# DOMESTIC VIOLENCE IN OHIO
# 2004

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# DOMESTIC VIOLENCE IN OHIO, 2004

Report to the Ohio Office of Criminal Justice Services

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# EXECUTIVE SUMMARY

Our main objective in this analysis was to utilize Ohio Incident-Based Reporting System (OIBRS) data to understand the nature of domestic violence in Ohio and to answer questions such as “What is the scope of the domestic violence problem in Ohio?” “What are its major forms?” and “How does domestic violence vary across different types of communities?” We sought to both, 1) demonstrate the value of the OIBRS data for state jurisdictions and 2) provide jurisdictions with a comprehensive picture of domestic violence across numerous communities in Ohio so that these agencies might be better able to develop control and/or prevention solutions to this particular crime.

Because the majority of domestic violence incidents involve just a single suspect and a single victim, our report spends most time discussing the nature and patterns of these one-on-one cases. Our primary focus was on domestic violence overall, but due to the often violent nature of this crime, we also include a separate section on murder and rape incidents; we spend time in this section discussing cases that involve a single suspect and multiple victims in order to try to identify special attributes of this particular category of domestic violence incidents.

The fact that we have a large sample of places (n=160) to analyze permits us to illustrate patterns and disaggregate domestic violence incidents by relationship, age, sex, and various other characteristics; this demonstrates the great utility of the OIBRS data. For example, Figures 7 and 8 demonstrate important characteristics of domestic violence cases in which a child or parent is the victim: when children are victims, girls and boys are fairly equally likely to be victimized; however, in *parent* cases, mothers are far more likely to be victims of domestic violence at the hands of their children than are fathers.

An additional benefit of OIBRS data is that the jurisdictions (or places) can be matched with population data from the U.S. Census Bureau to help identify demographic patterns or to examine linkages between domestic violence and certain characteristics. We examine domestic violence as it relates to household income, poverty, and minority populations in our sample. Findings in this section are not surprising, as they show a negative association between income and domestic violence, and a positive association between both poverty and percent minority and domestic violence (see figures 19 through 21). These analyses are important because they demonstrate that OIBRS data can offer insight into what types of places need resources *besides* law enforcement in an effort to combat domestic violence.

While most of our work reveals the promise of incident-based reports, we also discovered during our analyses numerous data problems with which agencies need to deal in order to make the system more accurate and, thus, maximize its utility potential. Our Appendix describes these problems in more detail and offers suggestions for handling them. Additionally, analyses of crimes—particularly violent crimes—with OIBRS data can be considerably more useful if incident circumstances are recorded by agencies. Currently this appears to be a voluntary field of data entry, which ultimately means that we have very little insight as to potential motives for these crimes.

Despite the difficulties encountered in some areas of data analysis, we are able to offer various findings from our work, recognizing that they may be based on the reluctance of some population groups to report domestic violence incidents to the police:

- most domestic violence incidents take place at home, are intraracial, and involve female victims;
- domestic violence rates decline as household income levels increase;

- domestic violence rates increase as poverty rates and percentage of racial minorities increase;
- partner domestic violence cases significantly outnumber family domestic violence cases;
- there are two general age patterns of domestic violence—one in which the victim and suspect are both in their early 20s, and another in which the suspect is an older teenager who victimizes a person in their mid-30s;
- the frequency of domestic violence tapers off as the suspect ages, thus confirming the general age distribution of crime.

We hope that such findings reveal the value of OIBRS data, even if they point to areas in need of improvement.

# I. INTRODUCTION AND SCOPE

The goal of this report is to provide a snapshot of the crime of domestic violence in Ohio in 2004, as reported to the police. It is not a complete picture for three reasons. First, not all cases of domestic violence are reported to the police, since victims are often reluctant to "call the cops" to report being victimized by persons in their own household. Second, the analysis is based on data collected by the Ohio Incident-Based Reporting System (OIBRS), which does not (yet) capture the data from all police departments in the state. And third, even among those police departments that do report OIBRS data, not all of them have been able to report for all 12 months of 2004. Despite these reporting problems, we feel that this provides a useful picture of the state of the problem. Moreover, it will be more useful as time goes on, since analyses of the problem in subsequent years can be compared with this as a benchmark.

All in all, there were 168 separate jurisdictions that reported domestic violence crimes through OIBRS in 2004. However, upon then taking out the cases for the Ohio State Highway Patrol and assigning small agencies such as airports, universities, and parks to their respective *cities*, we now have 160 places in the data base.[1] The majority of incidents (36,455 of 42,409 cases, or 86%) involved the commission of a single crime, 11.4% of incidents involved two crimes, and just 2.6% of incidents involved three or more crimes. A majority (88%) of these single-crime cases also involved a single offender and a single victim. Because of this prevalence of single-offender-single-victim cases, we focus on these cases in our report. Among the one-on-one incidents there were 32 homicides, which are detailed in a separate section. In addition to cases specifically determined to be *domestic* violence, we have broadened the scope somewhat to

[1] We can't get populations for the areas where the highway patrol operates, because it's not technically a Census-defined "place." Also, if we create counties for the zip codes where the highway patrol operates, there will be just one or two crimes per zip code, which will make the computed rates extremely misleading. Therefore, we decided to delete all cases for the Ohio State Highway Patrol.

include rape cases; that is, because (as we will document) domestic violence is a crime whose victims are predominantly women, we included another crime whose victims are predominantly women.

Many analysts have documented the benefits of using graphs to present data (Cleveland 2004; Few 2004; Robbins 2005; Tufte 1990, 1983). Since our goal has been to make our findings accessible to the greatest number of people, we have made extensive use of charts and graphs in this report to present our findings.

The report is organized as follows. Section II describes the overall characteristics of one-on-one domestic violence incidents, in particular the relationships between victims and suspects[2] in terms of their respective ages, races, and sexes. Section III describes some of the characteristics of incidents involving homicide, rape, and domestic violence cases with single suspects and multiple victims. Section IV provides an overview of the results and suggestions for future work in this area, which is followed by our references. An appendix (Section VI) describes the data-related problems we encountered in this project, along with suggestions for improving the quality of the data.

[2] Throughout this report we use the term “suspect” instead of “offender” to identify the alleged perpetrator, since the report is taken by the police at the point of identification (or arrest) of the involved parties and before any adjudication of guilt.

# II. ONE-ON-ONE INCIDENTS

Of the cases that involved just one offense, the overwhelming majority of domestic violence cases (32,043 out of 36,455, or 88%) were one-on-one incidents, in which there was one offender and one victim. The next largest groups involve a single suspect and two victims (4%) and two victims and two suspects (4%). There are very few cases involving multiple suspects on multiple victims. Figure 1 provides an overview of this information.

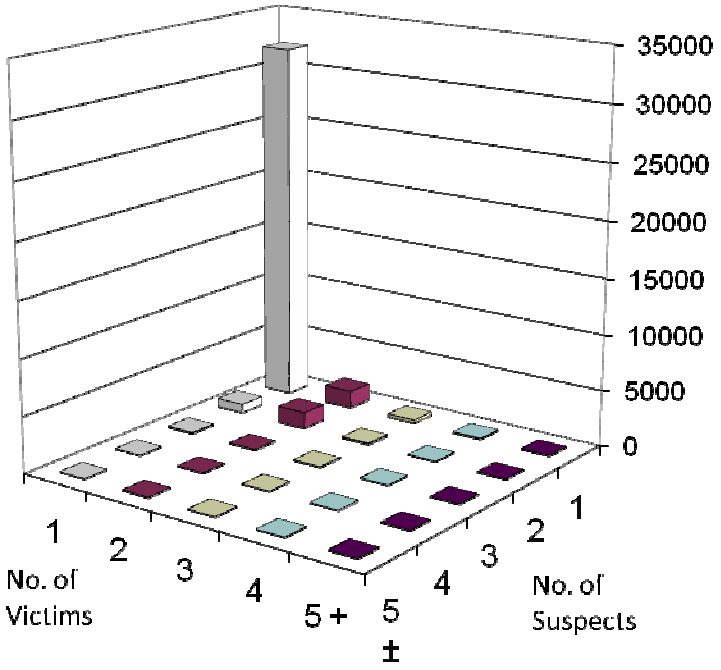


**Figure 1. Number of Victims and Suspects in Domestic Violence Incidents**

In this section we first provide an overview of these incidents in terms of the relationships between victims and suspects, then their sexes, ages and races, and finally attempt to put all of these characteristics together. The dominant relationship in domestic violence incidents is, as might be expected, between partners, including spouses, unmarried couples, and ex-partners. In

addition, most incidents involve individuals of the opposite sex, the dominant age difference is a few years, and most incidents involve individuals of the same race. This would suggest that the most frequent domestic violence incident would involve opposite-sex partners of the same race and about the same age, which happens to be the case.

## *Relationships*

Overall, the greatest number of incidents (60% of cases) involves domestic partners; see Figure 2. “Other family” (in-laws or more distant family members) makes up the next largest relationship category (16.5%). Almost as many 1-on-1 domestic violence incidents involve a parent as the victim (7.9%) as they do a child as the victim (9.2%). Siblings represent the smallest category of victims (6.2%).

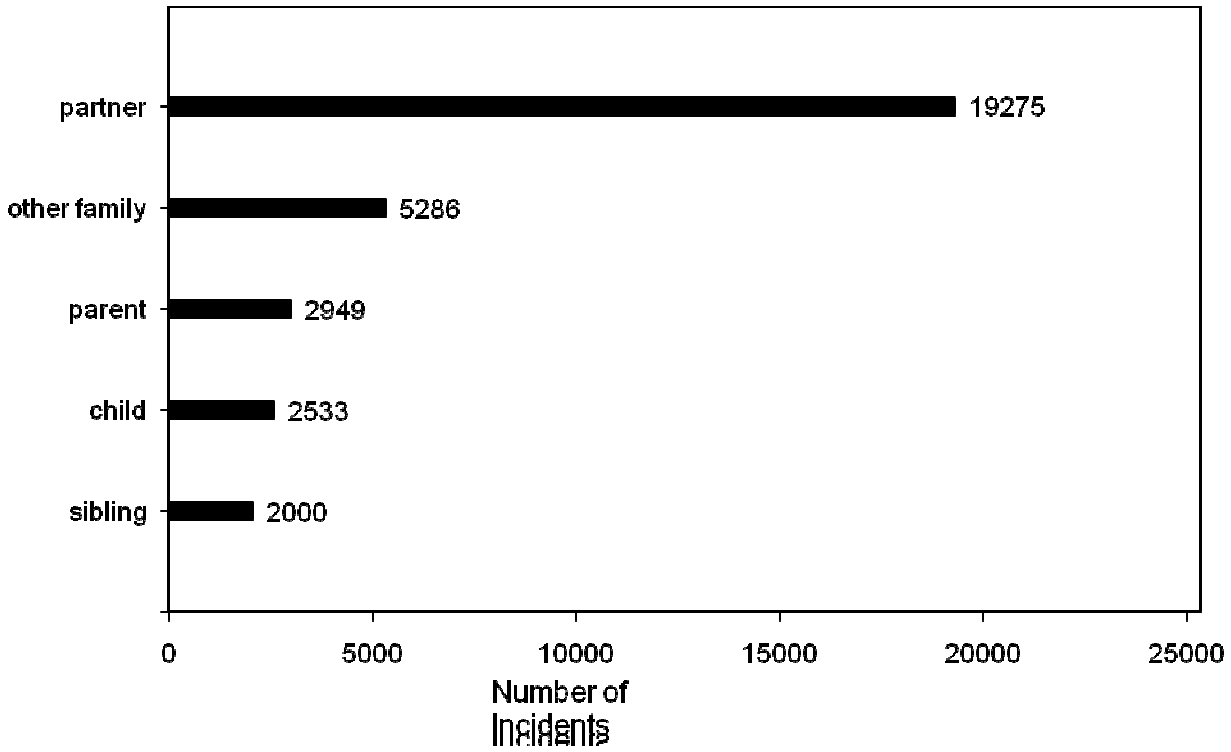


**Figure 2. Relationship in 1-on-1 Domestic Violence Incidents**

**Relationships and Age**

Figure 3 shows the association between victim and suspect ages for all one-on-one domestic violence incidents. As can be seen, the raw data is very "spiky," which is often due to people recording ages as estimates to the closest half-decade.

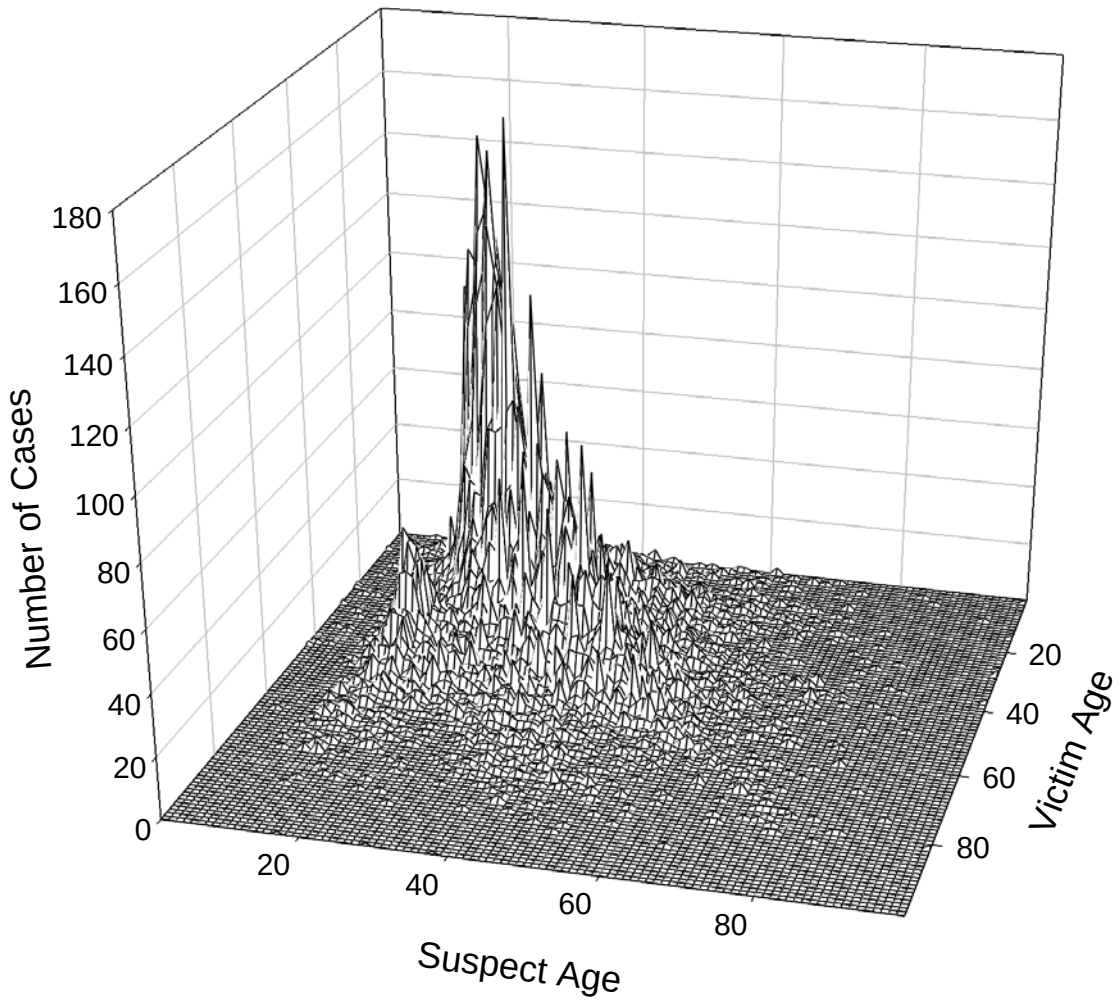


**Figure 3. Raw Data, All Domestic Violence Incidents**

Using a simple procedure[3], we smoothed the data and produced a much more interpretable figure (Figure 4).

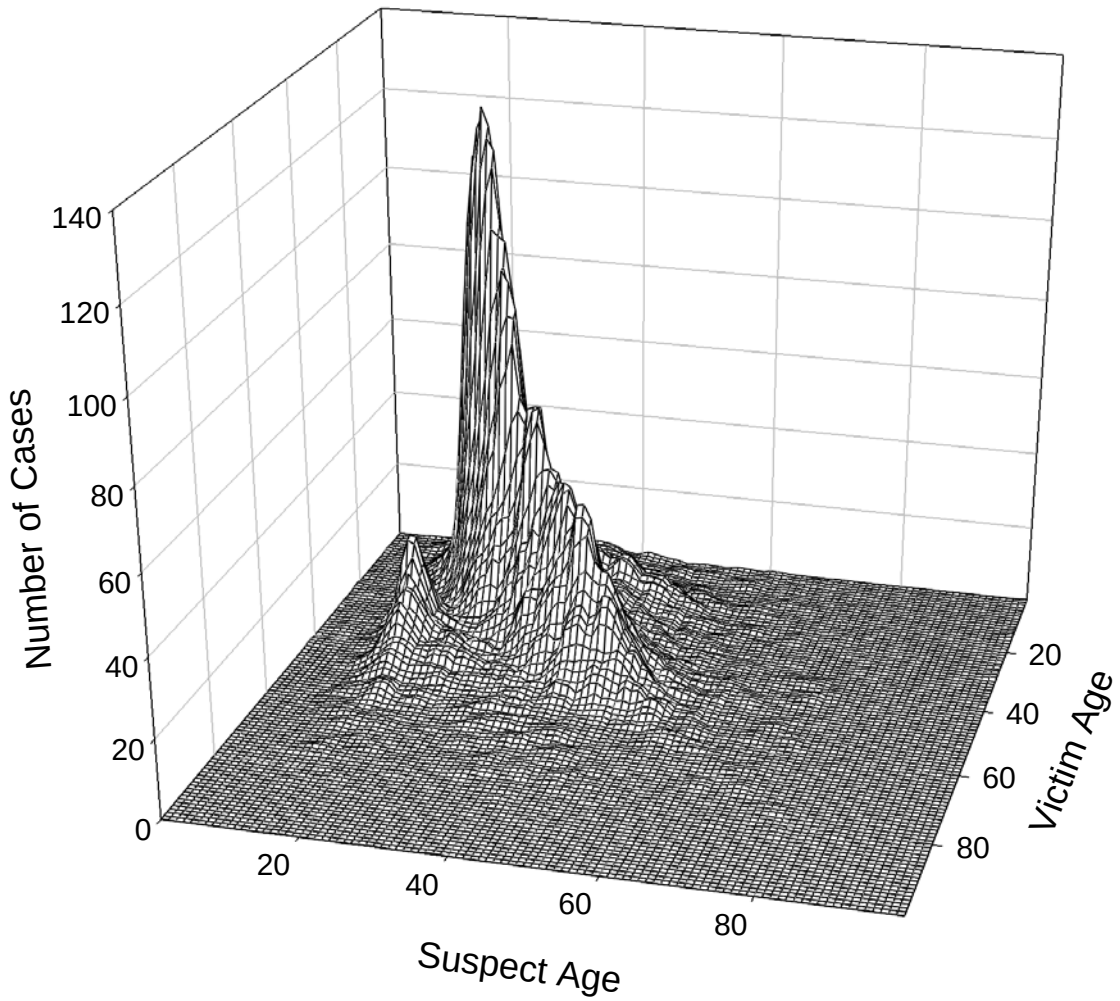


**Figure 4. Smoothed Data, all Domestic Violence Incidents**

Note that there are two peaks, the major peak when victim and suspect are in their early 20s, the smaller peak when the victim is in his/her mid-30s and the suspect is in his/her late

[3] To smooth the data, for a given victim-suspect age combination we added the number of crimes occurring at the previous and next ages, for both victim and suspect, to those occurring at that age combination, and divided the total by 9 (3 victim ages x 3 suspect ages). Adjustments were made for "border" ages (1 and 99); see Maltz, 1998 (p. 405) for a complete explanation.

teens. Obviously, these are (at least) two different behavioral patterns at work here. Disaggregating the age data by relationship and by age provides additional insight into the nature and extent of Ohio's domestic violence problem.

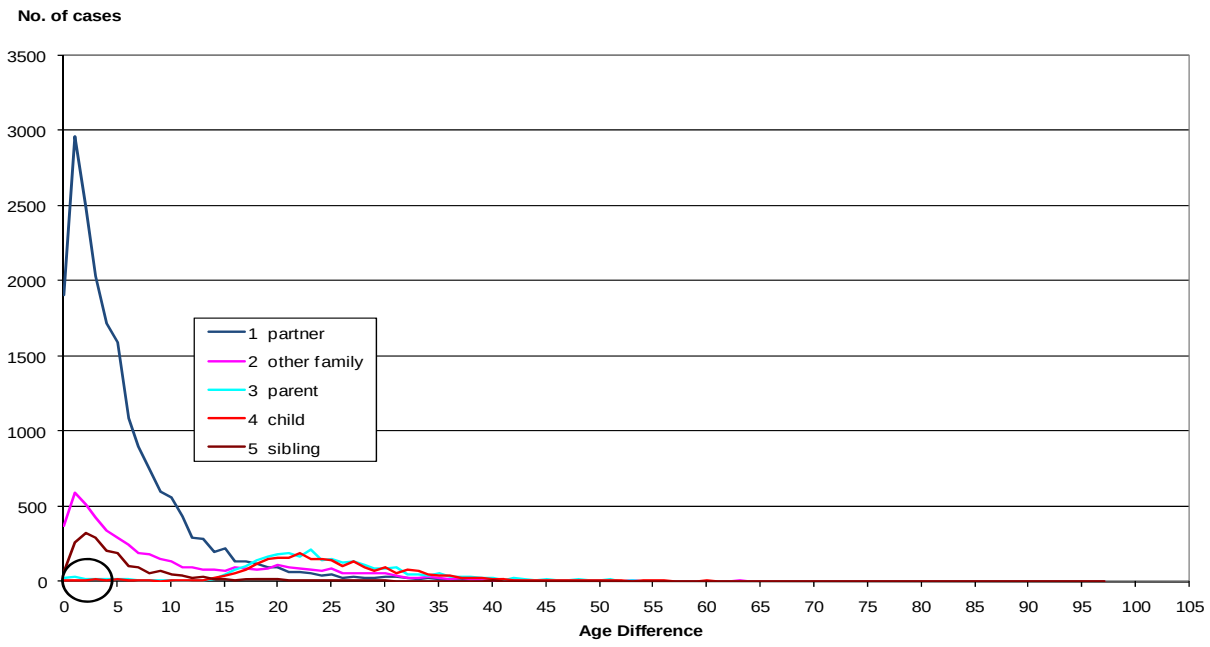


**Figure 5. Age Difference between Suspect and Victim by Relationship**

When we look at the age difference between suspect and victim within these relationship types (Figure 5), we see that the bulk of partner, sibling, and other family domestic violence incidents occurred between persons of the same age group (either the same age or within 4 years of one another). Thus, the blue, pink, and brown peaks on the left side of the chart indicate the number of cases for these three relationship types that involve suspects and victims within one or two years apart in age. The turquoise and red lines represent parent and child relationship cases,

and here we see that the largest number of cases for these occur for age differences between roughly 17 and 30 years apart, which is what we would expect.[4]

Looking even more closely at how victim and suspect ages vary by relationship categories (see Figure 6), we can see that, for partner cases, there is a great deal of difference when sex of the actors is taken into account. As would be expected, the greatest number of cases are opposite-sex cases, reflecting the relatively small numbers of same-sex relationships – note that the vertical scales on the upper and lower graphs are different. In addition, there are about 6 times as many male-on-female incidents as F-on-M incidents (16,089 vs. 2731). And as with other crimes, the frequency of occurrence tapers off as the actors grow older. Although there are hardly enough cases to evidence a true pattern, the age patterns in the same-sex partner cases appear to show that the suspects are by and large younger than their victim partners.

[4] There were 145 parent or child incidents where the age difference is less than 5 (within the circle in the lower left-hand corner in Figure 5), which indicates a problem with data from some jurisdictions which have likely incorrectly entered either the relationship or age data for the victim or suspect. Users of the data need to be aware of this shortcoming when performing analyses. This issue also arises in subsequent visual presentations of data that examine age and relationship.

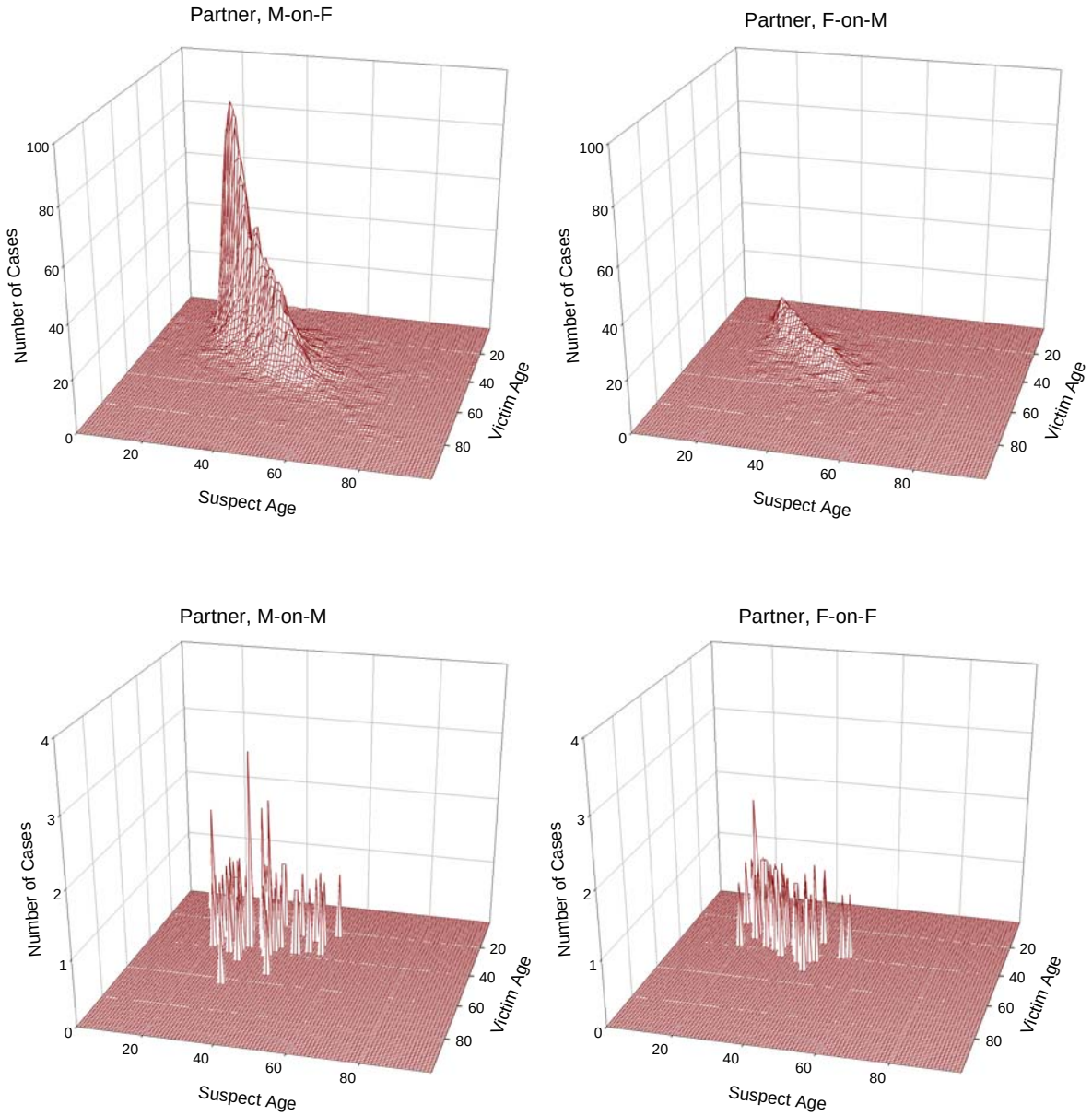


**Figure 6. Victim and Suspect Ages by Sex for Partner Victims**

Figure 7 shows the age-sex differences when the victim is a child of the suspect. In this case the number of cases is about the same for all four sex combinations. In addition, note that, unlike the partner cases, all four graphs are on the same scale. This indicates that victims of either sex are (allegedly) victimized equally by suspects of both sexes. Note also that some of the incidents in all four graphs lie above the diagonal, meaning that the age of the suspect (parent) is

greater than the age of the victim (child). While the number of cases is relatively small in number, it shows that OIBRS data has inaccuracies. Unfortunately, it is impossible to tell if the ages were reversed (meaning that the victim was a child, so the age of the victim is actually the suspect's age and vice versa) or if the relationship was misspecified (and the victim was the parent and not the child). In the first case, the data point belongs to this graph with the ages reversed; in the second case the data point belongs to the chart with the parent as victim.

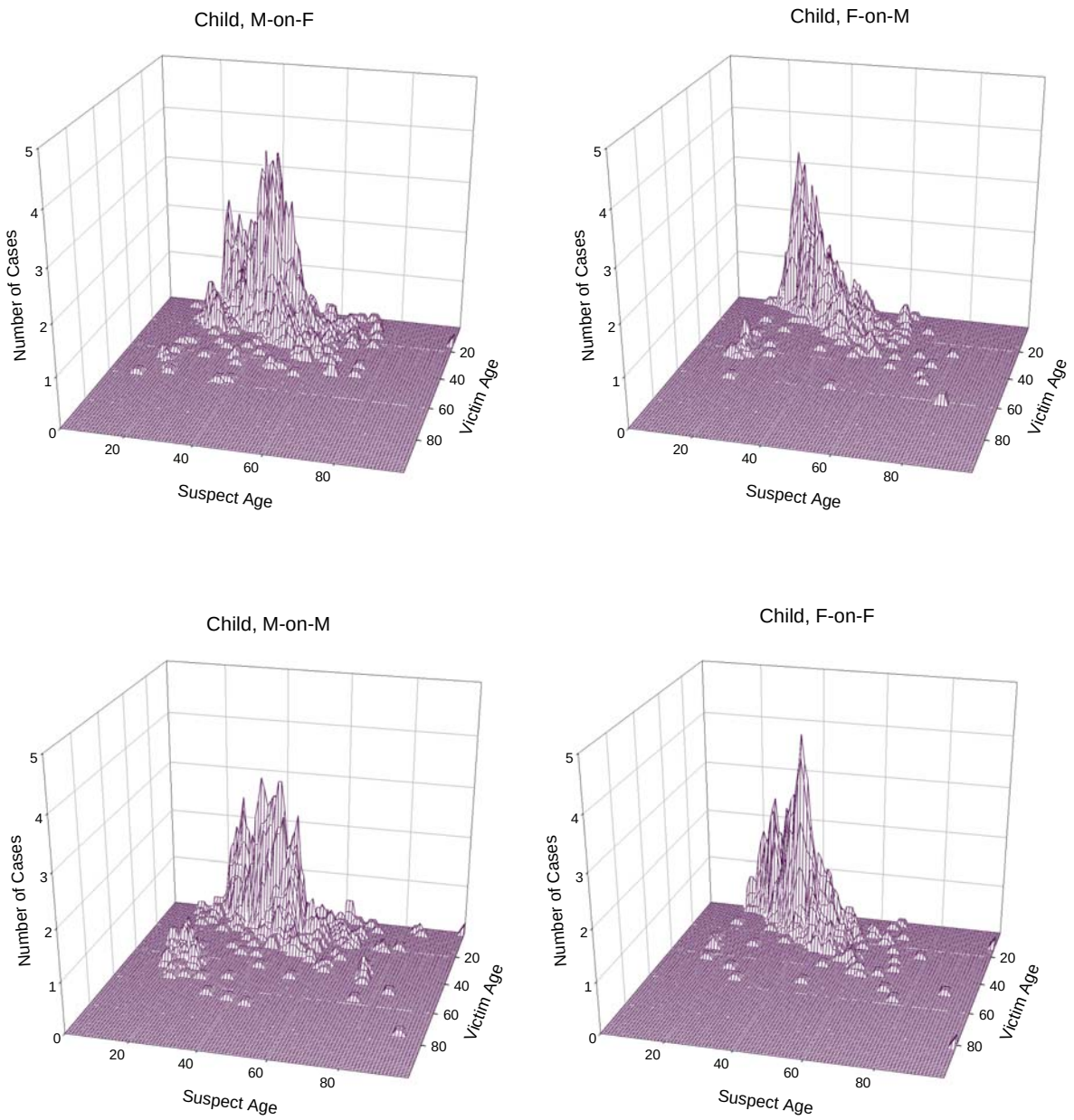


**Figure 7. Victim and Suspect Ages by Sex for Child Victims**

When the parent is the victim (Figure 8), we get a different picture. In this case the dominant situation is a female victim, with male and female suspects about equal in number. As might be expected, when the victim was male, males were more likely than females to be suspects. And as with child victims, there were many incorrect and ambiguous cases of incidents

in which the age of the victim (parent) is younger than the age of the suspect (child).

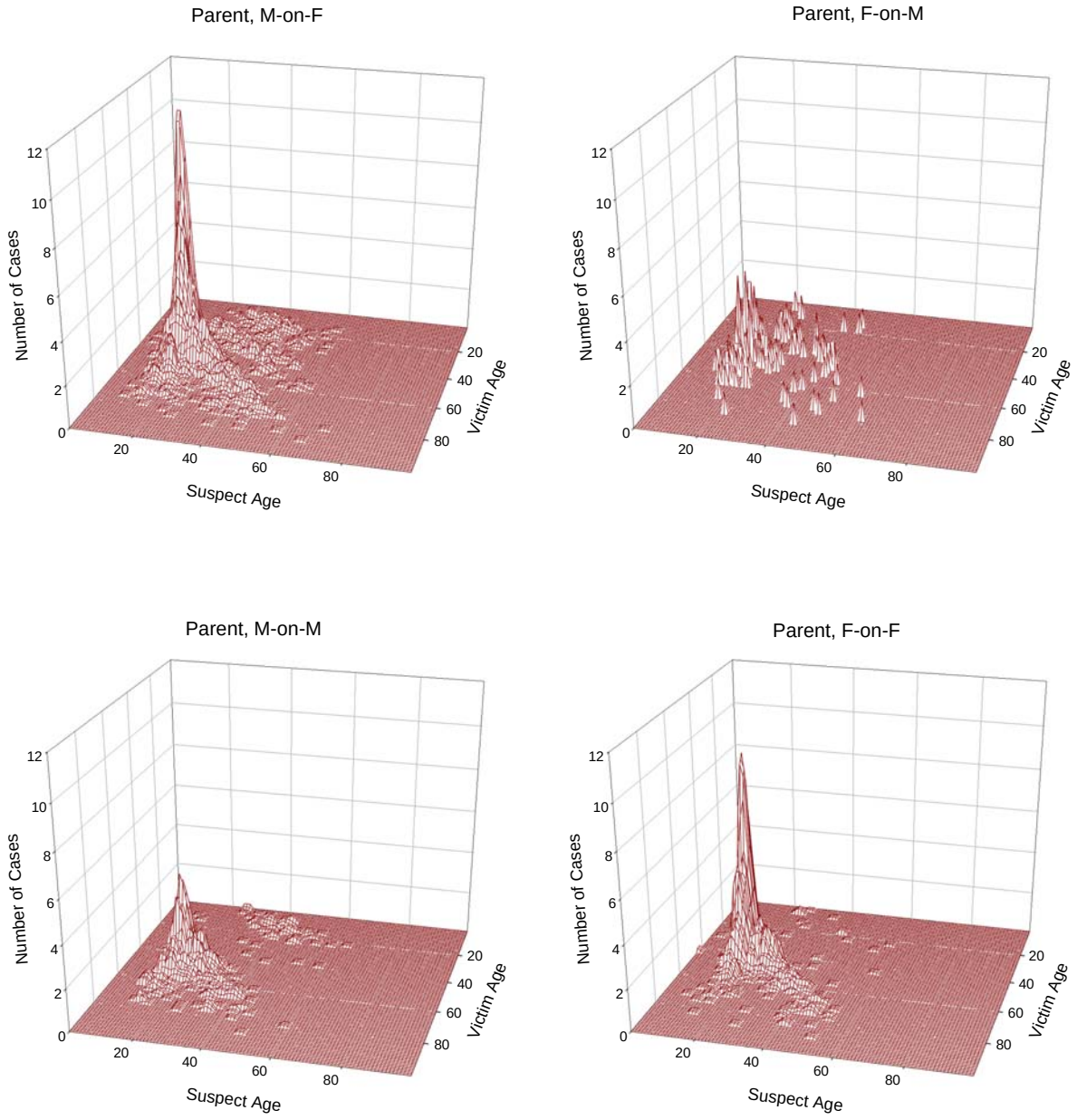


**Figure 8. Victim and Suspect Ages by Sex for Parent Victims**

Males were more likely than females to be suspects in sibling cases (Figure 9). These also fell close to the diagonal, since siblings' ages are usually fairly close to each other.

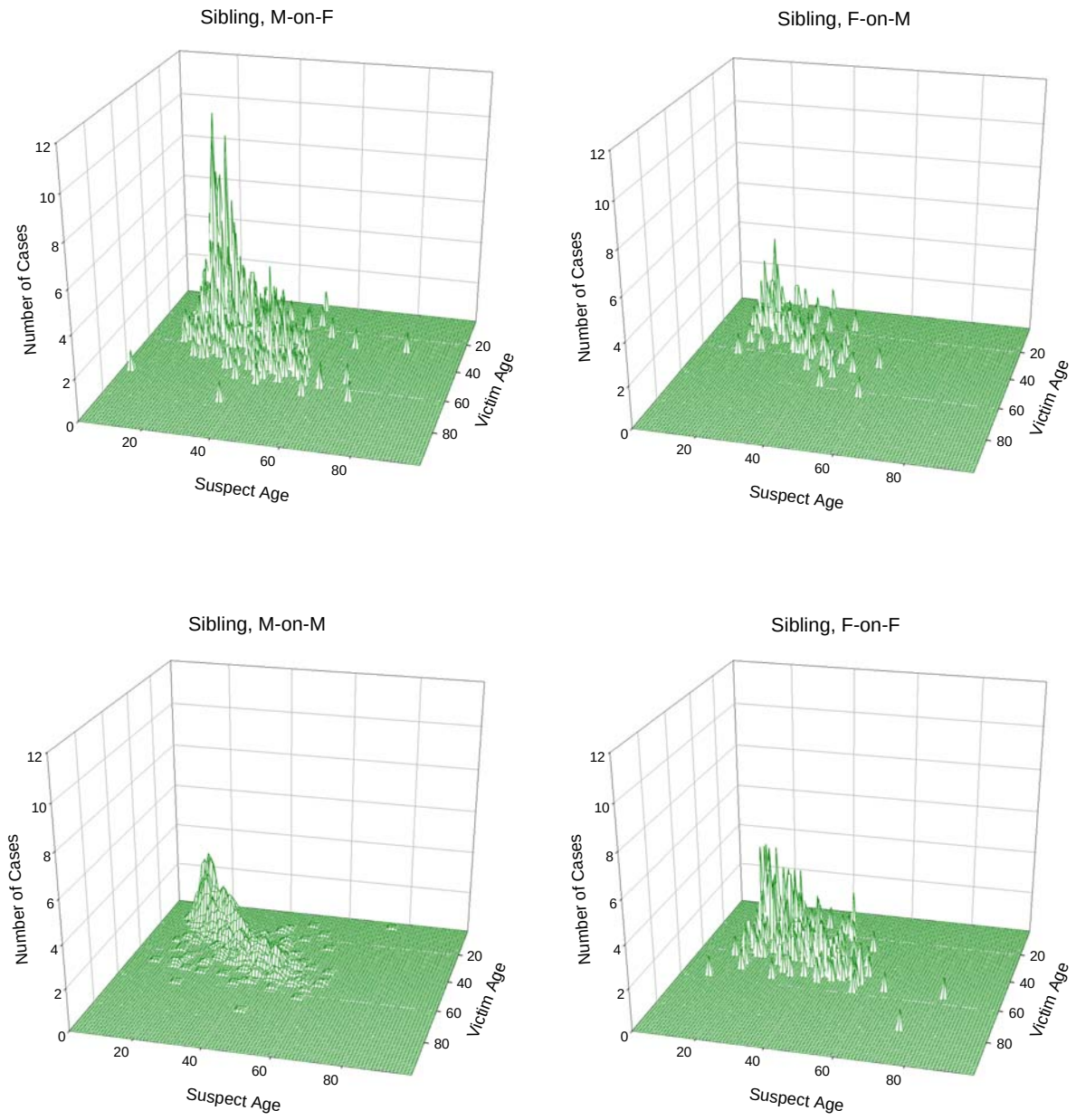


**Figure 9. Victim and Suspect Ages by Sex for Sibling Victims**

When an "other family member" was alleged to have committed the domestic violence (Figure 10), the dominant suspect-victim relationship was M-on-F, with both victim and suspect

in their early twenties.

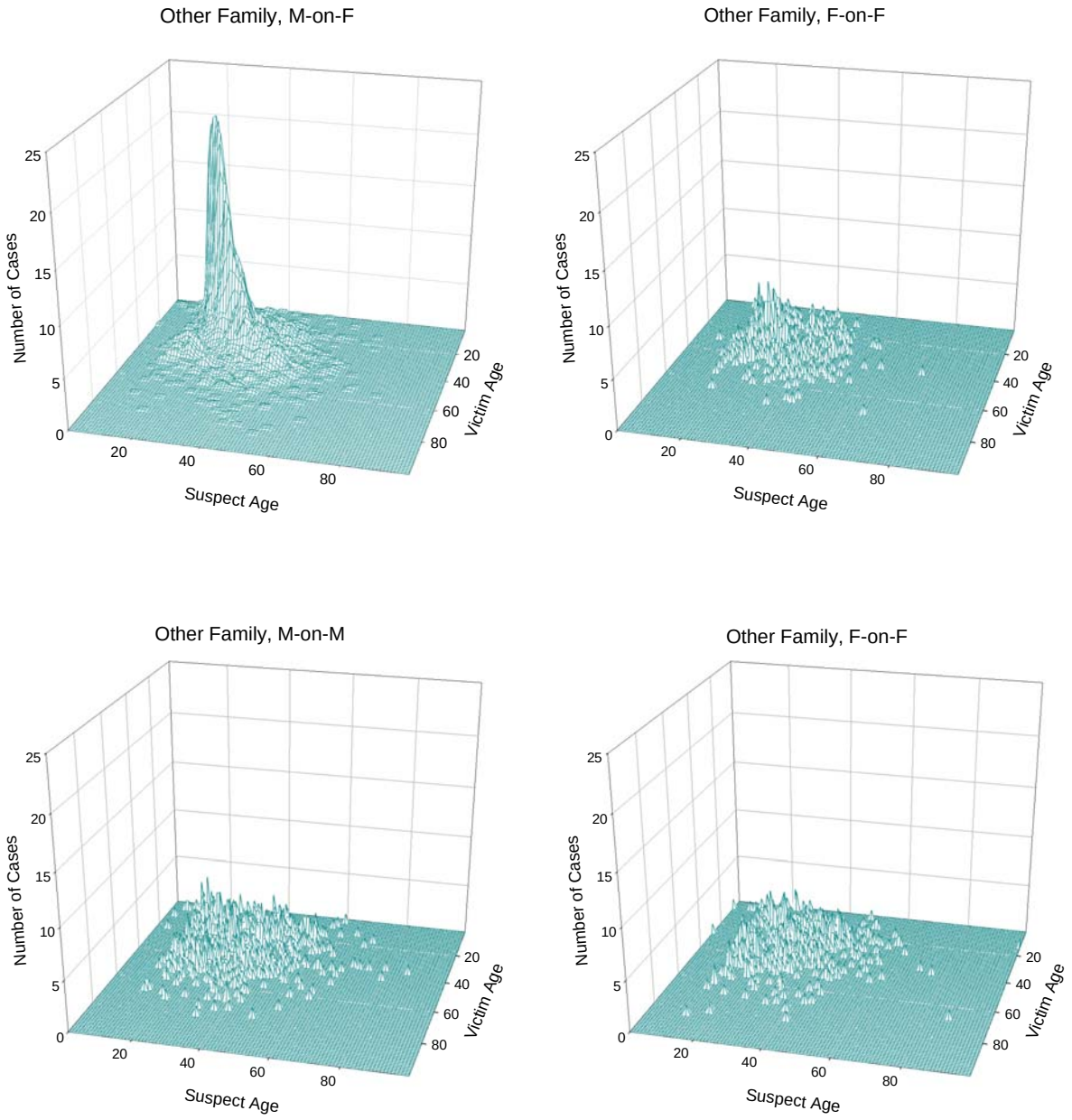


**Figure 10. Victim and Suspect Ages by Sex for Child Victims**

## *Location*

For the 1-on-1 incidents (Figure 11), a majority (84%) took place in a residential building, thus illustrating the private nature of such crimes; only 11% took place outside, such as on the street or in a car; 3.5% took place in a public building; and 1.5% took place in some other location.

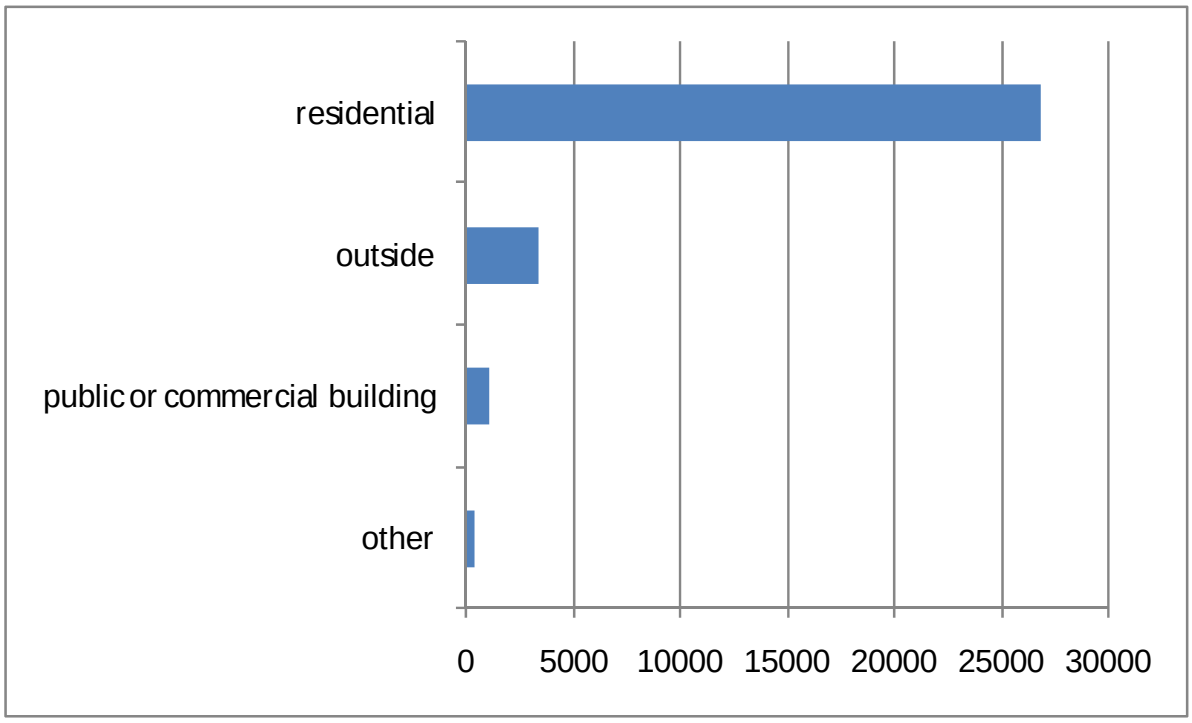


**Figure 11. Location of Domestic Violence Incidents**

### *Time of Year*

For policy purposes, it is also necessary to know when domestic violence is taking place. For 2004, domestic violence cases seem to peek in the spring and actually decline in the mid summer, as one can see by Figures 12 and 13. Domestic violence is lowest in the winter months of January, February, November, and December. This pattern holds for all relationship types.

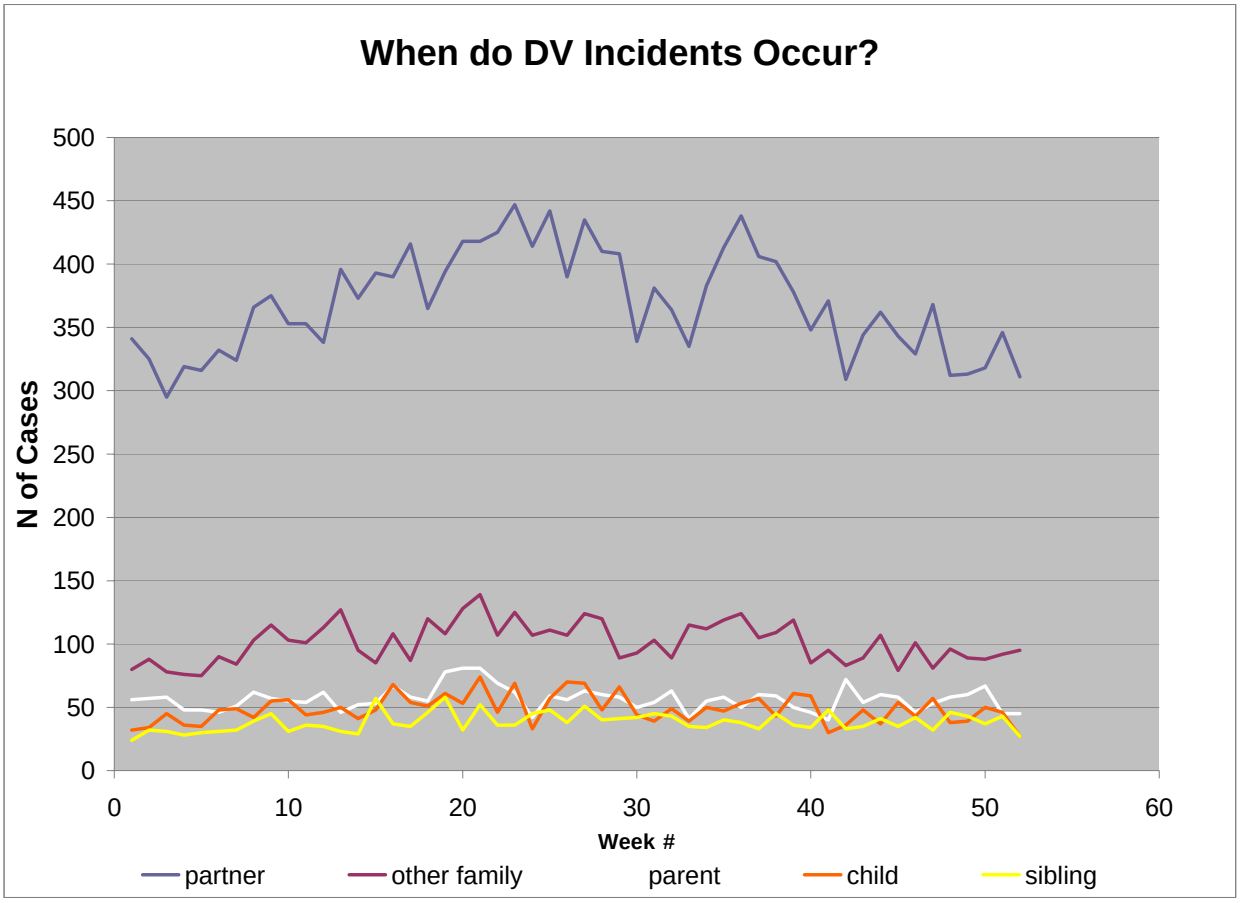


**Figure 12. When Domestic Violence Occurs, by Week and Relationship.**

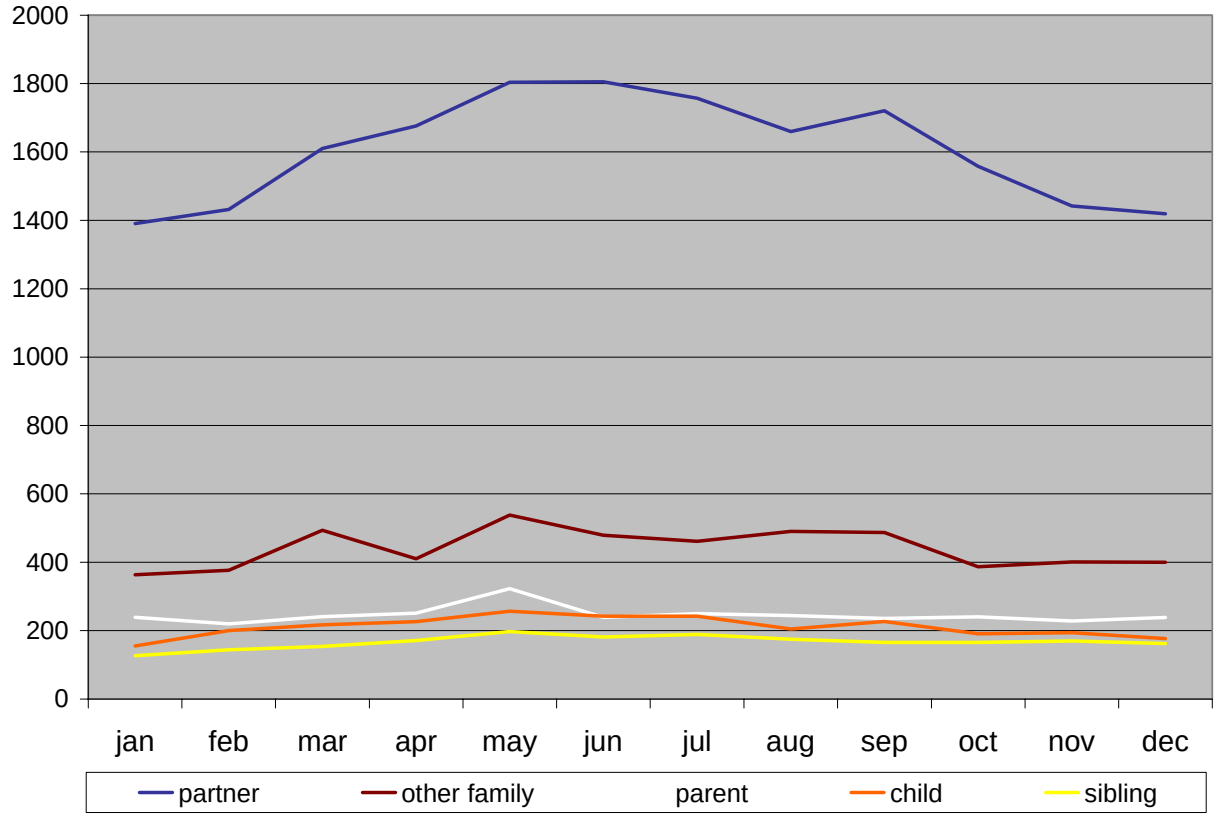


**Figure 13. When Domestic Violence Occurs, by Month and Relationship.**

## *Race*

In the 1-on-1 incidents (Figure 124), most cases (90.1%) were intraracial. 6.5% of the incidents were interracial, and 3.4% of incidents involved a victim or suspect whose race was unknown or unrecorded.

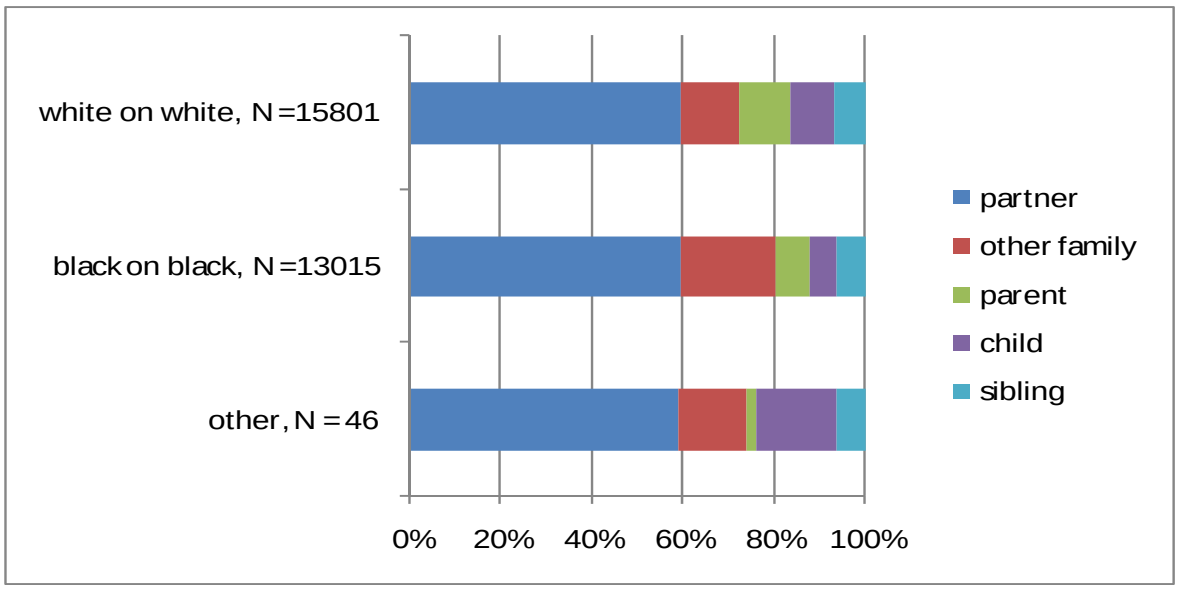


**Figure 124. Races and Relationships of Victim and Offender in Intraracial Incidents**

Slightly more than half of the intraracial incidents (just under 55%) were white-on-white, while 45% were black-on-black and less than 1% were other races (46 cases of 28,864). Broken down into relationship within intraracial, Partner cases make up the largest group of intraracial situations, followed by other family relationships. There is roughly the same number of child and parent cases for white-on-white incidents. For black-on-black incidents, there are 32% more parent cases than there are child cases (1000 cases versus 755). Between 7 and 8% of cases are sibling cases, whether they are white-on-white, black-on-black, or other-on-other.

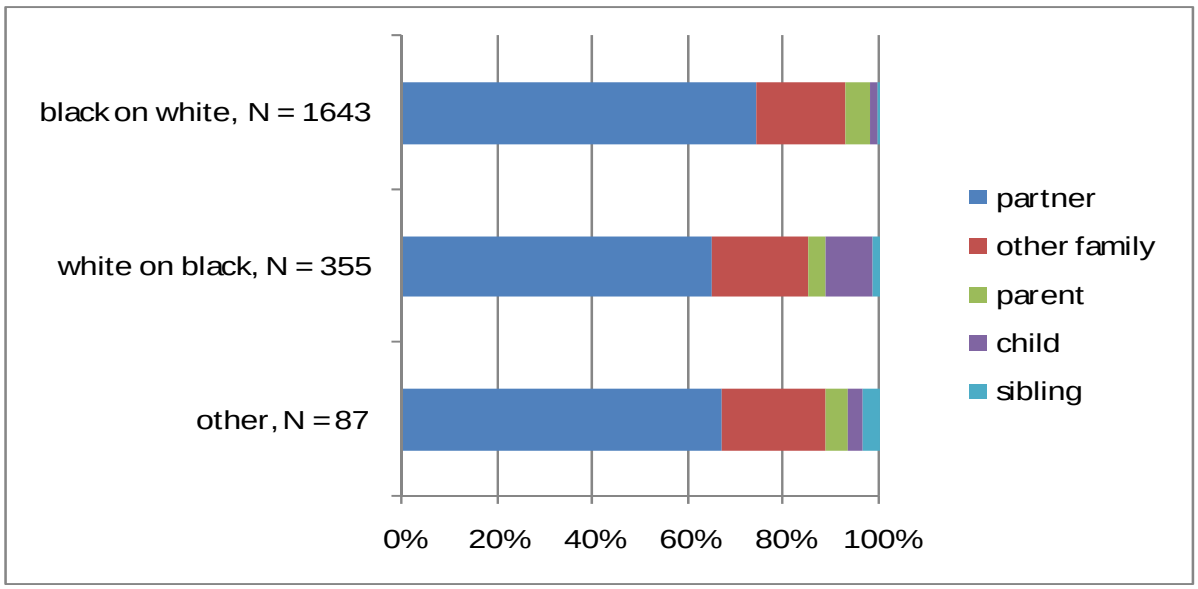


**Figure 135. Races and Relationships of Victim and Offender in Interracial Incidents**

Most (79%) of the interracial incidents (Figure 135) were black-on-white, 17% were white-on-black, and other combinations account for the remaining 4%. Looking at relationships of the interracial cases, again we see that partners were the most common victim, followed by other family members. In black-on-white incidents, there are roughly three times as many parent victims as there are child victims. However, in the white-on-black incidents, this situation is reversed—there are roughly three times as many child victims as parent victims. For other interracial combinations, there are similar numbers of parent, child, and sibling victims.

Sex.

For the 1-on-1 cases, over three-quarters (78.4%) of the victims are females and the rest are males. The victim's sex is not known (or unrecorded) for 104 incidents, or less than 1%. In contrast, when looking at *suspects*, over three-quarters (79.4%) are *males*, 20.5% are females, and the rest are unknown.

Due to the pattern just described, it comes as no surprise that the most common situation for 1-on-1 domestic violence incidents is male-on-female. This type of incident accounts for 70.5% of all cases. Female-on-male is the next largest group, and accounts for just under 13% of the cases. There are similar percentages of male-on-male and female-on-female situations (8.5% and 7.7%, respectively). The rest of the incidents are comprised of situations in which the sex of the victim, the suspect, or both persons was unknown or unrecorded.

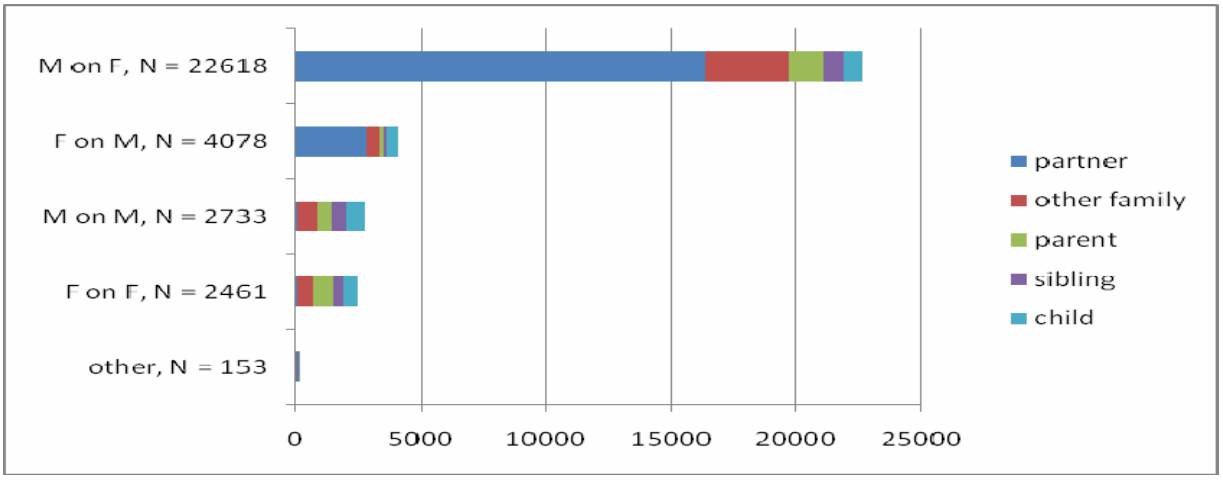


**Figure 146. Sexes and Relationships of Victim and Offender in Incidents**

Looking at sex by relationship, as in Figure 146 above, the intersex cases are comprised mostly of partner victims. Specifically, in male-on-female incidents, partner cases make up 72%, while other family cases make up 15%. Parent, sibling, and child cases make up just 6%, 4%, and 3%, respectively, of the remaining male-on-female cases. Partner cases make up 68% of female-on-male incidents. Other family, parent, sibling, and child cases make up12.5%, 5%, 3%, and 11.5% of female-on-male cases, respectively.

When we look at the intrasex incidents, family relationships comprise the majority of them. Other family members and children are victims most often in these same-sex situations. In male-on-male cases, siblings are victims in slightly more cases than are parents, but in female-on-female cases, parents are victims to a much greater extent than are siblings.

## *Sociodemographic Characteristics*

### *Population*

We were able to acquire population size descriptions from the Inter-University Consortium on Political and Social Research (ICPSR) at the University of Michigan. This allows us to compare domestic violence rates in cities of different sizes. When we do this, we notice some interesting patterns (Figure 157).

### *City Size by Relationship*

Before discussing these patterns in detail, it should be noted that the data we present here are *reported* rates, that is, the number of incidents of domestic violence reported to the police in a city divided by the city's population, then multiplied by 100,000. Not all domestic violence incidents are reported, and the rate of reporting them varies considerably with the demographic composition of the city. According to a Bureau of Justice Statistics study ("Intimate Partner Violence in the United States," available at http://www.ojp.usdoj.gov/bjs/pub/pdf/ipvus.pdf), reporting ranges from about 47 to 67 percent, depending on the sex, race, and ethnicity of the victim. In addition, police policies with respect to reporting domestic violence, the presence or absence of domestic violence shelters, and other factors also affect the rates. Therefore, the figures presented herein should not be taken as definitive. Rather, they should be seen as a benchmark against which to gauge rates in subsequent years, since the demographic and programmatic factors mentioned above normally do not change much from year to year.

For the six cities with 100,000 or more population, Cleveland has the highest mean rate of partner domestic violence, while Toledo has the lowest partner rate. However, when we look

at child rates, Akron has the highest rate of this type of domestic violence, while Cincinnati has the lowest rate.

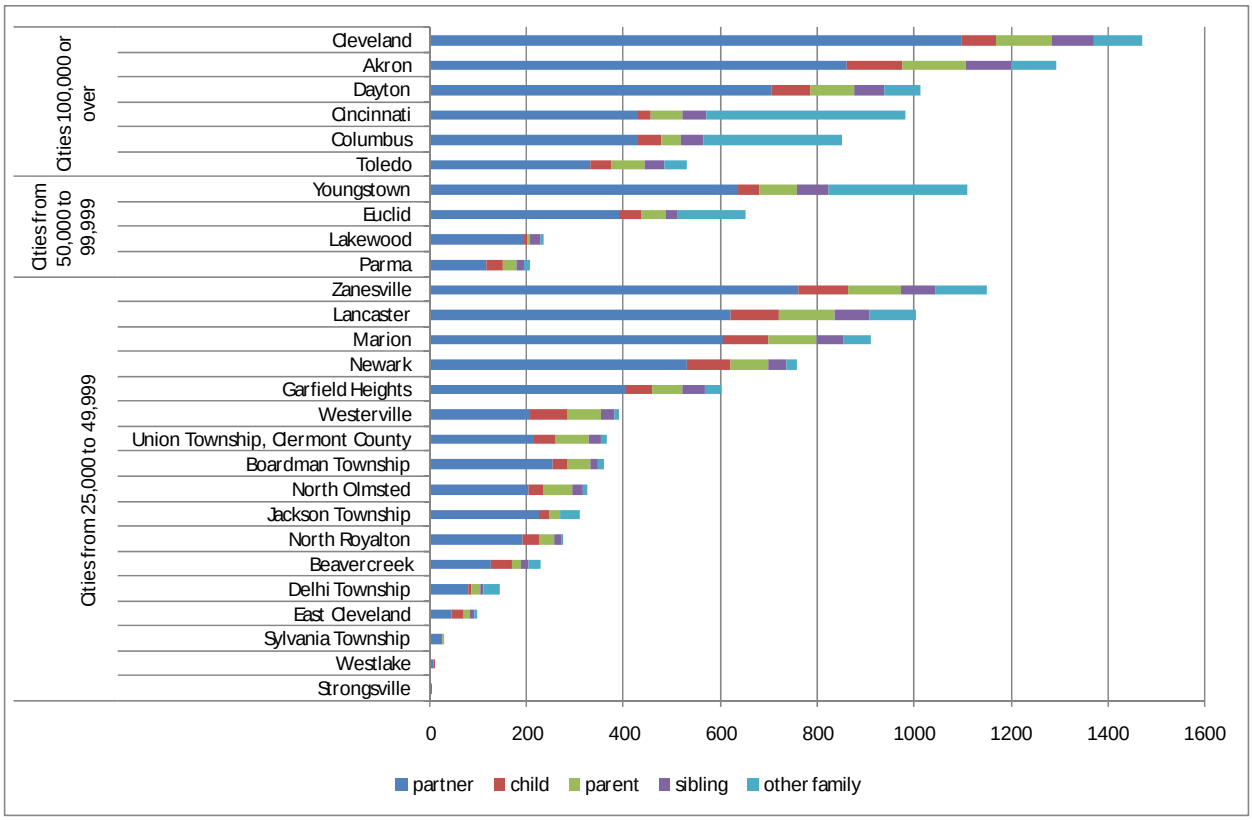


**Figure 157. Domestic Violence Rates by Relationship for Cities in the 3 Largest Population Groups**

When we look at domestic violence incidents in which the parent was the victim, we see that, again, Akron has the highest mean rate, whereas Columbus has the lowest rate. Akron has the highest sibling and child rates as well, while Toledo has the lowest sibling and Cincinnati the lowest child rate. However, with “other” family member domestic violence, Cincinnati has the highest rate while Toledo has the lowest and Akron is somewhere in the middle. It seems, then, that Akron has high domestic violence rates involving close family members, but not comparatively high rates involving more distant family members. And Columbus has some of the lowest rates in all categories except for other family (when it has the second highest rate).

Upon examining the mean rates across the four places with populations between 50,000 and 99,999, it seems that Youngstown has the highest rate for almost all relationship types (except for child rates, but even here it is very close to Euclid's rate).

Turning to mid-sized cities (with populations between 25,000 and 49,999), Zanesville has the highest partner domestic violence rate of this group (a rate of more than 750 per 100,000 persons), while Westlake has the lowest partner rate (6.34 per 100,000 persons). Strongsville has no partner domestic violence incidents, only child incidents. Zanesville also has the highest domestic violence rate for children, siblings, and other family members; the only category for which this city does not have the highest rate is for parent domestic violence (but it has the second highest). Lancaster and Marion have some of the highest rates for all types of domestic violence. Newark also has high rates, except for other family domestic violence—for this type of DV, Newark's rate is lower than seven other places.

For cities in the next population group (between 10,000 and 24,999 persons), Piqua (Figure 168) has a much higher rate of domestic violence than others in this group -- and higher than all larger cities as well. As noted earlier, it may be due to sociodemographic characteristics of the municipality, to municipal policies with respect to shelters, or to police policies with respect to reporting of domestic violence incidents.

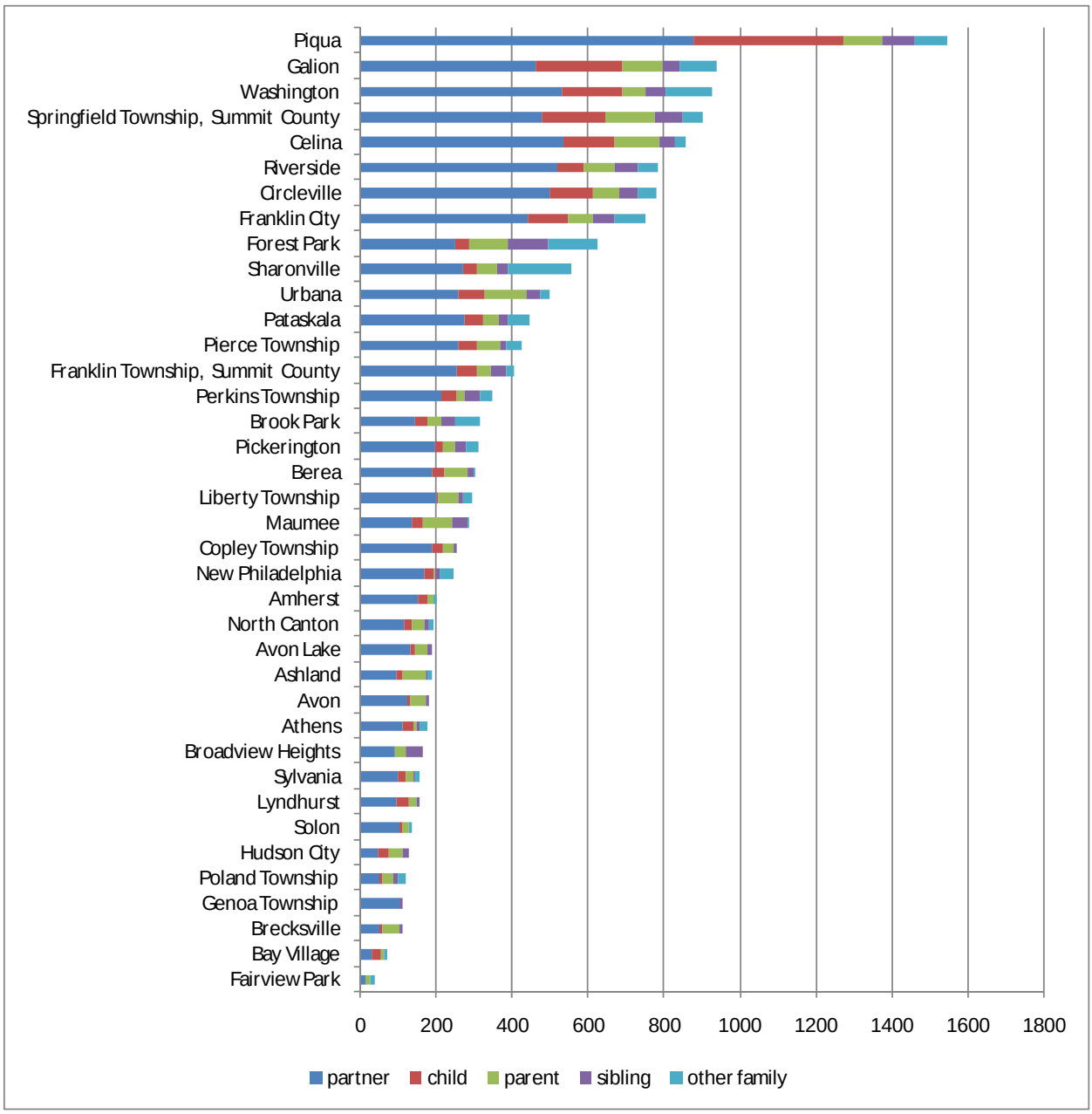


**Figure 168. Domestic Violence Rates by Relationship for Cities with Populations Between 10,000 and 24,999**

Among cities with populations from 2,500 to 9,999, we see that Windham has the highest rate of domestic violence, higher even than Piqua (Figure 179). Aside from the standard explanation given in the previous paragraph, there is a statistical one as well. The larger the population, the more stable the rates tend to be; and conversely, the smaller the population, the

more volatile the rates tend to be. What may be at play here is that type of phenomenon; to explain further, note that a crime count of 10 in one year is likely to be followed by a crime count of 8 the next year – reduction by 2 crimes produces a 20 percent drop -- but a crime count of 1000 in one year is highly unlikely to be followed by a crime count of 800 the next year.

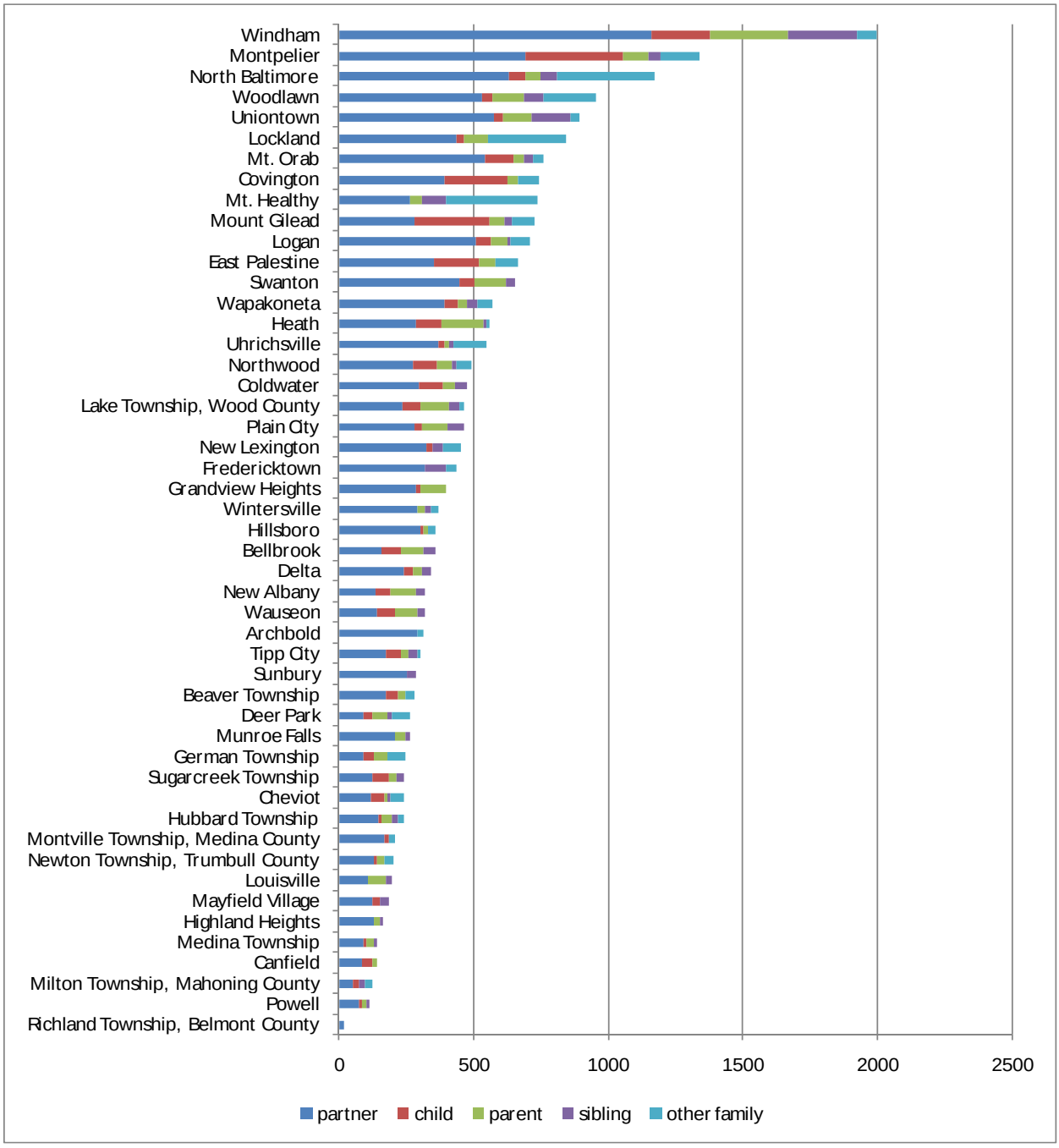


**Figure 179. Domestic Violence Rates by Relationship for Cities with Populations Between 2,500 and 9,999**

This phenomenon is probably more apparent in the smaller jurisdictions and counties depicted in Figure 201820 below.

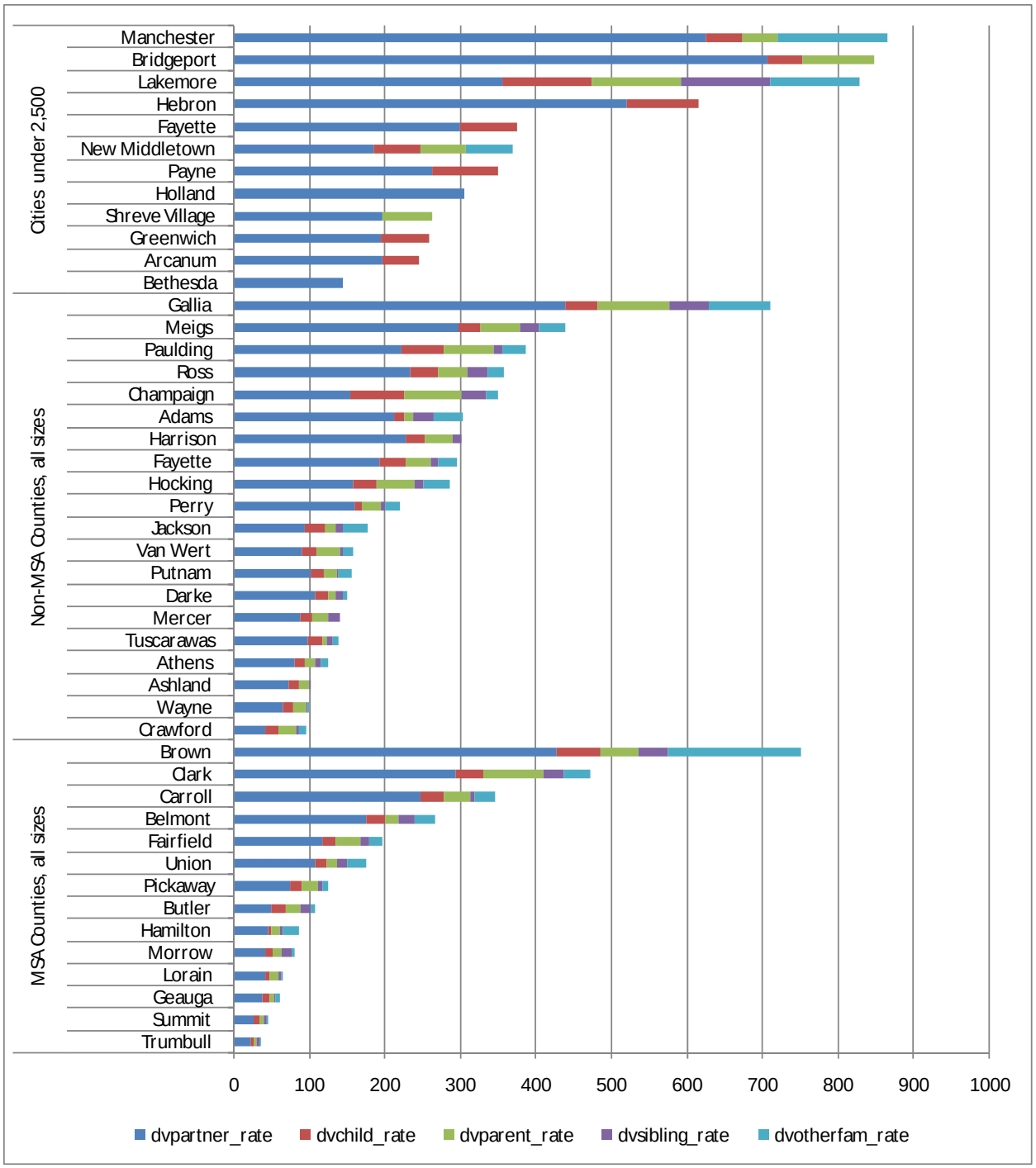


**Figure 2018. Domestic Violence Rates by Relationship for Cities with Populations under 2,500 and for Counties**

### *Census Data: Poverty, Income, and Race*[5]

When we incorporate Census data with the OIBRS data, some interesting patterns appear. Household income among Ohio's cities runs from $17,000 (for Athens) to over $100,000 (for Powell). As can be seen from Figure21, the relationship between median income and domestic violence is generally negative: the higher the income level, the lower the domestic violence rate. Note also that the domestic violence rate is plotted on a logarithmic scale, since it has such a large range, running from 4 to over 1900. The size and shading of the markers for each jurisdiction indicates its population. As can be seen, the large cities cluster around the same median income and domestic violence rate, with relatively few outliers in either household income or domestic violence.

[5] We obtained Census data from the Census Geolytic electronic files from the Ohio State library.

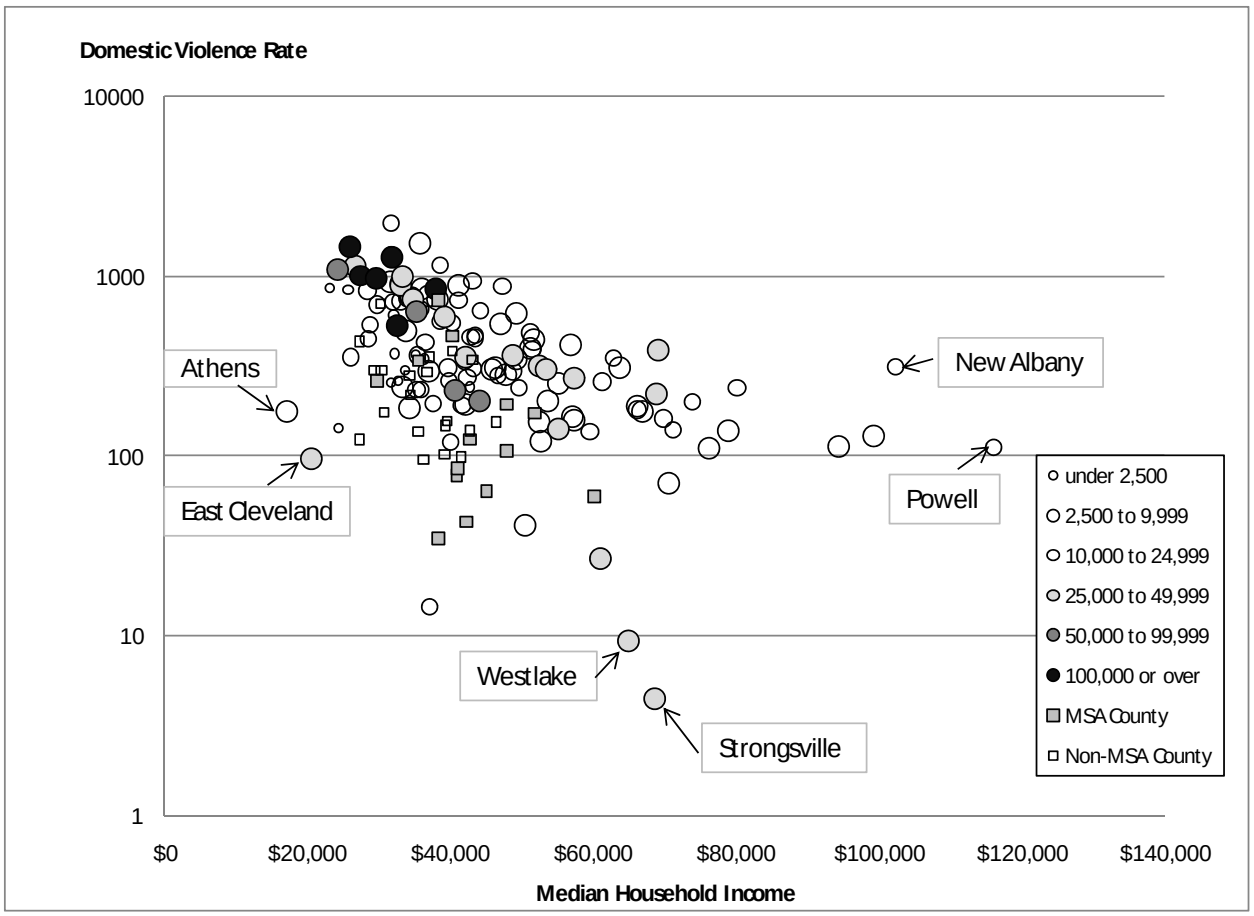


**Figure 21. Domestic Violence Rate and Median Household Income**

Another way to look at the relationship between financial characteristics and domestic violence is to plot it against the poverty level (Figure 192). In this report we define the poverty rate as being the percentage of households with income below the poverty line. The poverty level varies considerably across Ohio cities, from .35 percent (for New Albany) to 52 percent (for Athens). Therefore, to show the relationship between poverty and (overall) domestic violence rate, the poverty rate is plotted logarithmically. As might be expected, a similar pattern is found in this figure: the slope is generally positive, with higher poverty levels associated with higher domestic violence rates, with a few outliers scattered around.

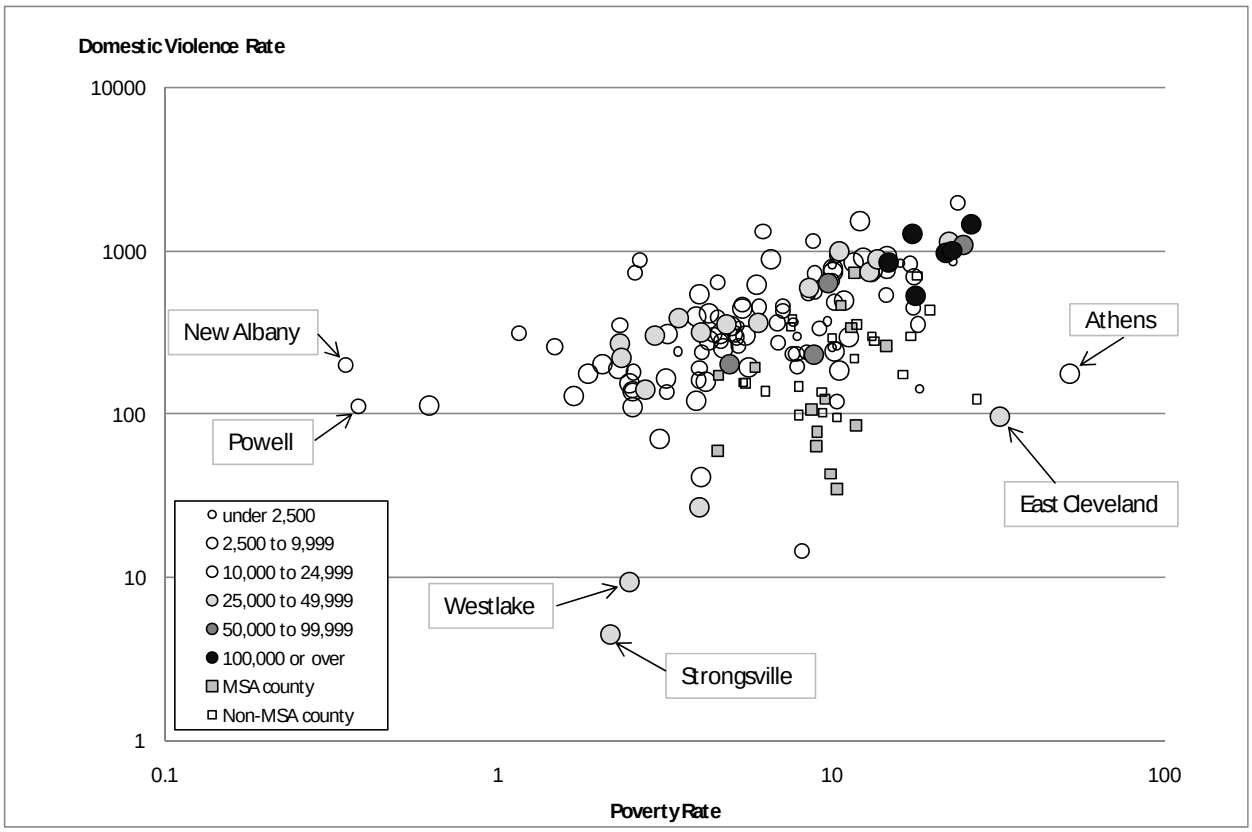


**Figure 192. Domestic Violence Rate and Percent of Families below the Poverty Level**

If we look at the sample in terms of racial composition, we see (Figure 203) that almost all places with large percentages of minorities (Hispanics and/or Blacks) also have high domestic violence rates. Specifically, there are four places—East Cleveland, Woodlawn, Cleveland, and Forest Park—whose populations are more than 50% minority. Of these four places, three have domestic violence rates well above the average. The one exception is East Cleveland; East Cleveland has the highest minority population (93.36%), yet has a domestic violence rate of just 96.44—which is less than ¼ the average rate of 417.82. The average domestic violence rate for these four places is 784.99, 88% higher than the sample average. However, the average % minority for this sample is just 6.84%. There are 33 places (21%) with above average racial

minority populations in the sample, and of these, the average domestic violence rate is 571.12—37% higher than the average rate.[6]

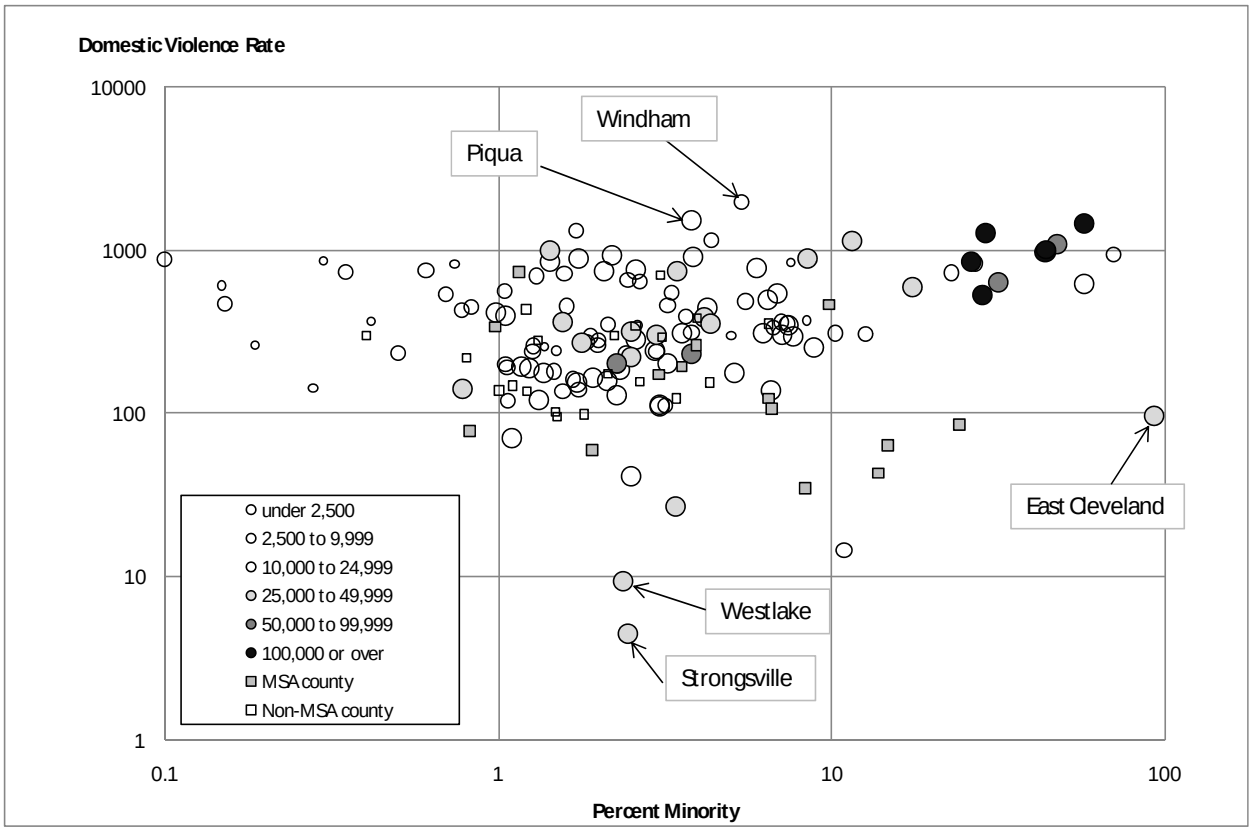


**Figure 203. Domestic Violence Rate and Percent Minority in the Population**

Note that Windham, which has the highest overall domestic violence rate at 1991.31, is comprised of less than 6% racial minorities. Piqua, which has the second-highest domestic violence rate at 1545.20, has less than 4% racial minorities. You can see, however (Figure 203 above), that the bulk of places with below-average domestic violence rates also have very small percentages of racial minorities. The average percentage of minorities in these places (n=104) is

[6] According to the Census data we used, Uniontown's minority population was 0. To permit us to plot this point (on the far left of the graph), we set it to 0.1 percent.

just 4.44%. *However*, even among the places with above-average domestic violence rates (n=56), the average percentage of racial minorities is still just 11.30%.

# III. ADDITIONAL ANALYSES

## *Homicide*

There were a total of 32 one-on-one domestic violence incidents that involved murder or manslaughter (Figure 214). Of these murders, almost two-thirds involved a partner (spouse, common-law spouse, or boyfriend/girlfriend) as the victim. There were an equal number of child and parent victims in murder cases, and very few cases that involved a sibling or more distant relative (6% each).

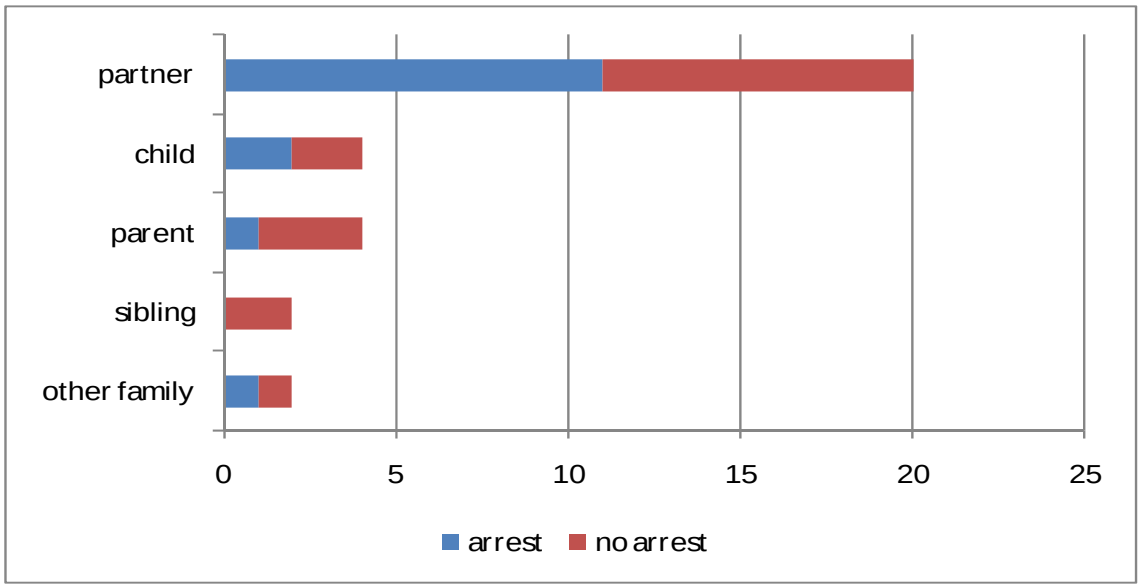


**Figure 214. Domestic Violence Murders by Relationship and Arrest Status**

According to the OIBRS data we were given, over half (55%) of these homicides did not result in arrest of the suspect. It is unclear to us as to why this should be the case: these incidents are classified as homicides, and the suspect is known to be in the family. Moreover, it is doubtful that over half of the suspects in these incidents absconded; even if the suspect was not available

at the time of the officer taking the initial report, OIBRS permits updating (in the case of, e.g., subsequent arrests) for up to two years after the initial report.[7]

As we might expect, when it came to victim and suspects' sex (Figure 225), the murder category with most cases was male-on-female (41%). There were, however, 31% involving female-on-male murders, and 22% involving male-on-male situations. There was just one case of a female-on-female murder, and one case had a female perpetrator and a victim whose sex was unknown (or, more likely) unrecorded.

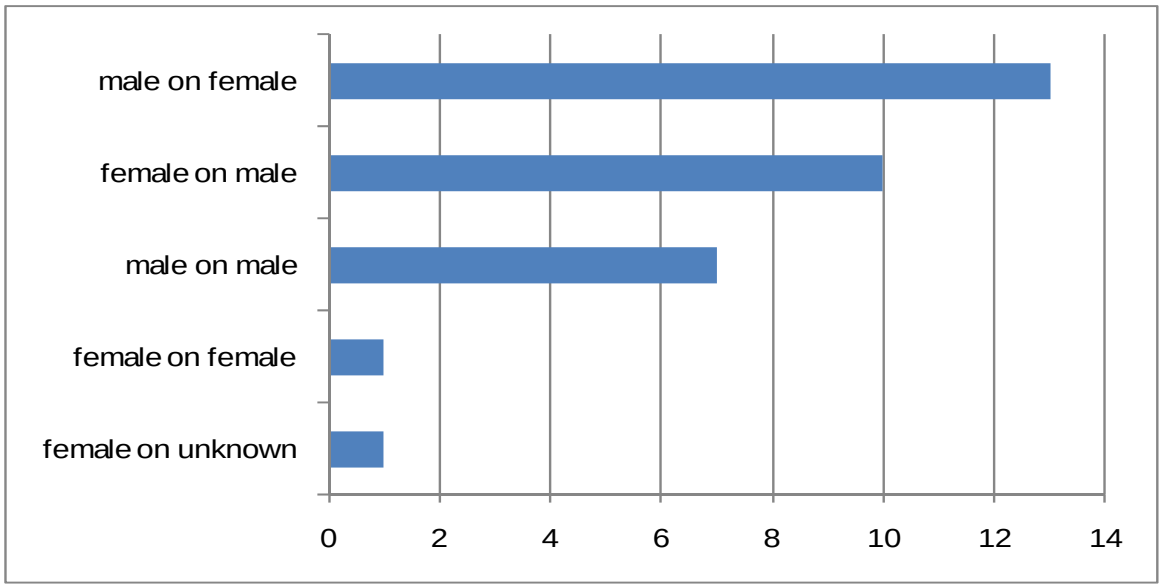


**Figure 225. Sex of Victim and Suspect in Domestic Violence Homicides**

Of the 31 homicide cases in which the sex of the victims was known (Figure 236), all but three of male-on-female and female-on-male murders involved partners; one case of male-on-female murder involved a distant relative as the victim, while two cases of female-on-male murder involved a child as the victim of his mother. For male-on-male murders, three involved a boy killing his father, two involved male siblings, and one each involved a boy being killed by

[7] It may be that the suspects had not yet been detained for these 2004 homicides by the time we received the data in 2006. We feel that his is unlikely, since most arrests are made within the first few weeks.

his father and a more distant relative being killed. The one female-on-female case was of a girl being killed by her mother.

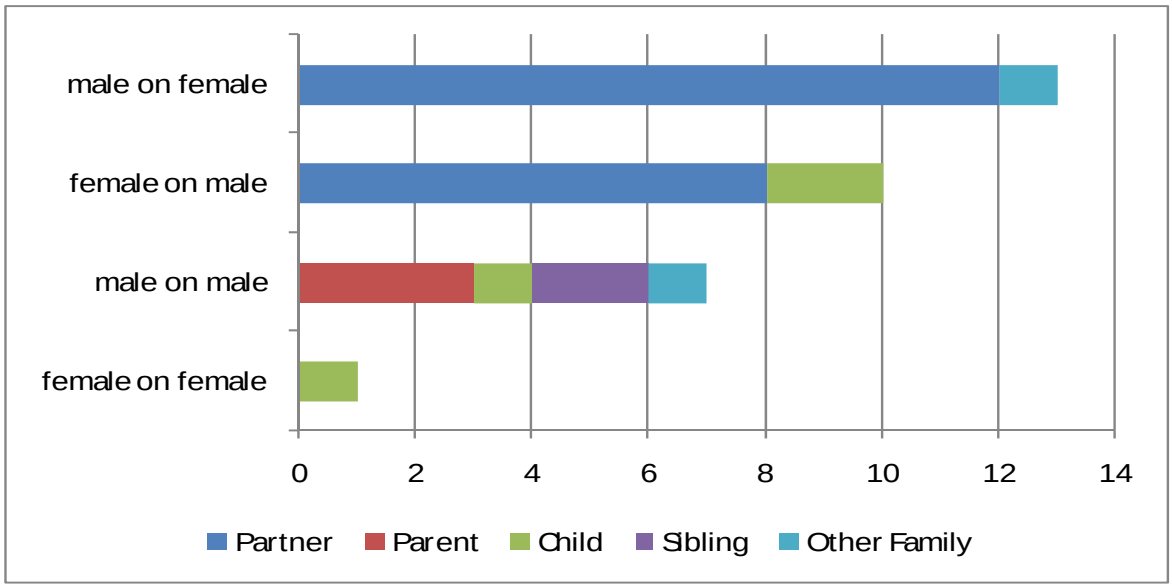


**Figure 236. Relationship of Victim and Suspect by Sex**

Despite a death having occurred, more than 15% of murder cases (5 of 32) involved an unknown or unrecorded weapon (Figure7). When the weapon was known, the largest category was firearm (37%), followed by a knife or cutting instrument (25%) and personal weapons such as fists, feet, etc. (19%). One case involved fire as the weapon.

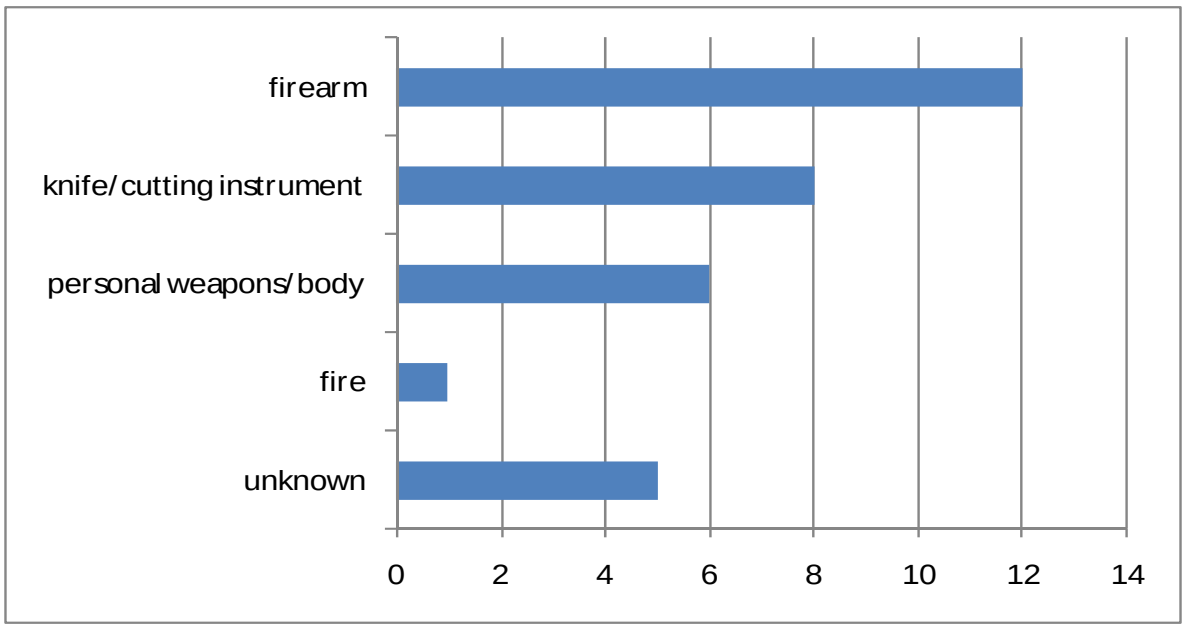


**Figure 27. Weapons Used in Domestic Homicides**

## *Rape*

There were 3,201 incidents involving rapes in the 2004 data file. Of these rapes, the largest group occurs between a single victim and a single offender (Figure8). This group makes up 86% of all rape incidents. The next largest category occurs between two suspects and one victim (8%), followed by one suspect and two victims (2%). The remaining incidents (just 1%) involve multiple victims and offenders.

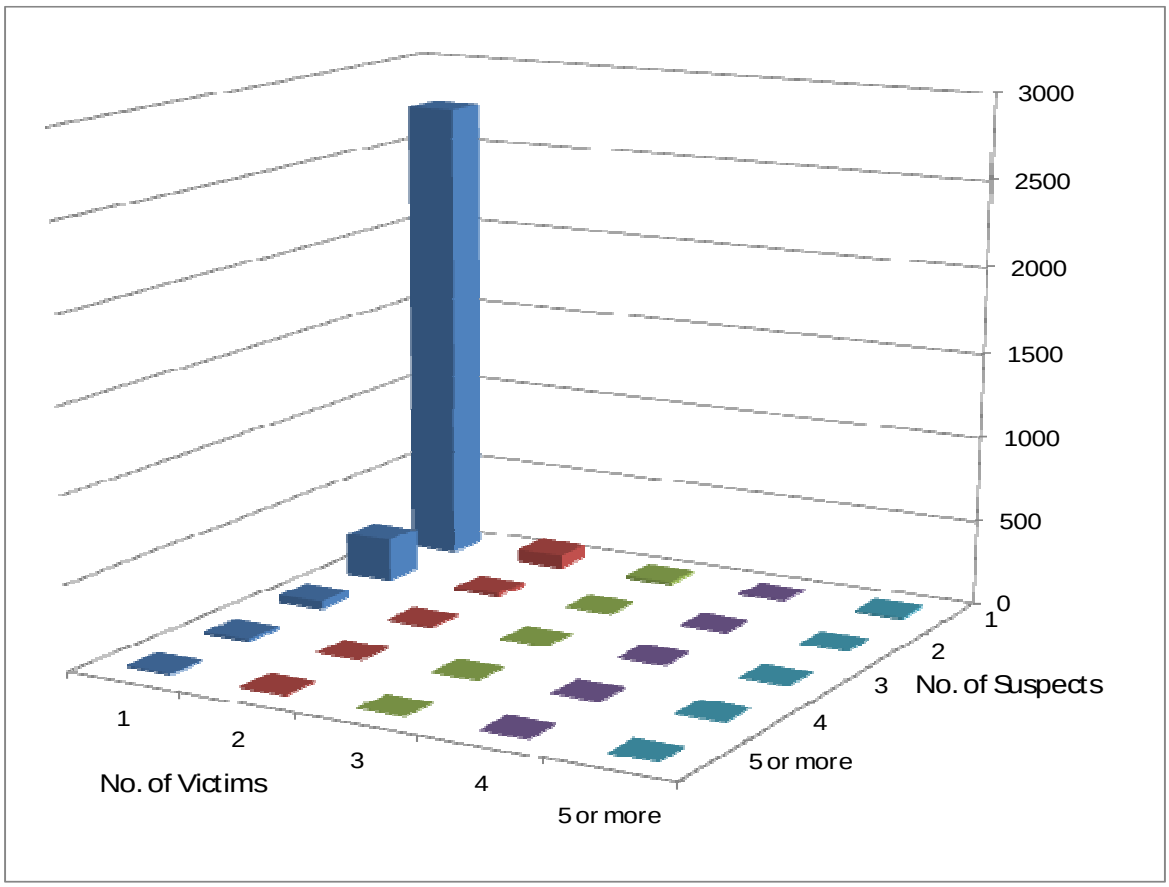


**Figure 28. Numbers of Victims and Suspects in Rape Cases**

Most rapes (73%) took place in a residential structure of some kind (Figure 249), while only 16% took place outside (on the street, in a car, etc.). Eight percent of rapes took place in a public building, while 3% took place in some other location.

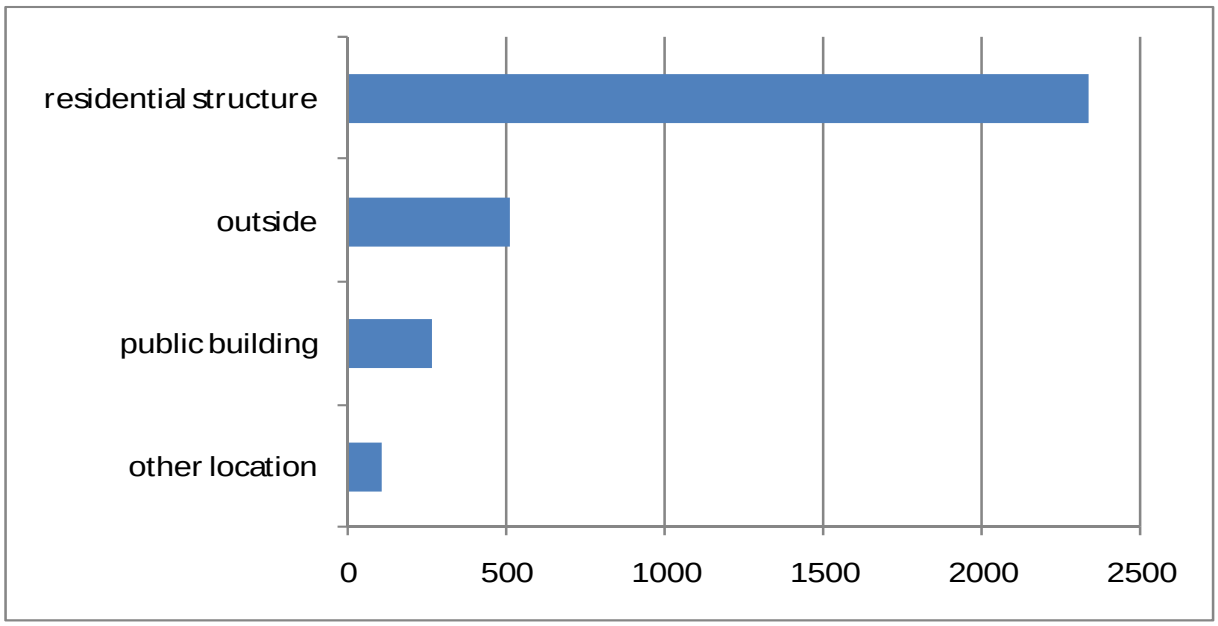


**Figure 249. Location of Rape Incidents**

For the 1-on-1 rape incidents, the data support the common notion that a most rapes occur between acquaintances. Twenty-four percent of incidents involved an *unknown* relationship between victim and suspect and another 9% involved strangers. However, 67% of all incidents involve victims who knew, or were related to, the suspect in some way. The largest group of these known relationships is acquaintances; 29% of rape victims were acquainted with the suspect. Eleven and one-half percent of rape incidents involved family members.

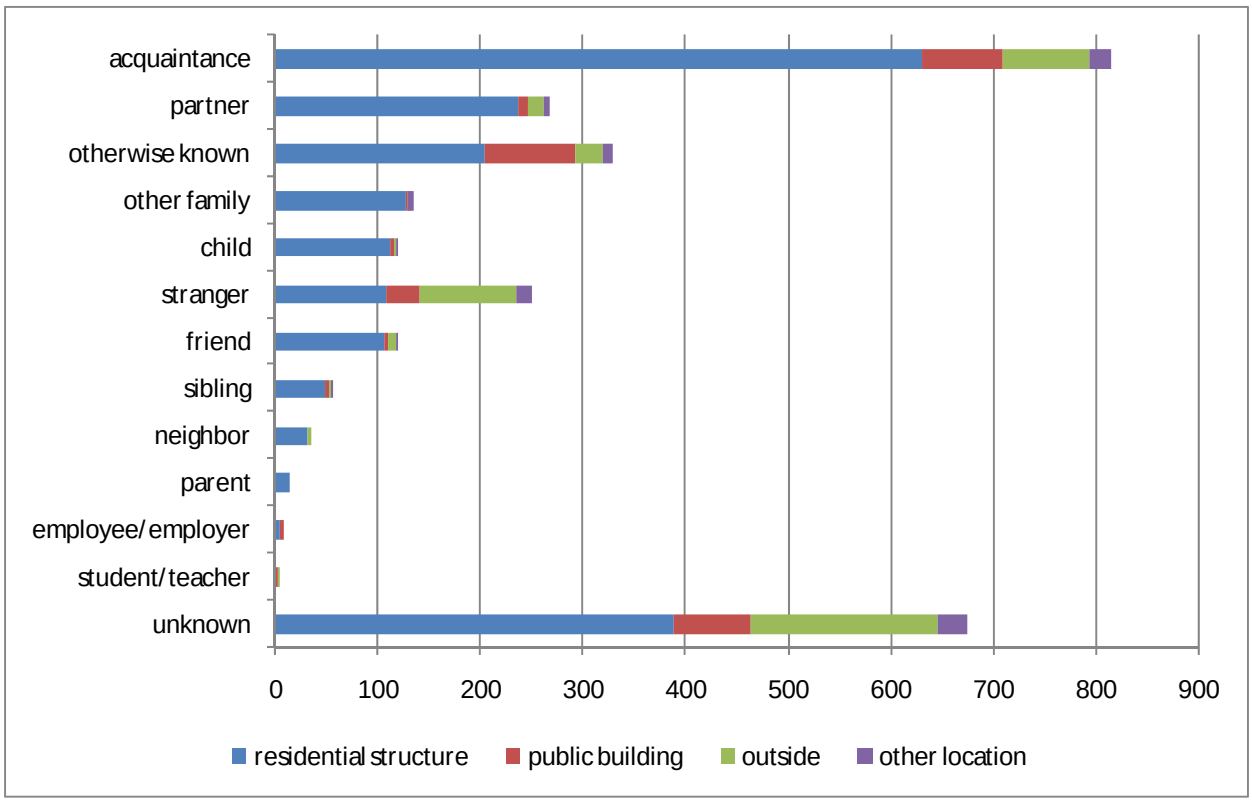


**Figure 30. Relationships and Location in One-on-One Rapes**

The location pattern of rapes is similar even when we look at relationships by location: rapes for all relationship types take place more frequently in a residential structure than anywhere else, with the exception of employee/employer rapes (5 of these incidents take place in a public building—presumably at work—while 3 take place in a residence). Even for *stranger* rapes, more occur in a residence than on the street or somewhere else outside (107 in a residence and 93 outside, respectively).

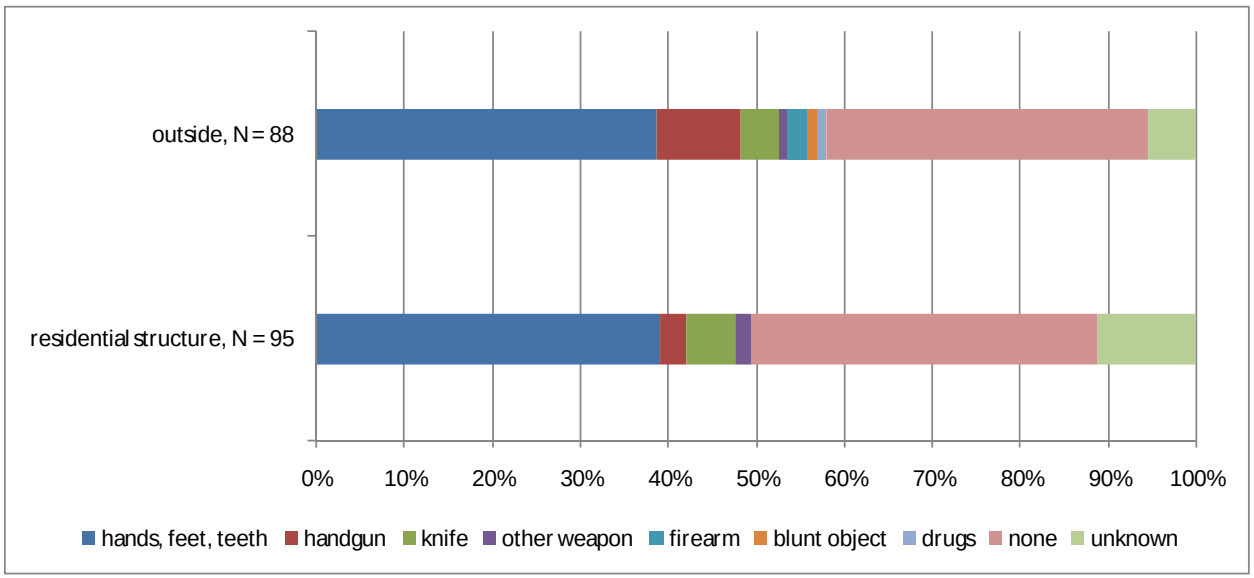


**Figure 31. Weapon Use by Location in Stranger Rapes**

When we look at the weapons used in the stranger rapes for residential and outside incidents, we see fairly similar patterns. For instance, most stranger rapes, whether in a residence or outside, involve no weapon at all (more than 30%) or personal weapons such as hands, feet, or teeth (almost 40%). Slight differences do emerge with other weapons, however. For example, stranger rapes that take place outside are three times more likely to have involved the use of a handgun or other firearm than stranger rapes that take place at a residence. Interestingly, more rapes that occur in residential buildings involve *unknown* weapons than do rapes that take place outside.

### *One-on-Many Incidents*

It is often difficult to perform a detailed analysis in cases with multiple victims and/or suspects. Each individual victim may have a different relationship with each individual suspect, so parsing the cases on the basis of relationships can be misleading. For example, if one wanted to determine the extent to which twenty-year-olds victimize their parents, the data could be searched for 20-year-old suspects and victims whose relationship to the suspects is either "PA" (parent) or "SP" stepparent). But suppose that the parents are taking care of the suspect's children, who are also victimized by the suspect; then this is also a case of child abuse. Questions then arise as to how to count this incident: as parental abuse, as child abuse, as both (therefore double-counting this incident), or as a new category of parent-and-child abuse?

Moreover, this situation assumes that the data are accurate, which is unfortunately not always the case. In 2004 there were 1300 one-on-many incidents. Among these we found 312 (24 percent) in which a parent or stepparent was named as a victim. Of these, there were 28 (9 percent) in which the victim was older than the supposed parent. This points out one of the key concerns that we have about using OIBRS data: training. It would appear most likely that the persons filling out the OIBRS form may have entered the relationship of the suspect to the victim rather than the opposite. It may be that simpler wording would help: that is, rather than having the officer respond to the query, "Relationship of Victim to Suspect _____,"[8] it might be better to have the officer respond to a query of the form, "The Victim is _____ of/to the Suspect."

Despite this, we can perform some simple analyses of the data. Figure 252 depicts the age distribution of suspects in incidents with more than one victim, for all such cases and for cases in

[8] We have not seen any of the forms that officers fill out, and thus cannot verify if our conjecture about the nature of OIBRS or other police forms is correct.

which one of the victims is a (step-)parent or a (step-)child. As can be seen – and as expected – the distributions are nested, with 50 percent of the suspects are under the ages of, respectively, 29, 17, and 34.

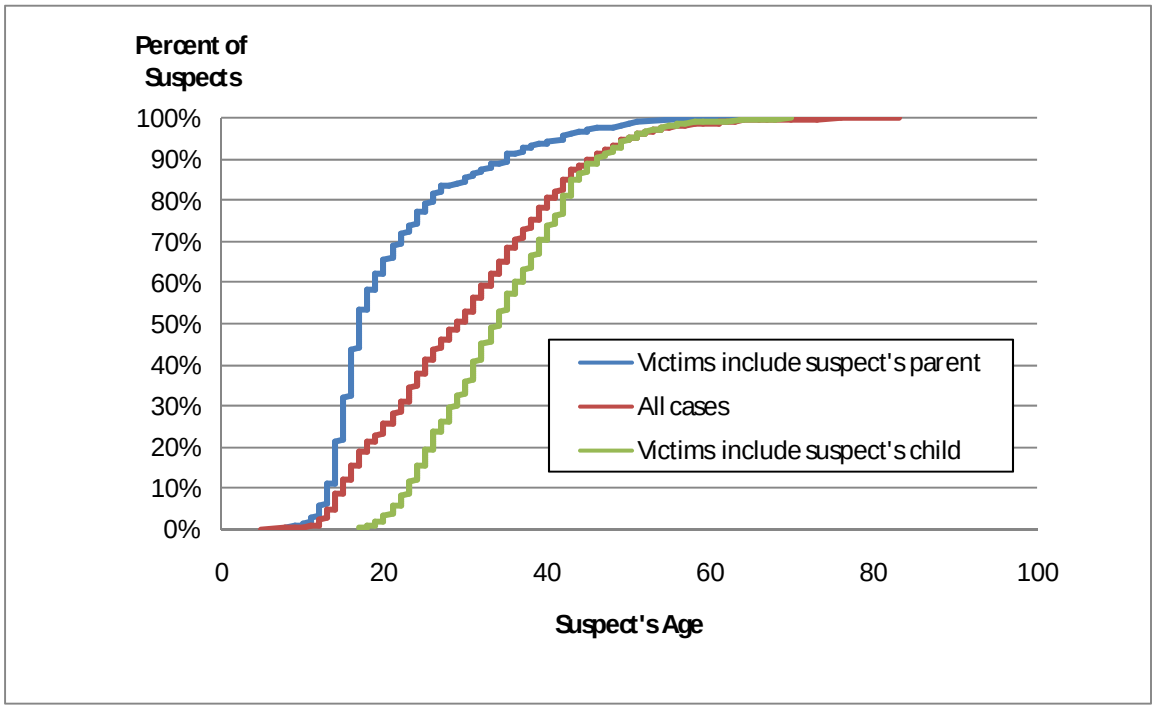


**Figure 252. Age Distribution of Suspects for Multiple-Victim Cases**

Of the 1300 single-on-multiple cases, the overwhelming majority (79 percent) involve two victims. In these cases, we can look more closely at the relationships. As we can see (Figure 33), most one-on-two cases involve a partner and a child—there are 303 cases involving a partner as the first victim, and of these cases, 196 (or 65 percent) have a child as the second victim. Alternatively, when a child is the first victim, a second child is usually also the second victim (88 percent of cases).

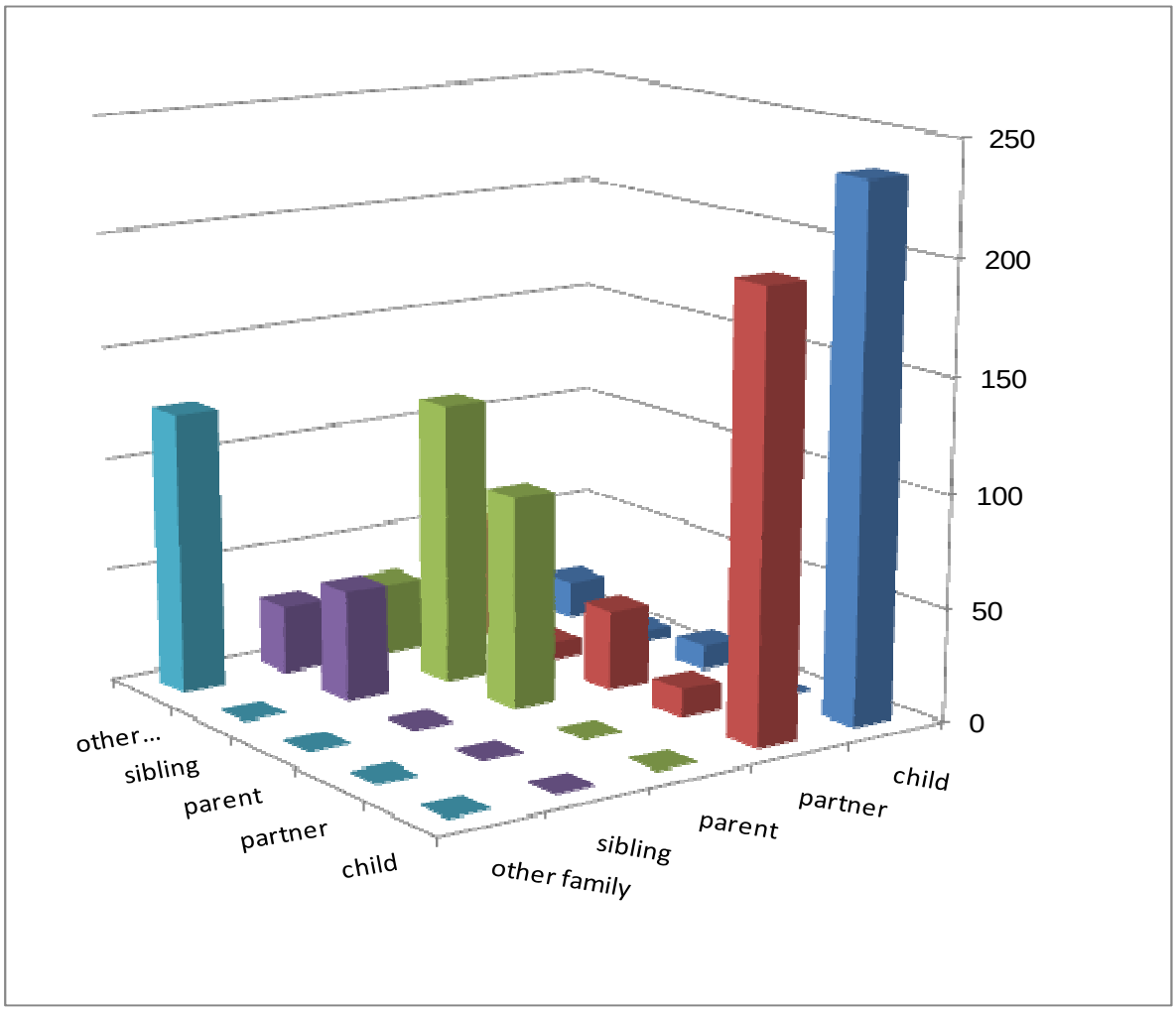


**Figure 33. Relationships in One-Suspect-Two-Victim Cases**

If we look at just the 193 cases involving a partner and child as the victims (Figure4), we see that most cases involved a female as the first victim (a partner) and a male child as the second victim. A very small number of cases involved a male partner and child as the victims (the maroon bar) or a male partner and female child as the victims (the white bar). Even fewer cases (just one) involved a male partner and female child as the victims.

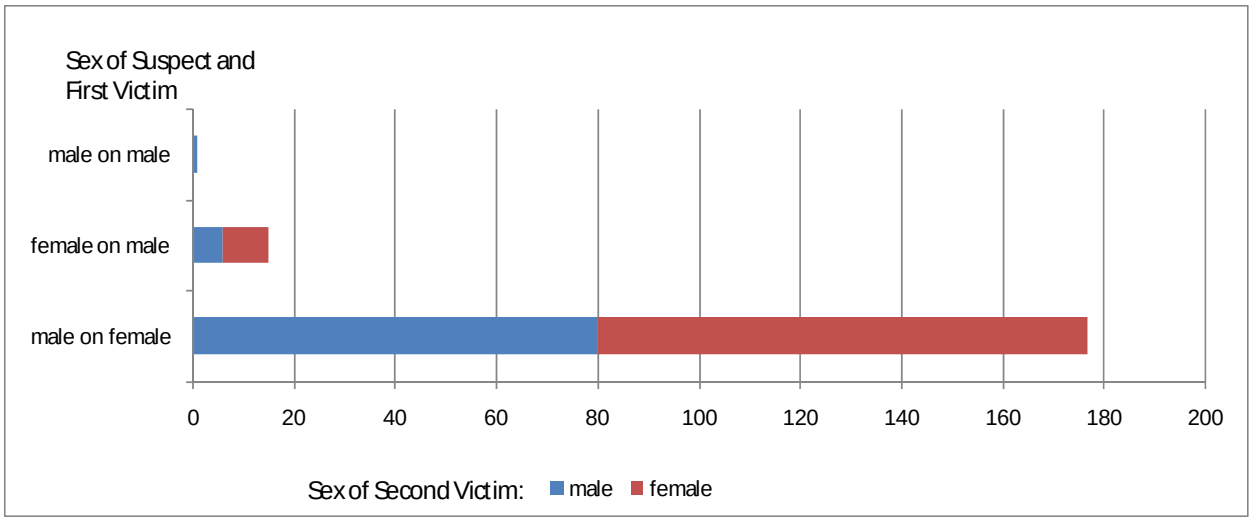


**Figure 34. Sex Relationships for Two-Victim DV Cases**

# IV. CONCLUSIONS AND RECOMMENDATIONS

In this report we provide the reader with an overview of the characteristics of domestic violence in the State of Ohio. We hope that this will become a template for subsequent analyses, and that the template will be revised as additional years' data allow for the development of trends.

We have attempted to provide a context for the nature and extent of domestic violence in different places by tying it to sociodemographic characteristics: population size, race and ethnicity, and income and poverty. While this may provide a partial explanation of variation in domestic violence rates, it should be stressed that other factors may play an even more important part. In particular, the extent to which domestic violence support services are available in the community[9], the policies of the police department with respect to reporting and making arrests in domestic violence incidents, the extent of immigrants in the community (Erez 2000), and the extent of community trust in the police can all have profound effects on the domestic violence statistics that we use to gauge the problem.

In a previous report on domestic violence (Payne *et al*. 2006) we noted the deficiencies in reporting; this report does the same (see the Appendix). As in the earlier report, we strongly recommend that location information be made available; this would permit an analysis based on the characteristics of the census tract in which the incident occurred, which would provide a better understanding of the community dynamics involved. While some of this may be inferred

[9] Dugan *et al* (1999) note that the availability of domestic violence support services has contributed markedly "to the reduction in the intimate partner homicide rate, most prominently to the rate at which women kill their male partners" (p.208).

from the jurisdictional analyses performed in Section II above, a more detailed look could be of greater value for policy purposes.

This report gives an indication of the nature and extent of domestic violence at one point in time. It would be of great benefit for policy purposes if this could be tracked over time, to see how it changes in different jurisdictions (with different policy initiatives).

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# VI. APPENDIX: Problems & Solutions

We came across a number of problems related to the data as we undertook our analyses. These can be classified as problems pertaining to 1) incomplete data, 2) inconsistent data entry procedures across agencies, 3) data matching capabilities, and 4) missing data in fields where data are required, 5) data entry mistakes, and 6) possible reporting form confusion.

*Incomplete Data*

We noticed that for quite a number of agencies, the data are reported for only some months throughout the year, and even if all months are covered, the data are still rather sparse. We realize that some agencies are still phasing in the NIBRS system, but if data are incomplete, the users should be apprised of this at the outset. Two potential solutions for this would be either a codebook addendum that has all agencies listed and their complete/incomplete status, or an additional field in the administrative data segment that has a flag for agencies with incomplete data. This would more easily allow users to make decisions about whether to exclude such agencies from analyses. Analyzing data for agencies with incomplete data might result in misleading findings and, ultimately, misguided solutions.

*Inconsistent Data Entry Procedures*

When producing the query for export, we came across a number of agencies who report the larceny code rather than the offense code in the victim-offense segment for that particular offense. Some agencies report the offense code in this segment, and for all other crimes, the offense code is the proper code for police departments to enter here. If one wants to match the

victim-offense segment to the offense segment, the cases with larceny codes in place of ORCs will not be properly matched—in fact, they will be entirely missing from the new query because the larceny code cannot match to the offense code. We suggest that procedures for entering data be the same across the board in order to avoid this problem. All agencies should enter the ORC as the offense code in the victim-offense segment. If there are multiple types of larcenies in a given incident, then the victim-offense segment should incorporate an *additional* field for the larceny codes so that the two tables can be matched properly using both fields. If there are other examples of inconsistent data entry procedures across agencies, then we emphasize that *all* data fields should be entered the same way for all agencies in order to avoid analyses pitfalls.

*Data Matching Capabilities*

While the second point above illustrates one problem with matching data, we came across another that is not due to agency inconsistencies. The property segment in NIBRS has data pertaining to the property losses, as well as data for the agency and incident number. These two identifiers for agency and incident are the only two fields on which the property segment can be matched to other segments. This is problematic because it means that every property field is duplicated for each victim-suspect-offense scenario for a given incident. For example, if there are two victims, two suspects, and two offenses, but only one offense involves a stolen good of different value, there will nonetheless be property data appended to the offense that is not a property crime, and for all victims and suspects even if they were not involved in that specific property crime. The easiest solution to this problem would be to include the offense code (ORC) in the property segment. This would allow users to match the property data to the appropriate offense and thereby remove duplicate rows that have nothing to do with other offenses in the

incident. As it stands, the lack of an offense code in the property segment makes matching difficult and data files very confusing once they are produced, but it also makes the data files unnecessarily large, and some databases have difficulty working with large files—especially Microsoft Access. Thus, adding the offense code to the property segment would produce cleaner, more accurate data, as well as more efficient files for analysis.

*Missing Data*

This problem is not the same as incomplete data. Even for agencies that may have complete data for all weeks and months throughout the year, they may lack important data elements. For example, Youngstown does not always report injury codes even when the victim is a person, although the submission specifications say that all person victims should have injury codes entered. Another example, which is perhaps more unfortunate for analysis purposes, is that *many* agencies do not report the *time* of the incident or the report. They enter the date, but not the time. Users interested in making inferences about crimes that pertain to opportunity theory are simply unable to do so without this information. It would also be far easier to make suggestions for solutions to crime problems as they pertain to specific agencies if we had the time entered in the data. This should be required information from all police departments.

*Data Entry Mistakes*

The last problem, and by far the most pervasive, is that many agencies are simply entering data imprecisely. This is the case for various data elements in various data segments. One big part of this problem arises in the form of duplicate records. One example is that Columbus has duplicate relationship entries for a number of victim-suspect fields in the victim-suspect table. For

instance, if there is one victim and one suspect, there should be just one relationship. In some cases, there are *two* of this same relationship for the same exact victim-suspect link. Users interested in getting simple counts of relationships for this particular agency will get incorrect results. There are also duplicate arrests for Columbus in a few cases. One case has eight records of an arrest of the same exact suspect (only one suspect in the incident). Thus, arrest counts will be incorrect for this agency. This issue of duplicate data appears for other agencies as well, and for other data elements.

Another example of imprecise data entry is that some incidents have offense information linked to only some of the victims in a given incident. For example, once case in Dayton has three different victims (an individual, a police officer, and society) and two offenses. However, in the victim-offense table, the two offenses are linked to only the third victim (society) and no offense information is linked to the individual and police officer victims. In another Dayton incident, there is one victim and one suspect yet no *offense information at all* in that data table. Numerous other agencies have victim records without corresponding offense information. A separate but similar issue is that for literally hundreds of cases, there are offense codes present in the victim-offense data segment that are not in the *offense* segment. This should not be the case. All offenses should be in the offense segment, but there are new offenses entered in the victim-offense segment. All of these examples of imperfect data entry becomes a problem for matching the tables together, because the offense data will not be properly matched to the victims, and ultimately, analyses will be incorrect.

A final, and also very problematic, example of imprecise data entry is for age and relationship information. We have come across numerous cases in which the victim and suspect ages do not logically match a given relationship. For instance, one case in Akron has a victim a

suspect of the same exact age (34) and the victim is apparently the *parent* of the suspect. This is not possible. In another case, the victim is 14 years old and supposed to be the *child* of the suspect, but the suspect is only 18 years old. This data entry problem arises for numerous agencies.

*Possible Reporting Form Problem*

There are a relatively large number of errors in specifying the relationship between victim and offender. That is, in cases where the suspect is a parent of the victim the victim's age is greater than the suspect's, suggesting that the person submitting the report reversed the relationship. For example, in Athens County, one incident has a victim listed as age 27, who is the stepparent of the suspect, who is age 49. It does not make sense that this would be the case; either the suspect's age should be 27 and the victim's age 49, or the relationship should be stepchild rather than stepparent. For the cases in which these relationship or age entries are incorrect, the analyses can produce misleading crime patterns (see footnote 4 in the report above).

This is understandable; if the reporting form has the item, "Relationship of Suspect to Victim," it is not entirely clear as to what should be entered. If, however, the item is rewritten as "The Suspect is _____ to/of the Victim," then the correct relationship is more likely to be entered in the form. Another possible solution is to use the ages of victim and suspect to check the validity of the reported relationship.