 5 = Urban population of 20,000 or more, not adjacent to a metropolitan area; 6 = Urban population of 2,500 to 19,999, adjacent to a metropolitan area; 7 = Urban population of 2,500 to 19,999, not adjacent to a metropolitan area; 8 = Completely rural or fewer than 2,500 urban population, adjacent to a metropolitan area; and 9 = Completely rural or fewer than 2,500 urban population, not adjacent to a metropolitan area.

2. The 81% statistic is based on in-house calculations on the 1976 to 1999 FBI Supplementary Homicide Report file.

3. One might suspect that the reason why population-based rates of intimate partner murder are larger than those for family murder in particular is because we constricted the age grouping to those age 15 years and older for intimate partner murder. However, if we take the raw numbers of family and intimate partner murders without adjusting for population, we would find that the number of intimate partner murders far outnumbers that of family murders, by 41% on average between 1980 and 1999. Thus, had I adjusted intimate partner murders by the entire population instead of restricting the population to those 15 years and older, the results would not have differed appreciably if at all.

4. Educational attainment data came from published Current Population Survey reports and were available every 2 years from 1979 through 1999, with the exception of 1985.

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