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Economic Distress, Community Context and Intimate Violence: An Application and Extension of Social Disorganization Theory

Final Report

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CHAPTER ONE

INTRODUCTION

Overview of the Report

Violence in intimate relationships poses a serious problem to the lives, the health, and the emotional well being of individuals and families. Although both men and women engage in physical violence against their intimate partners, women are significantly more likely to be seriously harmed than men (Brush 1990; Sorenson et al. 1996). For some women, home is not a haven of emotional security and physical safety but a place instead where they are physically abused by the men who supposedly love them. National surveys show rates of severe husband-to-wife violence to be approximately 35 per 1,000 couples (Gelles and Strauss 1986). Analyses of the first wave of the National Survey of Families and Households found that 4.9 percent of men report inflicting physical violence on their spouses or cohabitors in the preceding year (Brush 1990). Women face a greater risk of assault and injury in their own homes by members of their own families than they do at the hands of strangers on the street (Jasinski and Williams 1998).

The consequences of intimate violence are significant for victims, their families, and the community at large. Besides physical harm, many victims suffer severe emotional affects, increased anxiety, loss of self-esteem, depression, feelings of worthlessness, increased risk of suicide, sleeping disorders, and alcohol and substance abuse (Dutton and Painter 1993; Gelles and Harrop 1989; Gleason 1993; Kaufman, Kantor, and Asdigian 1996; Orava et al. 1996; Pagelow 1984; Stets and Straus 1990;

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Straus and Gelles 1990; Umberson et al. 1998). Families may suffer economically when victims lose time from work and financial resources must be allocated to medical or psychiatric treatment (Ratner 1998). Because the family is a major transmitter of subcultural values, children who witness violence in the home may be harmed emotionally and developmentally in ways that have long lasting effects. Witnessing violence in the home, moreover, increases the risk that children will engage in abusive behavior in their own relationships later in life (Steinmetz and Straus 1974). Finally, the community at large experiences increased costs because battered women require the services of community-sponsored shelters as well as criminal justice and mental health systems.

Recognizing the serious problem posed by domestic violence, Congress passed the Violence Against Women Act in 1994. It directed the National Research Council to develop a research agenda on violence against women, and the Panel on Research on Violence Against Women (1996 p. 90) subsequently recommended that researchers should focus on "factors associated with the initial development of violent behavior, its maintenance, escalation, or diminution over time and the influence of socioeconomic, cultural, and ethnic factors." Accordingly, this project was designed to address these important issues identified by the Panel. In particular, we focused on the initiation and subsequent trajectories in violence against women in intimate relationships, the role of economic distress in influencing these trajectories, and the effects of community context on patterns in violence against women.

To conduct our analyses, we merged data drawn from waves 1 and 2 of the National Survey of Families and Households (NSFH) (Sweet, Bumpass, and Call 1988)

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with census tract level data from the 1990 U. S. Census. From the NSFH, we abstracted

data on conflict and violence among couples in the NSFH, as well as data on their

economic resources and well-being, the composition of the household in which the

couple lived, and a large number of socio-demographic characteristics of the sample

respondents. From the 1990 Census, we abstracted tract level data on the characteristics

of the census tracts in which the NSFH respondents lived. These data reflected the

aggregate social, demographic, and economic characteristics of the tracts. Merging the

census tract data with the NSFH survey data enabled us to investigate contextual

variation in and correlates of domestic violence.

Research Questions

We investigated five specific research questions:

♦ How do measures of community context correlate with the prevalence, frequency,

severity, and duration of intimate violence?

♦ To what extent do different forms of economic distress influence the use of violence

by men against women in intimate relationships?

♦ How do changes in economic distress influence the initiation, maintenance,

desistence, and escalation of violence by men in intimate relationships and to what

extent do known precursors of violence mediate the impact of changes in economic

distress on violence?

♦ Does change over time in economic distress influence intimate violence

independently of community context and household characteristics or does it interact

with these factors to produce varying risk levels for women located in different types

of areas and households?

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◆ Are the effects of community context and economic distress on intimate violence more pronounced for minority women, or do they operate independently of race and other demographic characteristics?

Community Context, Economic Distress, and Violence Against Women

Enhanced understanding of intimate violence against women requires multi-factor causal models (Panel, 1996). As the Violence Against Women Panel notes, such models should take into account both its structural and contextual causes as well as personality and cognitive factors. Numerous studies have investigated how personality factors shape intimate violence (Hamberger and Hastings 1991; Hart et al. 1993; Dutton 1995). The aspects of dyadic relationships that lead to violence by men against women have also received attention from researchers (Browne 1987; Holtzworth-Munroe and Anglin 1991; Gottman et al., 1995; Jacobson and Gottman, 1998). But little is known about how life transitions (e. g., becoming unemployed) and situational level factors (e. g., the duration of a union) interact with community context to affect violent offending and victimization (Sampson and Lauritsen 1994). Longitudinal studies of how socioeconomic, cultural, and ethnic factors influence developmental trajectories of violence against women are particularly needed.

Fagan and Browne (1994) hypothesize that life transitions that cause economic distress (e. g. becoming unemployed) may be particularly important precipitating factors of violence by men against women in intimate relationships. Burgess and Draper (1989) likewise argue for the salience of ecological instability, which is generally indicated by economic constraints and job loss, in increasing the probability of marital violence under certain circumstances. There is some support for this hypothesis. Although intimate

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violence is found in all social classes, rates tend to be higher in families of lower socioeconomic status who are experiencing underemployment or unemployment (Straus, Gelles, and Steinmetz 1980). Recent research has found that economic distress predicts individual and family outcomes including marital dissatisfaction and family conflict (Conger et al. 1990; Fox and Chancey 1998); and this relationship is moderated by contextual risk and protective factors (Voydanoff and Donnelly 1998).

Social disorganization theory posits that the aggregate characteristics of areas influence the likelihood of violent crime and victimization (Sampson and Groves 1989; Kornhauser 1978; Shaw and McKay 1942). Disorganization theorists investigate how aspects of neighborhood structure influence rates of crime and violence (Stark 1987; Bursik 1988). A long and distinguished line of research has shown that disadvantaged neighborhoods experience high crime rates (Byrne and Sampson 1986). Neighborhoods that suffer from low socioeconomic status, high rates of residential mobility, high levels of ethnic heterogeneity, and high population density tend also to be plagued by street crime and interpersonal violence.

Just as social disorganization is related to violence in general, there are a number of reasons why it also may be related to patterns and developmental trajectories in intimate violence against women. Disorganization theorists suggest that the ecological correlations between neighborhood characteristics and violence result from variation in the relative effectiveness of neighborhood informal and formal social control mechanisms (Sampson and Groves 1989; Bursik 1988; Kornhauser 1978). The low levels of informal social control that typify disorganized areas provide a fertile soil in which violence against women can flourish, because abusive men who reside in these areas are not

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constrained by strong normative expectations against violence. Hence, they are free to commit violence against their spouses and cohabitors without fear of social disapproval. Indeed, recent ethnographic research suggests that among some disorganized area residents, especially minority men, the use of violence in interpersonal relationships is viewed not only as normatively acceptable but as virtually required by what one observer has called the "code of the street" (Anderson 1990). Since by definition residents of socially disorganized areas are more likely to have weak social bonds to their neighbors, women involved with potentially abusive partners are more likely to be isolated and thus at greater risk of violent victimization (Stets 1991). To exit an abusive relationship requires resources. Women who want to leave men who beat them need money and friends. These resources are likely to be less accessible to women who live in poverty stricken and socially fragmented areas. In addition, women in disorganized areas are likely to live in overcrowded households, which often leads to pathological consequences for family relationships (Gove et al. 1979). Finally, official forms of social control are weaker in disorganized areas. Stark (1987) suggests that law enforcement is more lenient in these areas because the police view these neighborhoods as filled with morally disreputable people who deserve what they get. Extensive social disorganization may create particularly pervasive and persistent forms of violence against women.

Although poverty and crime often go together, it would be a mistake to think that intimate violence is restricted to disadvantaged areas. Abusive men and victimized women also are found in well-to-do suburbs and small towns. Little is known about how community context influences intimate violence in these places. In suburban and rural areas, community context may influence patterns in intimate violence in ways not

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ordinarily envisioned by disorganization theorists. For example, to explain aggregate level correlations between neighborhood structural characteristics and crime, disorganization theorists often posit intervening mechanisms, such as the ability and willingness of local neighborhoods to supervise the behavior of residents and strangers on neighborhood streets (Greenberg 1982; Sampson 1987). But intimate violence occurs more often, though not exclusively, in the home rather than on public streets. Because of the family's special characteristics of intimacy and privacy, whether and how community context influences intimate violence remains an important question that has not received adequate attention from researchers (Gelles and Straus 1979).

It is also unclear exactly how economic distress is related to intimate violence. Economic distress may trigger intimate violence more often among well-to-do men who see their neighbors moving ahead while they are suffering financial difficulties than it does among disadvantaged men who see hard times all around them. Similarly, leaving an abusive relationship may be more difficult for middle class homemakers who are dependent on their partner's greater earnings than it is for disadvantaged women who are economically equal to their disadvantaged partners.

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CHAPTER TWO

METHODS

This project is a secondary analysis of data drawn from waves 1 and 2 of the National Survey of Families and Households (NSFH) and from the 1990 U. S. Census. In this section of the report, we provide a brief overview of the design and content of the NSFH and describe the specific variables that we abstracted from the NSFH and the Census for our analysis. We also describe the sub-sample of the NSFH that was used in this project. Both the NSFH and the U. S. Census are publicly available data sets. More information on the design and content of the NSFH and instructions on how to get NSFH data are available on the Internet at (www.ssc.wisc.edu/nsfh). Information on the U. S. Census can be found at (www.census.gov).

Design and Content of the National Survey of Families and Households

The National Survey of Families and Households (NSFH) is a nationally representative sample of American households. Completed in 1988, the first wave of the NSFH included interviews with a probability sample of 13,007 adult respondents, representing 9,637 households. Face-to-face interviews were conducted with a randomly selected *primary respondent* from each household. To facilitate the collection of sensitive information, portions of the interview with the primary respondent were self-administered. The interviews lasted one hour and forty minutes on average. The primary respondent's spouse or cohabiting partner, hereinafter referred to as the *secondary respondent*, was given a shorter self-administered questionnaire (Sweet, Bumpass, and Call 1988). In wave 2, completed in 1994, interviews were conducted with all surviving

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members of the original sample (n = 10,007) and with the current spouse or cohabiting partner of the primary respondent (n = 5,624). Interviews were also conducted with the spouse or partner of the primary respondent in cases where the relationship had ended (n = 789) (Sweet and Bumpass 1996). This project was based primarily on a sub-sample of households in which respondents were married or cohabiting during wave 1 or 2 or both, participated in both waves, and have complete data on the outcome variables.

The NSFH has a number of design strengths that make it an especially advantageous data set to use to enhance understanding of the varying trajectories that intimate violence can take. Because of the sample size, an adequate number of households with intimate violence are available for analysis. Minority households and cohabiting couples were over sampled. The time lapse between panel waves is longer than in most previous longitudinal studies of intimate violence, which reduces the likelihood that temporary changes in behavior (such as when a husband stops abuse for a short time) will be mistaken for real changes in violence trajectories (Feld and Straus 1989; Fagan and Browne 1994). The timing of the two waves of the NSFH is an added strength. Waves 1 and 2 closely bracket the 1990 census; thus the NSFH data can be merged with appropriately timed census tract information to permit the analyses of the tract-level socioeconomic contexts of intimate violence. Further, the period covered by the two waves of data collection saw pervasive deterioration in the economic fortunes of many American workers: stagnation or decline in earnings, flattened career trajectories, and substantial downsizing and outsourcing of jobs (Farley 1996). Many respondents in the NSFH presumably experienced some degree of economic stress during the time frame

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of the survey, making the NSFH especially well suited for the investigations undertaken in this project.

Another strength of the NSFH series for studying couples is its inclusion of replicate questions in interviews with spouses or cohabiting partners of primary respondents. Many question sequences include paired questions so that the resulting data set includes cross-referenced paired perspectives on an event or issue, allowing for an assessment of patterns of differential reporting of behavior. Differential reporting can cause methodological problems in assessments of marital violence and was taken into account in our development of measures of violent conflict (Szinovacz 1983; Szinovacz and Egley 1995; Browning & Dutton 1986).

As noted above, the NSFH has a number of design strengths. Nevertheless, as with all data sets, it also has weaknesses. One particularly important shortcoming involves the number of households representing racial and ethnic sub-groups. Although minority households were over-sampled, except for African-Americans and Hispanics there are relatively few representatives of other racial and ethnic sub-groups in the data set. The small numbers of cases representing other groups makes it difficult to analyze their experiences individually. Hence, our treatment of minorities and intimate violence is unfortunately limited only to African-Americans and Hispanics.

Variables Abstracted from the NSFH

The NSFH is an extremely rich data source, containing literally thousands of variables on a broad range of individual, couple-level, and household characteristics, events, and experiences. The interview instruments are long and complex. Different but overlapping instruments are used for married, cohabiting, and single primary

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respondents, for partners and other household members, and for respondents with children and those without. To aid other researchers interested in replicating and extending our analyses, we have tried to provide sufficient descriptive information so that the variables we used can be identified and our variable transformations reconstructed.

For this project, we abstracted variables from both waves 1 and 2 relevant to our research questions. The variables can be grouped into three major categories: (1) indicators of conflict and violence in the couple, (2) indicators of the economic status and experiences of the couple, and (3) individual, couple-level, and household socio-demographic characteristics. Because of the complex nature of the NSFH survey design, extensive variable transformations were required before analyses could be undertaken. In this section, we provide an overview of the variables that we abstracted from the NSFH. In the following section, we describe how the variables were transformed and how measures were constructed for the analyses.

Conflict and Violence

To assess conflict and violence in a couple, the NSFH asks a series of questions of both partners in the couple. In Wave 1, both the primary and secondary respondents were asked if during the past year arguments became physical. Respondents were then asked how often during the past year fights with the respondent's spouse or partner resulted in the respondent hitting, shoving, or throwing things at the spouse or partner, followed by a questions asking how often such fights resulted in the spouse or partner doing the same things to the respondent. There were five response categories, ranging from 0 to 4 or more. Follow up questions asked whether the respondent had been "cut, bruised, or seriously injured" in a fight with the spouse or partner and whether the spouse or partner

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was similarly harmed in a fight with the respondent (yes or no). It is important to keep in mind that for all of these questions the respondent may be either a male or a female. If the respondent is a male, the question asking whether the respondent hit or shoved his partner indicates male violence toward the female. However, the same question indicates female violence toward the male, if the respondent is a female. Thus, before the violence items can be used for analysis, they must be transformed so as to take account of the directionality of the violence.

In Wave 2, the wording for the second violence item changes slightly. Rather than asking if the respondent hit, shoved, or threw things at the partner, the Wave 2 question asked how often the respondent became "physically violent" with the partner. Otherwise the questions and response categories are the same in both waves.

The variable *wave 1 overall violence* indexes violence directed by the male against the female in a marriage or cohabiting partnership reported during the wave 1 interview. It ranges from 0 to 4. As noted above, respondents were asked how often in the past year they ended up hitting, shoving, or throwing things at their partner and how often their partner did these things to them in the past year. Response categories were none, one, two, three and four or more. If the parties to the couple disagreed in their reports about violence, we used whichever respondent reported more violence. So, if the female reported that her husband had hit her twice in the past year while the male reported hitting only once, we used the female's report. Because the distribution of violence is highly skewed in most of the analyses reported below, we rely on a collapsed version of the violence variables in both waves. *Wave 1 violence dummy* is a

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dichotomous measure constructed by collapsing the wave 1 overall violence measure. Identical measures were constructed for wave 2.

The seriousness of violence against women in intimate relationships can vary from a simple shove to homicide. The measures available in the NSFH are not well-suited to capturing variation in seriousness. Nevertheless, because severity of violence is an important issue, we developed a measure to assess the seriousness of violence in the NSFH using the limited information available. Following the question on number of violent incidents in the past year, respondents were asked whether any incident had resulted in the victim being "cut, bruised, or seriously injured." As before, this item had to be recoded so that it identified injuries to the female in the partnership. To assess the seriousness of violence, we created ordinal measures that combined information on the number of violent incidents against the female and on injuries for the female for both waves. The *seriousness of violence* index groups respondents into three categories 'no violence' 'one time violence without injury' and 'two or more violent incidents or violence with injury.'

A trajectory is a sequence of linked states within a conceptually defined range of behavior or experience (Elder 1985). In regard to trajectories in violent behavior an increasingly well-documented and consistent finding is that violence at time 1 predicts violence at time 2 (Wolfgang, Figlio, and Sellin 1972; Sampson and Laub 1993; Nagin, Farrington, and Moffitt 1995). It is unclear whether intimate violence exhibits continuity to the same extent as other forms of violence. Relying on data gathered from battered women in emergency shelters and hospitals, feminist scholars argue that escalation, that is, a patterned increase in the seriousness of assaults over time, is a common trajectory

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(Dobash and Dobash 1979). In contrast, analyses of national survey data suggest that violence tends to be an episodic affair that is not continued over a long period of time in relationships (Johnson 1995). Unfortunately, however, national surveys such as the National Family Violence Survey (NFVS) and the recently completed National Violence Against Women Survey (NVAWS) are ill-suited to identifying trajectories in intimate violence (Tjaden and Thoennes 1998)

Trajectories in violence can only be created for couples that were together in both waves of the NSFH. We call these respondents "continuing couples." For the continuing couples, we created trajectories in violence by cross-tabulating the dummy version of wave 1 violence by the dummy version of wave 2 violence. This cross-tabulation allocates each of the continuing couples to one of four trajectories: *no violence* (those reporting no violence against the women in either wave), *maintenance* (those reporting violence in both waves), *desistance* (those reporting violence in wave 1 but not wave 2), and *initiation* (those reporting violence in wave 2 but not wave 1).

It is important to be cognizant of the limitations of the NSFH for studying trajectories in violence. Ideally, trajectories should be studied over relatively long periods of the life course and with frequent repeated measures. Unfortunately, NSFH data on intimate violence are limited to two observations over a five year period and are both left-, right-, and middle-censored. Because only two data points are available and because they are separated by a five year gap, trajectories can only be identified in a crude sense. Violence in wave 1 may not be the first instance of violence in a relationship, and the lack of violence in wave 2 may not mean it has ceased or will be forever absent. It is also possible that violence may have occurred sometime after wave 1

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but before the one year reference period in the wave 2 interview. Despite these limitations, we believe it is important to present what information is available in the NSFH on patterns in violence over time.

The specific survey items related to conflict and violence are found in the self-enumerated sections of both wave 1 and wave 2. Self-enumerated means that these questions on the survey were self-administered. In wave 1, the variables related to conflict and violence are located in section SE - 6 for respondents who were currently cohabiting and section SE - 7 for respondents who were currently married. In wave 2, the appropriate variables are located in sections SE-5 and SE-6 for cohabiting and married respondents, respectively.

Economic Status and Experiences

With respect to economic status and experiences, we were primarily interested in variables related to economic distress. To measure *economic distress*, we drew upon Voydanoff's and Donnelly's (1988) four-fold typology of economic distress, which reflects both subjective and objective aspects of employment and income, including employment instability, employment uncertainty, economic deprivation, and economic strain. *Employment instability* was operationalized with self-report information from the respondent and respondent's partner or spouse on employment and job search activity. Both waves of the NSFH include rich data on the timing and extent of waged employment from 1970 to the date of the second wave interview. Additional information is available on weeks of unemployment and job search for the year preceding each interview date. These data permitted construction of several measures of individual and couple-level employment patterns.

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Employment uncertainty is the subjective component of employment-linked economic distress, and as conceptualized by Voydanoff and Donnelly, refers to fears of job loss or finding a replacement job. Unfortunately, the NSFH provides no direct assessment of such job concerns on the part of either the main respondent or the spouse/partner for either wave.

Economic deprivation refers to the insufficiency of current income to meet needs, while *subjective economic strain* refers to the perception of financial inadequacy and worries about economic resources (Voydanoff, 1990). As with employment information, both waves of the NSFH contain a wealth of information from each respondent and his/her spouse or partner on earned and passive income sources, including public assistance payments. When combined with available data on household size and composition, various income-to-needs ratios can be calculated, including assessments of each respondent's own earnings as a percentage of the poverty threshold given the respondent's household configuration. The latter measure can be used to model the contribution of relative income sufficiency on conflict escalation and violence reciprocation patterns in couples. The NSFH also asked respondents about real assets, loans, and debt load; this information was used to create a more rounded picture of family financial status.

As with the subjective assessments of employment concerns, the NSFH is weaker in the availability of subjective indicators of financial adequacy. No specific measures are included in Wave 1. Wave 2 includes two items that tap into the respondent's evaluation of his/her financial situation: degree of satisfaction with finances and extent of worry about income sufficiency. Further, both waves allow assessment of the extent to

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which earning and spending money and other financial decisions are a source of marital arguments. The survey items related to individual and household economic conditions are located both in the main and self-enumerated sections of wave 1 and primarily in sections P and Q of wave 2. NSFH also provides a number of constructed variables related to respondent, couple, and household income variables for both waves.

Socio-Demographic Controls

We included a number of measures in our analyses as control variables either because of their known or suspected relationship with intimate violence, or because they represent basic demographic dimensions. As described below, these variables may relate either to an individual respondent, to a couple, or to some aspect of the household in which a couple resides.

Marital status refers to whether the respondent was married, cohabiting, separated, divorced or widowed. Marital status was assessed at both wave 1 and wave 2 in a series of questions asked of all primary respondents and, if present, their current spouse or partner. For some of the analyses reported below, we focus on what we call *continuing couples*. Continuing couples are those identified as being married or cohabiting in wave 1 who were still married or cohabiting with the same individual in wave 2. Continuing couples also includes couples that changed their legal status between waves 1 and 2, provided that they still reported being together. Thus, there are cases in which couples that were married at wave 1 divorced before wave 2 but nevertheless were still living together as cohabitors. In a few cases, couples that were cohabiting at wave 1 reported marrying, divorcing, and then continuing to cohabit at wave 2.

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Only the primary respondent's *race or ethnicity* was assessed in wave 1 of the

NSFH. Because there are no race or ethnicity questions in wave 2, and because

secondary respondents were not asked about this issue, there are some respondents for

whom race and ethnicity are not known. These respondents include all secondary

respondents in wave 1, and all wave 2 respondents who were not part of the NSFH study

at wave 1 but who joined the study at wave 2 by virtue of their either marrying or

cohabiting with a wave 1 respondent. In these cases, we assumed that the race or

ethnicity of all of the secondary respondents was the same as the race or ethnicity of the

primary respondent.

The NSFH question on race and ethnicity has nine response categories, including

(1) African American, (2) white - not of Hispanic origin, (3) Mexican American,

Chicano, Mexicano, (4) Puerto Rican, (5) Cuban, (6) Other Hispanic, (7) American

Indian, (8) Asian, and (9) other. Of the 7,554 respondents who were either married or

cohabiting at wave 1, 78.6 percent were white and 12.3 percent were African-American,

accounting for 90.9 percent of the total sample of couples. The next largest category was

Mexican American, Chicano, or Mexicano with 5.2 percent. Because there are so

relatively few respondents who are not either white or African American, we collapsed

this variable for our analyses. Accordingly, *race and ethnicity* are measured as a

trichotomy, and includes the categories white, African-American, and persons of

Hispanic origin (Mexican American, Chicano, Mexicano, Puerto Rican, Cuban, and

Other Hispanic). We use indicator coding with African-American as the reference

category. Because of the small number of couples representing the categories of

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American Indian, Asian and "other", these cases were excluded in all analyses that used race or ethnicity as a variable.

As a measure of social class that is not related to our measures of economic distress, we use educational attainment. Only the primary respondent's level of *educational attainment* was assessed at wave 1, but the primary and secondary respondent's educational attainment was assessed at wave 2. In our multivariate models for wave 1, we use the variable "educat", which is a variable constructed by NSFH staff to measure educational attainment of the primary respondent in wave 1. For the wave 2 models, we constructed variables to measure both the male's and the female's educational attainment. The correlation between male and female education in wave 2 is moderately strong .605.

Duration of union refers to how long the couple has been together. Duration of union is easy to measure for couples who were together in wave 1 and who stayed together in wave 2. In NSFH 1 couples were asked the year and month when they were married or began cohabiting. This data was recorded in century months. The century month of the interview was also recorded. Duration of union was calculated by subtracting the century month in which the union began from the century month of the interview. Unfortunately, couples who married or began cohabiting between wave 1 and wave 2 were not asked the precise date at which the union started. In these cases, we assumed that the union started at the mid-point between waves 1 and 2. Duration of union for these cases was calculated by subtracting the century month for the midpoint between waves 1 and 2 from the century month for the wave 2 interviews. In addition to duration of union, we also included the age of both members in a couple. Age and

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duration of union are highly correlated in the NSFH. Hence, their separate effects on dependent variables cannot be disaggregated. Prior research by DeMaris on the NSFH indicates that couples who were violent in wave 1 are more likely to break up between waves (DeMaris 2000). Thus, duration in wave 2 is in part a function of violence and should not be used as a predictor of violence. Accordingly, in the multivariate models we use age of the primary respondent as a control.

Couples may reside in households in which children and other related or unrelated individuals also may live. Prior research indicates that the size of a family is related to the likelihood of intimate violence. Hence, we included a measure of the *number of children* under the age of 18 residing in the household in both waves 1 and 2.

Our final control variable is alcohol use. Previous research consistently finds that violence in intimate relationships is strongly correlated with substance abuse (Jasinski and Williams 1998. We created measures of alcohol use for both waves. However, the measures are not identical, because different questions were asked regarding alcohol and substance use in the two waves.

In wave 1, both the primary and secondary respondents were asked whether anyone in the household had a "problem with alcohol or drugs." If the respondent said yes, then additional questions asked the respondent to indicate "who living here has a problem of drinking too much alcohol." Respondents could indicate the identity of the person by circling "me" or "my husband/wife/partner" or someone else in the household, i. e., a child or parent. To measure alcohol problems in wave 1 we created a dummy variable, with 0 indicating that neither the primary respondent or the partner were

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identified as having a drinking problem and 1 indicating that at least one member of the couple was identified as having a drinking problem.

In wave 2, the measures of alcohol use are more extensive. Both primary respondents and their partners were asked whether they had had a drink in the past 30 days. If the respondent indicated yes, follow-up questions asked the respondent to indicate the number of days he or she had had a drink, the typical number of drinks per day, and the number of days in which the respondent had five or more drinks. We created male and female versions of the alcohol variables and factor analyzed them, using principal components analysis with varimax rotation. The results showed that the questions on number of days drinking, average number of drinks, and number of days with five or more drinks tap underlying constructs of male and female drinking. Two factors emerged with eigenvalues greater than 1. Together the two factors explained 62 percent of the total variance. The factor scores for male drinking habits were saved and used as the measure of alcohol use in the multivariate analyses of violence in wave 2.

Variables Abstracted from the U. S. Census

Abstracting variables from the 1990 U. S. Census and merging them with the NSFH wave1 and wave 2 data was a complicated process. We began by contacting NSFH and obtaining lists of census tracts in which respondents resided in both waves of the study. In a small number of cases in wave 2, census tract locations were not available. These respondents had either moved overseas, gone to prison, or were for some other reason not located in a tracted area. After we had the list of census tracts from NSFH, we abstracted data from the U. S. Census website for the appropriate tracts. A complete listing of the census variables that were abstracted can be found in Appendix A. The data

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set containing the tract ids and the raw tract level data was then returned to NSFH. At NSFH, the census tract data were merged with the NSFH respondent IDs and the tract identifiers were removed. The data set containing the tract level information and case IDs was then returned to us by NSFH. We refer to this data set as the first level census data. Because the tract identifiers were removed by NSFH, it is not possible to determine the tract locations of any respondents. Nor is it possible to determine whether any two respondents are located in the same or different tracts.

The next step was to transform the raw census data variables into indicators of the various dimension of neighborhood context that we were interested in investigating, thereby creating second level census data sets. By combining selected census variables we created a number of summary measures of neighborhood conditions and saved them in a separate SPSS system file. These measures tap a number of theoretically relevant dimensions of neighborhoods, such as rates of poverty, family disruption, unemployment, educational attainment, ethnic and racial composition, residential mobility and others. A list of the indicators that we created and their definitions is provided in Table 2.1. The second level census tract data sets, that is the ones with the summary measures of neighborhood dimensions for wave 1 and wave 2, are the ones that were then merged with the NSFH data and used to create our measures of community context.

Measures of Community Context
Our conceptualization and measurement of community context was guided by recent work by Sampson, Morenoff, and colleagues (Sampson, Raudenbush, and Earls 1997; Sampson, Morenoff, and Earls 1999). To measure community context, we created indexes of neighborhood disadvantage for both waves of the NSFH. Following the work

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of Sampson and colleagues (Sampson et al. 1999), the indexes are based on five census tract measures that reflect *concentrated disadvantage*. They are defined by the percent of single parents, percent non-white, percent unemployed, percent of families on public assistance, and percent below the poverty line. After transforming the items to z-scores, we summed them and divided by the number of indicators to form the indexes of concentrated disadvantage for both waves, both of which have an alpha reliability of .92. The individual components of the index of concentrated disadvantage are related to intimate violence in the same way. Individually, they all have positive but weak zero order correlations with violence, ranging from .053 to .066.

Consistent with a long tradition of research in the social disorganization perspective, we included residential mobility as a dimension of neighborhood context in many of our multivariate models. High rates of residential mobility have long been conceived as a negative factor in regards to neighborhood context. It is presumed that residential instability impedes the formation of close bonds between neighbors and the recognition of common values, both of which are assumed to undermine informal social control in neighborhoods. Recent research and theory, however, suggests that the meaning and effect of residential stability is contingent on other neighborhood factors. In very poor neighborhoods, low rates of residential mobility may be associated with negative outcomes for individuals (Ross, Reynolds, and Geis 2000)). Wilson (1987) suggests that in areas of concentrated poverty, neighborhood stability may not be a matter of choice but rather indicate the inability of residents to move away even though they would prefer to if given the choice.

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Table 2.1. Constructed Variables from U. S. Census

Variable Name*	Description
Mbl1yr1	% of occupied households in which the occupants moved in within the past year - 1989-1990.
Mbl5yr1	% of occupied households in which the occupants moved in within the past 5 years - 1985-1990.
Crowd1	% of households with 6 + people living in them.
Vacant1	% of vacant housing units.
Urban1	% of population living in urban area.
Sngpnt1	% of single-parent households - with children living in them under 18.
Pnwte1	% of the population that is non-white.
Rheter1	racial heterogeneity score using Blau's 1977 formula
Ymales1	% of the population that are male ages 15 - 24.
P18ove1	The number of people 18 or older - needed to compute education variable.
Noed1	% of the population 18 & over who have no college experience.
P16ove1	The number of people 16 or older - needed to compute the occupation variable.
Noprof1	% of the population who are not in professional or executive positions.
Lowinc1	% of the population whose income is 20k or less .
Unemp1	% of males & females who are in the labor force and unemployed.
Nophn1	owners and renters without phones in occupied housing units divided by occupied housing units.
Pubas1	% of households on public assistance.
Idlyou1	% boys ages 16 - 19 who are not in Armed Services and not in school and unemployed or not in labor force.

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Mmarno1	ratio of never married males ages 15 and up to ever married males 15 and up.
Fmarno1	ratio of never married females ages 15 and up to ever married females 15 and up.
Mhead1	% of men who are married.
Nofmhs1	% of people living in non-family households.
Grphm1	% of people living in group homes, shelters, and institutions.
Jobles1	% of males and females 16 and up who are either unemployed or not in the labor force.
Mjobls1	% of males 16 and up who are either unemployed or not in the labor force.
Pov1	the poverty rate - ratio of income in 1989 to poverty level - scores less than 1 indicate people living under the poverty cut off.
Educ251	% of persons 25 or over without a college degree.

* Variable names for wave 2 are the same except that they end with numeral 2.

Violence Against Women in the NSFH

Before we turn to the research questions that motivated this study, we first present data on the amount and seriousness of violence against women in the NSFH and compare it to other surveys on violence against women. Table 2.2 shows the distribution of number of episodes of violence against women for both waves 1 and 2. As expected the distribution of this variable is highly skewed with the vast majority of couples not reporting any violence against the woman in the past year. In wave 1, the overall rate of violence was 7.4 percent and in wave 2 the rate was 5.6 percent. Table 2.3 shows the distribution of injuries to women in the NSFH. In wave 1, 2.7 percent of all women in couples were injured. This translates to an injury rate of 37.2 percent among women who were victimized by their partners in wave 1. Similarly, in wave 2, 2.2 percent of all women were injured, constituting 39.0 percent of all women who were victimized. Taken together Tables 2.2 and 2.3 indicate that at least as it is measured in the NSFH, the one-year victimization rate is less than 8 percent. However, of those who are victimized over one third are injured. Finally, Table 2.4 shows the distribution of trajectories in violence among the continuing couples. Among continuing couples, most of those who exhibited violence in wave 1 did not do so in wave 2. Of the 271 continuing couples that reported intimate violence in wave 1, 199 (73.3 percent) did not report violence in wave 2. Initiators constitute just under two-thirds of the violent couples in wave 2, with the remainder being maintainers.

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Table 2.2. Frequency Distribution of Number of Episodes of Intimate Violence Against Women in the Past Year, Waves 1 and 2 of the National Survey of Families and Households.

Number of Episodes	Wave 1	%	Wave 2	%
None	6,827	92.6	5,811	94.4
One	239	3.2	181	2.9
Two	143	1.9	83	1.3
Three	83	1.1	46	.7
Four or more	83	1.1	36	.6
N	7,375		6,157	
Missing cases	179		114	

Table 2.3. Frequency Distribution of Injuries through Intimate Violence Against Women, Waves 1 and 2 National Survey of Families and Households.

Injured	Wave 1	%	Wave 2	%
No	7,032	97.2	5,984	97.8
Yes	204	2.7	135	2.2
N	7,236		6,119	
Missing cases	318		152	

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Table 2.4. Trajectories in Intimate Violence Against Women in Continuing Couples.

	Violence in Wave 1	
Violence In Wave 2	No	Yes
No	4,411 (91.6%) (No Violence)	199 (4.1%) (Desist)
Yes	135 (2.8%) (Initiate)	72 (1.5%) (Maintain)

The results on overall levels of violence against women in the NSFH fall in the middle of the range of results from other surveys. In the recently completed, National Violence Against Women Survey, the annual rate of physical assault by an intimate partner against a women was 1.3 percent (Tjaden and Thoennes 1998). However, the 1975 and 1985 National Family Violence surveys found that 11 to 12 percent of married and cohabiting women were physically by assaulted by their intimate partner in the preceding year (Straus and Gelles 1986). The rates of intimate violence against women observed here (7.4 and 5.6 for waves 1 and 2, respectively) do not appear to be out of line with previous investigations. Hence, we have some confidence that despite its limitations, the NSFH is a valuable source of information about the causes of intimate violence and its patterning. We turn now to our first major research question regarding the connection between neighborhood conditions and intimate violence.

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CHAPTER THREE

COMMUNITY CONTEXT AND THE PREVALENCE, FREQUENCY, SERIOUSNESS AND DURATION OF INTIMATE VIOLENCE

Much of what is known about neighborhood economic conditions and rates of intimate violence against women comes from studies of calls to the police. They indicate that calls related to domestic violence incidents tend to come disproportionately from poor neighborhoods (Sherman and Berk 1984). Miles-Doan (1998) found that neighborhoods suffering from great resource deprivation, as indicated by the absolute poverty level and income inequality, experienced higher rates of officially reported intimate violence.

The theoretical significance of the observed correlation between neighborhood characteristics and officially reported intimate violence, however, is unclear. Although neighborhood context is theorized to influence domestic assault, there are two other possibilities. First, the higher rates of officially reported intimate violence in disadvantaged neighborhoods may be caused by differential reporting to criminal justice personnel, based on individual and neighborhood characteristics (Miles-Doan 1998). Differential reporting may be particularly troublesome for studies of intimate violence. Analyses of National Crime Victimization Survey data indicate, for example, that black women are more likely than white women to report intimate violence to the police (Greenfeld et al. 1998). One way to get around this problem is to embed questions about physical aggression in surveys of the general population, as is done in the NSFH. Hopefully, those unwilling to report violence to official agencies or to the police would feel freer to report it in the context of an anonymous survey. Second, as noted above,

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aggregate correlations may actually represent compositional effects. Rates of intimate violence in disadvantaged neighborhoods may be higher solely because the people who inhabit these areas for various reasons engage in intimate violence at a higher rate than people who live in advantaged areas. We address the issue of compositional effects in later chapters.

To assess the connection between neighborhood context and various dimensions of intimate violence against women, we divided our index of concentrated disadvantage into deciles and computed the rate of intimate violence against women in each decile (see Table 3.1). Sampson and Wilson (1995) argue that the crime-related effects of community disadvantage are not linear across levels of disadvantage. Rather, they tend only to appear in the most distressed neighborhoods as "concentration effects" (Sampson and Wilson 1995). Following this line of reasoning, we investigated whether our indexes of concentrated disadvantage have a non-linear relationship with intimate violence. They appear to, but the pattern is more clear in wave 2 than in wave 1. We grouped the respondents into deciles based on their score on the disadvantage indexes and compared rates of intimate violence across deciles. In wave 1, among all couples the rate of violence fluctuates between 4.5 percent and 7.5 percent over the first five deciles. Over the last five deciles, the rates are generally higher, fluctuating between 8.3 percent and 11.0 percent. In wave 2, over the first seven deciles the rate of violence fluctuates randomly between 2.7 and 6.9 percent for all couples. In the eighth decile the rate rises to 7.3 percent, then to 8.7 percent and 10.1 percent in the ninth and tenth deciles, respectively. Thus, the average rate for intimate over the first seven deciles is 4.3 percent, and it doubles to an average of 8.7 percent in the last three deciles. Table 3.1

also shows the relationship between the index of disadvantage and rates of violence in wave 2 among the continuing couples. As with all couples in wave 2, the relationship between the index of disadvantage and rates of intimate violence for continuing couples appears to be non-linear. The average rate of violence in the first seven deciles is 3.5 percent compared to 6.35 percent in the last three deciles, an increase of 81 percent. Accordingly, for analyses involving the wave 2 and continuing couples, we dichotomized our indexes of concentrated disadvantage at the 70th percentile. Census tracts that fall into the upper 30 percent are considered disadvantaged. In wave 1, it appears to make more sense to split the sample at the 50th percentile.

Table 3.2 shows the relationship between neighborhood types and the severity of intimate violence against women. In wave 1, women in advantaged neighborhoods experience lower rates of one time violence and repeated violence or violence with injury. This same pattern is repeated in wave 2 and among continuing couples. In all three samples, the differences in victimization rates between advantaged and disadvantaged neighborhoods are significant at the .01 level. It is notable that in all samples greater percentages of women experience repeat violence or violence with injury than one time violence without injury. However, if we limit our analysis to violent couples, the relationship between neighborhood type and severity of violence changes. Among violent couples in wave 1, there is no relationship between severity of violence and neighborhood type. Of the women who were victimized, roughly equal percentages in both types of neighborhoods experienced repeat violence or violence that resulted in injury.

Table 3.1. Percentage of Couples with Intimate Violence Against the Woman by the Index of Concentrated Disadvantage in Deciles.

<u>Level of Disadvantage</u>

Sample	Low 1	2	3	4	5	6	7	8	9	High 10
Wave1 Couples[1]	4.6	5.9	6.1	4.5	7.5	9.0	8.3	8.4	9.1	11.0
Wave 2 Couples[2]	4.0	2.7	3.9	5.4	4.3	6.9	3.0	7.3	8.7	10.1
Continuing Couples [3]	3.7	2.3	3.4	4.5	3.4	5.1	1.6	6.8	5.3	7.8

[1] N = 7,375

[2] N = 6,133

[3] N = 4,734

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Table 3.2. Severity of Intimate Violence Against Women by Neighborhood Type for All Couples and Violent Couples only.

	All Couples Neighborhood Type		Violent Couples Neighborhood Type	
Wave 1	Advantaged	Disadvantaged	Advantaged	Disadvantaged
No Violence	94.3%	91.0%		
1 time, no injury	2.1	3.1	36.7%	34.1%
2 or more times or with injury	3.6	6.0	63.3	65.9
N	3,705	3,663	210	331
$X^2 = 31.1, p < .01$			$X^2 = .548$	
Wave 2	Advantaged	Disadvantaged	Advantaged	Disadvantaged
No Violence	95.7%	91.5%		
1 time, no injury	1.9	2.7	43.7%	32.1%
2 or more times or with injury	2.4	5.8	56.3	67.9
N	4,300	1,827	183	156
$X^2 = 50.7, p < .01$			$X^2 = 4.9, p = .026$	
Continuing Couples Wave 2	Advantaged	Disadvantaged	Advantaged	Disadvantaged
No Violence	96.6%	93.6%		
1 time, no injury	1.6	2.3	46.6%	36.0%
2 or more times or with injury	1.8	4.1	53.4%	64.0%
N	3,394	1,338	116	86
$X^2 = 23.9, p < .01$			$X^2 = 2.2$	

A particularly important question is whether neighborhood type influences the likelihood that intimate violence against women is maintained over time. As Table 2.4 showed above, relatively few of the continuing couples reported violence in both waves 1 and 2 of the NSFH. Nevertheless, as Table 3.3 shows there is evidence that maintenance is more common in disadvantaged neighborhoods. To explore the relationship between neighborhood type and the maintenance of violence, it was necessary to modify our index of neighborhood type to take into account that couples may have moved between waves of the NSFH. Approximately 40 percent of the NSFH sample moved between waves. Because of this individual residential mobility, we modified our measure of community disadvantage so as to take into account the possibility that respondents may have moved into or out of a disadvantaged neighborhood between waves. Respondents who resided in advantaged neighborhoods in both waves were assigned a 0. Those who moved out of a disadvantaged neighborhood in wave 1 to an advantaged neighborhood in wave 2 received a score of 1. Finally, those who moved into a disadvantaged neighborhood between waves 1 and 2 or who lived in such a neighborhood in both waves received a 2. Thus, this measure roughly captures length of exposure to disadvantaged neighborhood conditions.

Table 3.3 shows that violence was maintained among 1.1 percent of the couples who resided in advantaged neighborhoods over the two waves of the NSFH. For couples who resided in a disadvantaged neighborhood at least part of the time, the rate of maintenance was 2.3 percent, while for those who resided in a disadvantaged neighborhood through the study, the rate was 1.7 percent. These differences are small

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but they do suggest that violence against women is more likely to persist in couples exposed to disadvantaged neighborhood conditions.

Residential stability has long been recognized as an important dimension of neighborhood conditions. In the social disorganization tradition, it is treated as an important exogenous cause of neighborhood social disorganization (Sampson and Groves 1989). We abstracted data on rates of residential mobility in census tracts, but preliminary analyses indicated that residential mobility is not related to intimate violence against women at the bivariate level or multivariate levels. Hence, we forego further discussion of it at this time.

Conclusions: Neighborhood Conditions and Violence Against Women in Intimate Relationships

The results presented in this chapter correspond with those based on studies of calls to the police (Miles-Doan 1998). Although violence against women in intimate relationships can occur anywhere, it is more common in disadvantaged neighborhoods. The relationship between neighborhood socio-economic disadvantage and violence against women in intimate relationships appears to be non-linear, especially in wave 2 of the NSFH. In the 70 percent of couples that we designated as residing in advantaged neighborhoods in wave 2, we observed no consistent relationship between the index of disadvantage and rates of intimate violence. However, there was a distinct increase in the rate of violence in the 30 percent of couples located in neighborhoods that scored highest on index of disadvantage, and the rate of violence was highest among the 10 percent of couples located in the very worst neighborhoods. This pattern also held for our measures of frequency, severity, and duration of violence.

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Table 3.3. Maintenance of Intimate Violence Against Women by Type of Neighborhood for Women in Continuing Couples

| | Residency in Type of Neighborhood | | |
	Advantaged Both Waves	Disadvantaged Wave 1 or Wave 2	Disadvantaged Both Waves
Maintenance	1.1%	2.3%	1.7%
N	2,449	620	1,545

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In Wave 1 of the NSFH, the relationship between neighborhood disadvantage and intimate violence is not as clear as it is in Wave 2. In Wave 1, couples located in neighborhoods that scored in the upper half of the distribution of disadvantage had higher rates of violence on average than their counterparts in the lower half of neighborhoods. As in Wave 2, the 10 percent of couples located in the very worst neighborhoods had the highest rate of violence. As in Wave 2, seriousness of violence as indicated by multiple incidents of violence and injury is related to neighborhood socio-economic disadvantage, with women who reside in disadvantaged neighborhoods faring the worst.

Contrary to other research in the social disorganization tradition, we did not observe any relationship between neighborhood rates of residential instability and intimate violence at the bivariate level. We return to this issue and examine in more closely in later chapters.

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CHAPTER FOUR

ECONOMIC DISTRESS AND INTIMATE VIOLENCE

Our next research question was "to what extent do different forms of economic distress influence the use of violence by men against women in intimate relationships?" Economic distress comprises objective and subjective aspects of employment and income. Objective conditions such as being unemployed or having insufficient income to meet the needs of one's family indicate economic distress. In addition, subjective feelings of anxiety or worry about money or worry that one might lose one's job also may indicate economic distress. Fagan and Browne (1994) have theorized that economic distress may trigger intimate violence. They suggest that life transitions that cause economic distress (e.g. becoming unemployed) may be particularly important precipitating factors of violence by men against women in intimate relationships (Fagan and Browne 1994). There are several possible causal mechanisms. Financial problems may lead to feelings of stress and frustration that find expression in physical aggression by either partner (MacMillan and Gartner 1999). On the other hand, males experiencing job instability or poor earnings or both may be especially likely to become violent in verbal confrontations with their partners. Violence, in this case, substitutes for socioeconomic leverage as a means for men to establish their authority (Sugarman and Hotaling 1989; Babcock, Waltz, Jacobson, and Gottman 1993; MacMillan and Gartner 1999). Others likewise argue for the salience of economic constraints and job loss in increasing the probability of marital violence under certain circumstances (Burgess and Draper 1989).

It is certainly possible that couples experiencing economic difficulties become violent because they argue more over money matters, or because the stress and frustration induced by financial exigencies manifests itself in violent outbursts. On the other hand, it is also possible that both financial problems and intimate assault may simply represent different manifestations of an underlying individual level characteristic such as low self control (Gottfredson and Hirschi 1990). Unfortunately, the cross-sectional nature of most studies of intimate violence makes it difficult to determine whether economic distress precipitates violence. Stronger inferences about the role of economic distress in the etiology of violence require data that track couples over time and that control for prior violence. With this approach, the association between economic distress at an earlier time and subsequent trajectories in intimate violence can be examined. If economic distress is positively associated with initiation and negatively associated with desistance, a stronger case for its causal role can be made.

There is some support for the hypothesis that economic distress affects intimate violence. Although intimate violence is found in all social classes, rates tend to be higher in families of lower socioeconomic status who are experiencing underemployment or unemployment (Straus, Gelles, and Steinmetz 1980). Recent research has found that economic distress predicts individual and family outcomes including marital dissatisfaction and family conflict (Conger et al. 1990; Fox and Chancey 1998). MacMillan and Gartner (1999) found that unemployed husbands married to employed wives exhibited greater coercive control and more physical aggression, compared to husbands in dual employment or dual unemployment couples. These authors suggest that it is not economic deprivation, but rather the symbolic significance of differential

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employment statuses among the partners that drives violence. They conclude that their work "...suggests that spousal violence against women reflect(s) efforts to dominate and control women in marital relationships" (MacMillan and Gartner 1999:957).

In this chapter, we first present descriptive results on our measures of economic distress. We then explore how they are related to violence at the bivariate level.

Measures of Economic Distress

As noted in chapter two, we have both objective and subjective measures of economic distress. The objective measures of economic distress include the household income to needs ratio, number of household debts, and male job instability. The measure of job instability is available only for wave 2.

The subjective measure of economic distress is called *subjective financial strain*. It indexes the perception of financial inadequacy and worries about economic resources. Unfortunately, the NSFH is weaker in the availability of subjective indicators of financial strain. No specific measures are included in Wave 1. Wave 2 includes two items that tap into the respondent's evaluation of his or her financial situation. Both partners in a couple are asked to indicate how satisfied they are with their finances, with response categories ranging from "very dissatisfied" (7) to "very satisfied" (1). Respondents are also asked how often they worry about the sufficiency of their income. Response categories range from "worry all the time" (5) to "never worry" (1). Transformed to z-scores and summed these items form an index of subjective financial strain with an alpha coefficient of .79. Higher scores indicate greater strain. This measure appears to have some construct validity. In analyses not reported here, we investigated the relationship between the measures of objective economic distress and the index of subjective financial

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strain using OLS regression. As expected, each of the objective indicators had a significant effect on subjective strain in the expected directions. The results indicate that how couples interpret their finances is to some extent grounded in objective economic realities. The overall R^2 for the model, however, was a modest .13, which suggests that much of the variation in interpretations is idiosyncratic in nature or caused by non-economic factors.

Tables 4.1a and 4.1b present descriptive statistics for the measures of economic distress in waves 1 and 2, respectively. In wave 1, the average number of household debts was 1.08, with over 60 percent of the sample reporting having zero or only 1 debt. Roughly 10 percent of the wave 1 sample had 3 or more debts. The mean for the household income to needs ratio is 4.54. As an income measure, it is not surprising that this variable is highly skewed, with a coefficient of skewness of 8.042. The measure ranges from 0 to 115.5. The median income to needs ratio is 3.50, indicating that in roughly half of the households in the sample the household income was more than three times the poverty level. One problem with the household income to needs ratio in wave 1 is that there is a relatively large number of cases (1,507) with missing values.

In wave 2, the mean number of debts is 1.2, with over 60 percent of the sample having 1 or fewer debts. About 15 percent of the sample reported having 3 or more debts. The mean household income to needs was 4.74, and as in wave 1 this variable is highly skewed and has a large range. The median was 3.81. The measure of subjective financial strain is available only for wave 2. Its mean is -.019. The variable male job instability tracks the number of periods of unemployment experienced by the male in the relationship between waves 1 and 2 of the NSFH. As indicated in Table 4.1b, the vast

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majority of the sample enjoyed employment stability between waves, with over three-quarters of the sample reporting no periods of unemployment between waves and almost 95 percent of the sample reporting 1 or fewer periods of unemployment. Just over 5 percent reported 2 or more periods of unemployment, with the mean being .32.

To investigate the relationship between economic distress and violence against women in intimate relationships, we recoded our various indicators of distress into categorical variables based on the distribution of the variables. We created a five category variable for income to needs, which divided the sample into the following groups based on the relationship between the household income and the poverty level: (1) income less than half of the poverty level, (2) income half to equal to the level of poverty, (3) income up to two times the poverty level, (4) income two to four times the poverty level, and (5) income five or more times the poverty level. Table 4.2a shows the relationship between the ratio of household income to needs and rates of intimate violence for both waves of the NSFH. As expected, in both waves women in couples with relatively high household incomes have lower rates of victimization than those with low household incomes. The only exception to this pattern occurs in wave 2 in which women in the very poorest households have a low rate of victimization (4.3 percent). Otherwise, women in households where the income is no more than twice the poverty level have notably high rates of victimization than women in households with incomes that are more than twice the poverty level.

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Table 4.1a. Descriptive Statistics on Forms of Economic Distress for Couples in Wave 1

Variable	N	Percent	Mean	Standard Deviation
Number of Debts				
0	2,844	37.6	1.08	1.10
1	2,378	31.5		
2	1,470	19.5		
3	623	8.2		
4	207	2.7		
5	29	.4		
6	2	.0		
7	1	.0		
Total	7,554			
Household Income to Needs Ratio	6,047		4.54	5.32

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Table 4.1b. Descriptive Statistics on Forms of Economic Distress for Couples in Wave 2

Variable	N	Percent	Mean	Standard Deviation
Number of Debts				
0	2,217	35.4	1.20	1.18
1	1,875	29.9		
2	1,263	20.1		
3	637	10.2		
4	222	3.5		
5	50	.8		
6	5	.1		
7	2	.0		
Total	6,271			
Number of Job Spells For Male				
0	4,378	77.7	.32	.74
1	942	16.7		
2	180	3.2		
3	68	1.2		
4	25	.4		
5	40	.7		
Total	5,633			
Household Income to Needs Ratio	6,217		4.74	4.18
Subjective Financial Strain	4,958		-.019	.77

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Table 4.2a. Percentage of Couples with Intimate Violence Against Women by Ratio of Household Income to Needs, Waves 1 and 2.

Ratio of Household Income to Needs

Sample	Less than Half of Poverty Level	Half to Equal of Poverty Level	Up to Two Times Poverty Level	Two to Four Times Poverty Level	Five or More Times Poverty Level
Wave 1 Couples[1]	10.4% (250)	13.1% (290)	10.0% (898)	7.6% (2,697)	5.7% (1,767)
Wave 2 Couples[2]	4.3% (162)	11.8% (178)	9.5% (757)	6.0% (2,916)	3.2% (2,077)

[1] $X^2 = 31.5, p < .01$
[2] $X^2 = 58.2, p < .01$

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To assess the effect of debts on violence, we dichotomized the measure of debts, with those reporting 2 or more debts categorized as having a high level of debt and all others categorized as having low debts. As shown in Table 4.2b, in Wave 1, the relationship between number of household debts and violence is straightforward, with women in the high debt category being roughly 75 percent more likely to experience violence than women in the low debt category (10.6 percent to 6.0 percent respectively). This difference is highly significant. In wave 2, the effect of debts appears much weaker and is only barely significant (see Table 4.2b).

Our final indicator of objective economic distress is job instability, which is measured as the number of periods of unemployment of at least six months between waves 1 and 2 for the male. Because there are very few cases with two or more periods of unemployment, we collapsed this variable into a trichotomy, ranging from 0 through 2 or more periods of unemployment. Fagan's and Browne's hypothesis regarding the adverse effects of life transitions that cause economic distress is supported by the results for our measure of job instability (see Table 4-2c). The rate of violence rises steadily as the number of periods of unemployment increases. For women in couples where the male was never unemployed between waves, the rate of violence is 4.7 percent. It rises to 7.5 percent when the male experiences one period of unemployment and to 12.3 percent when the male experiences two or more periods of unemployment.

There is a strong relationship between subjective feelings of financial strain and the likelihood of violence against a woman in an intimate relationship. The distribution of the index of financial strain is normal and symmetrical. Therefore, we dichotomized it at 0. As shown in Table 4.2d, the rate of violence among couples with high levels of

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subjective financial strain is roughly three and a half times higher than among couples

with low subjective strain (9.5 percent to 2.7 percent, respectively).

Table 4.2b. Percentage of Couples with Intimate Violence Against Women by Level of Household Debts, Waves 1 and 2.

Level of Household Debts*

Sample	Low	High
Wave 1 Couples[1]	6.0% (5,083)	10.6% (2,292)
Wave 2 Couples[2]	5.2% (4,136)	6.4% (2,021)

* High equals 2 or more

[1] $X^2 = 47.3, p < .01$
[2] $X^2 = 3.7, p = .053$

Table 4.2c. Percentage of Couples with Intimate Violence Against Women by Subjective Financial Strain, Wave 2.

Subjective Financial Strain

Sample	Low	High
Wave 2 Couples[1]	2.7% (2,602)	9.5% (2,350)

[1] $X^2 = 104.0, p < .01$

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Table 4.2d. Percentage of Couples with Intimate Violence Against Women by Number of Periods of Unemployment, Wave 2.

Periods of Unemployment

Sample	None	One	Two or More
Wave 2 Couples[1]	4.7% (4,320)	7.5% (932)	12.3% (310)

[1] $X^2 = 39.6, p < .01$

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In Tables 4.3a through 4.3f, we examine the relationship between economic distress and the seriousness of intimate violence against women. Beginning with wave 1 (see Tables 4.3a and 4.3b), we note that like the general prevalence rate of violence, the seriousness of violence also is related to the household income to needs ratio and to the number of debts in the household. Women in low income households have higher rates of repeated victimizations and victimizations with injury than women in high income households. The same is true with respect to high and low levels of debts. A similar pattern is observed for these two variables among wave 2 couples (see Tables 4.3c and 4.3d).

In wave 2, the measures of job instability and subjective financial strain also are consistently related to the seriousness of violence. With respect to job instability, the rate of serious violence increases from 2.7 percent in households where the male experiences no periods of unemployment to 6.5 percent when the male experiences 2 or more periods of unemployment. Just over 5 percent of women in couples with high levels of subjective strain report experience repeat victimizations or being injured by their male partner compared to less than 2 percent of women in couples with low levels of strain.

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Table 4.3a. Seriousness of Intimate Violence Against Women by Ratio of Household Income to Needs, Wave 1

Ratio of Household Income to Needs

Seriousness	Less than Half of Poverty Level	Half to Equal of Poverty Level	Up to Two Times Poverty Level	Two to Four Times Poverty Level	Five or More Times Poverty Level
No Violence	90.3%	87.2%	90.0%	92.4%	94.3%
One Time Without Injury	3.2	1.7	3.6	3.1	1.9
Two or More Times Or With Injury	6.5	11.1	6.5	4.5	3.8
N	248	289	898	2,697	1,767

$X^2 = 44.7, p < .01$

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Table 4.3b. Seriousness of Intimate Violence Against Women by Level of Household Debts, Wave 1.

	Level of Household Debts	
Seriousness	Low	High
No violence	94.1%	89.4%
One Time Without Injury	1.8	4.3
Two or More Times Or With Injury	4.1	6.2
N	5,076	2,292

$X^2 = 58.0, p < .01$

Table 4.3c. Seriousness of Intimate Violence Against Women by Ratio of Household Income to Needs, Wave 2

	Ratio of Household Income to Needs				
Seriousness	Less than Half of Poverty Level	Half to Equal of Poverty Level	Up to Two Times Poverty Level	Two to Four Times Poverty Level	Five or More Times Poverty Level
No Violence	95.7%	88.7%	90.6%	94.2%	96.8%
One Time Without Injury	1.2	2.8	4.0	2.1	1.4
Two or More Times Or With Injury	3.1	8.5	5.4	3.7	1.8
N	162	177	756	2,912	2,077

$X^2 = 60.4, p < .01$

Table 4.3d. Seriousness of Intimate Violence Against Women by Level of Household Debts, Wave 2.

Level of Household Debts

Seriousness	Low	High
No violence	95.4%	92.8%
One Time Without Injury	1.8	2.6
Two or More Times Or With Injury	2.8	4.6
N	4,002	2,149

$X^2 = 17.4, p < .01$

Table 4.3e. Seriousness of Intimate Violence Against Women by Subjective Financial Strain, Wave 2.

Subjective Financial Strain

Seriousness	Low	High
No violence	97.3%	90.7%
One Time Without Injury	1.1	3.8
Two or More Times Or With Injury	1.5	5.5
N	2,602	2,345

$X^2 = 99.7, p < .01$

Table 4.3f. Seriousness of Intimate Violence Against Women by Number of Periods of Unemployment, Wave 2.

Periods of Unemployment

Seriousness	None	One	Two or More
No violence	97.3%	90.7%	88.3%
One Time Without Injury	1.1	3.8	5.2
Two or More Times Or With Injury	1.5	5.5	6.5
N	4,319	930	308

$X^2 = 36.1, p < .01$

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Conclusions: Economic Distress and Intimate Violence Against Women

With only a few exceptions, the general pattern of results for our measures of economic distress is consistent with previous research. Women in couples with low incomes, high debt, and male job instability are more likely to be victimized by their intimate partner than women in couples that are more financially well off, and the seriousness of their victimizations are likely to be greater as well. How a couple subjectively interprets economic distress also appears to matter a good deal, with those who define their situations as worrisome or unsatisfying experiencing more violence than those who hold more optimistic views of their personal finances. These patterns hold for couples in both waves of the NSFH.

Our results on economic distress are consistent with a long line of research which shows violence against women is inversely related to women's financial status. Past research has consistently found that poverty, unemployment, and low social class are related to violence against women. Although violence is spread across the entire range of the income distribution and some well-to-do women indeed are victimized, the risk of victimization is highest for women who are not well-off financially or whose partners are unable to hold down a job consistently.

Because couples experiencing economic distress are more likely to reside in areas or neighborhoods that are also economically disadvantaged at the aggregate level, it is possible that some or all of the relationship between neighborhood socio-economic conditions and intimate violence reflects compositional rather than contextual effects. This issue is explored later in this report in chapters 6 and 7.

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CHAPTER FIVE

CHANGE IN ECONOMIC DISTRESS AND INTIMATE VIOLENCE

In this chapter we focus on our third research question. "How do changes in economic distress influence the initiation, maintenance, desistance, and escalation of violence by men in intimate relationships and to what extent do the known precursors of violence mediate the impact of changes in economic distress?" Because our focus in this chapter is on change in economic distress, our analysis is limited to the 5,031 continuing couples in the NSFH.

We were able to create change measures for debts and household income to need ratios, because these variables were available in both waves. Unfortunately, information on subjective financial stress is not available in wave 1, preventing any analysis of change in this dimension of economic distress. Because the measure of job instability refers to events that were happening between waves, we treat it as a change measure of economic distress for continuing couples. To create change measures of debts and household income to needs ratios, we subtracted wave1 scores from wave 2 scores for these variables. Couples were then grouped into one of three categories depending on whether their financial situation in wave 2 compared to wave 1 could be regarded as worse, better, or unchanged.

Table 5.1 presents descriptive statistics on change in economic distress. Just over 40 percent of the continuing couples experienced a decline in household income; slightly more (47.6 percent) saw an improvement; and in 8.5 percent of the couples there was no change in income. Unlike the bimodal distribution of change in income to needs, the

distribution of change in debts is more uniform. Approximately equal number of couples had more debts as had fewer debts (28.3 percent to 30.2 percent, respectively); 41.5 percent had the same number of debts in wave 2 as in wave 1. Finally, males in continuing couples experienced periods of unemployment to roughly the same degree as males in all wave 2 couples. Nearly 80 percent were never unemployed between waves, 16.2 percent were unemployed only once, and 4.7 percent experienced 2 or more periods of unemployment between waves of the survey.

Except for our measure of job instability, there no evidence that changes in economic distress are related to violence against women in intimate relationships. As shown in Table 5.2, neither change in income to needs or change in debts is related to rates of violent victimization. In both cases, the relationship is not statistically significant at the .05 level, and the pattern of results is not in the expected direction. The only measure of change in economic distress that is related to violence in continuing couples is job instability. The rate of violence against women in continuing couples is more than twice as high when the male has 2 or more periods of unemployment than when the male has 1 or fewer periods of unemployment (9.1 percent to 4.1 percent, respectively). This results mirrors the pattern reported in chapter 4 for all wave 2 couples.

Table 5.1. Descriptive Statistics on Change in Selected Measures of Economic Distress for Continuing Couples

	Percent	Mean	Standard Deviation
Change in Ratio of Income to Needs Between Waves		-.07	4.92
Worse	42.0		
No Change	8.5		
Better	47.6		
	(4,098)		
Change in Debt Load Between Waves		-.002	1.22
More Debts	28.3		
No Change	41.5		
Fewer Debts	30.2		
	(5,031)		
Number of Periods of Unemployment Between Waves		.29	.70
None	79.1		
One	16.2		
Two or More	4.7		
	(4,494)		

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Table 5.2 Percentage of Continuing Couples with Intimate Violence Against Women in Wave 2 by Change in Ratio of Income to Needs

Change in Ratio of Income to Needs

Violence	Worse	No Change	Better
Yes	3.6%	5.7%	4.9%
N	1,675	420	1,926

$X^2 = 5.6$, p = .061

Change in Debt Load

Violence	More	No Change	Fewer
Yes	4.9%	3.5%	4.7%
N	1,394	2,033	1,495

$X^2 = 4.9$, p =.086

Periods of Male Unemployment

Violence	One or None	Two or More
Yes	4.1%	9.1%
N	4,225	208

$X^2 = 11.8$, p < .01

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Conclusions: Change in Economic Distress and Intimate Violence

The failure to find a relationship between two of our measures of change in economic distress and intimate violence against women is surprising, especially in regards to change in the income to needs ratio. Recall that the cross-sectional relationship between income to needs and violence was significant for both wave 1 and wave 2 couples. In both waves, couples at the lower end of the income to needs scale experienced notably higher rates of violence than more well to do couples. Thus, we had expected that continuing couples who experienced a downturn in financial status between waves would be especially likely to have high rates of intimate violence. It is possible that our measure of change is simply too crude and that only very dramatic downturns in financial fortunes trigger an increase in domestic violence. Another possibility is that a downturn in financial fortunes has two different types of effects on couples. In the case of couples that are not strongly bonded emotionally, it may lead them to separate or divorce, because the marriage or partnership is not bringing the economic rewards that the participants had hoped to gain by entering into their relationship. In contrast, in relationships that are emotionally strong, financial problems may actually bring couples closer together to respond to the threat posed to their relationship by economic hard times. A reduction in income may represent an external threat that increases cohesiveness and solidarity among some couples.

In the next two chapters, we explore whether the relationship between our indicators of economic distress and intimate violence is influenced by community context and other known precursors of intimate violence.

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CHAPTER SIX

ECONOMIC DISTRESS AND COMMUNITY CONTEXT

Results presented in Chapters 3 and 4 indicated that rates of intimate violence against women vary systematically with community level socio-economic disadvantage and with some measures of household level economic distress. It is to be expected that household level economic distress and community level socio-economic disadvantage are systematically inter-related, because access to financial resources influences housing decisions. Couples who are financially advantaged are more likely to be able to afford to live in well to do neighborhoods than couples who are financially disadvantaged. With respect to intimate violence against women, the correlation between household and community level financial status raises important substantive and methodological questions. Substantively, the question is whether household economic distress and community context influence intimate violence independently of each other or whether they interact with one another to produce varying levels of risk for women located in different types of areas and households. Methodologically, does the relationship between community context and intimate violence represent a compositional or contextual effect?

Social disorganization and other contextual theories hold that the structural characteristics of neighborhoods can either facilitate or hinder crime (Bursik 1988) (Sampson et al. 1997). Several studies have documented associations between crime and the perception or fear of crime by residents and such neighborhood features as community socioeconomic status, ethnic heterogeneity, residential stability, the extent of family disruption, housing deterioration, residential overcrowding, and population

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density (Greenberg, Rohe, and Williams 1982; Byrne and Sampson 1986; Sampson 1986b; Sampson and Groves 1989). That these associations obtain despite a complete turnover in the populations of neighborhoods over time suggests to Stark (1987) that the structural, or contextual, features of neighborhoods themselves must play some role in the etiology of deviance.

Yet, neighborhoods are selective in terms of the sociodemographic profiles of the inhabitants they attract. Despite turnover in the actual residents of a neighborhood there may nonetheless be continuity in the people found there over time. Differences in aggregate crime rates between neighborhoods with different structural characteristics may be primarily due to differences in their population compositions (Bursik and Webb 1982; Simcha-Fagan and Schwartz 1986; Reiss 1986; Sampson 1986a). For example, as Sampson notes, an "aggregate offense rate may be positively related to the percentage of the population that is black because blacks have a higher rate of offending than do whites (an effect of composition) or because blacks in cities with a large black population have higher offending rates than do blacks in areas where they are a minority (an effect of context)" (Sampson 1986a). Because it is often difficult to untangle contextual from compositional effects, this debate is still largely unresolved.

From chapter 3 we know that neighborhood socio-economic status is correlated with rates of intimate violence against women. However, it is not clear whether these aggregate correlations represent compositional or contextual effects. Compared to more advantaged neighborhoods, rates of intimate violence in disadvantaged neighborhoods may be higher solely because the people who inhabit these areas have individual level characteristics that are related to intimate violence. In particular, they may be higher

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because the people in these areas are more likely to experience individual level strains associated with violence, such as economic distress.

To address this issue, in this chapter we begin by presenting evidence on the relationship between our measures of household economic distress and community context. We then investigate the joint effects of household economic distress and community context on the prevalence and severity of violence against women in intimate relationships.

Community Context and Economic Distress

Table 6.1a shows the relationship between neighborhood type and the two measures of objective economic distress in wave 1. As expected, in disadvantaged neighborhoods, the proportion of households with lower incomes is notably higher than in advantaged neighborhoods. For example, 17.4 percent of the respondents located in disadvantaged neighborhoods have household incomes at or below the poverty level compared to 6.2 percent of respondents in advantaged neighborhoods. Although household income is related to neighborhood type, number of household debts is not. Approximately, 30 percent of respondents report having 2 or more debts in both advantaged and disadvantaged neighborhoods.

A similar pattern is observed in wave 2 between our indicators of objective economic distress and neighborhood type (see Table 6.1b). Just over 12 percent of the respondents in disadvantaged neighborhoods have incomes at or below the poverty level compared to 3.2 percent of respondents in advantaged neighborhoods. On the other end of the scale, roughly twice as many respondents in advantaged neighborhoods have household incomes that are five times higher than the poverty level than in disadvantaged

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neighborhoods (39.6 percent to 19.8 percent, respectively). As in wave 1, there is no

relationship between debts and neighborhood type in wave 2. Surprisingly, there is also

little relationship between employment instability and neighborhood type. Slightly more

respondents reported 2 or more periods of unemployment between survey waves in

disadvantaged than advantaged neighborhoods (6.6 percent to 5.1 percent, respectively).

Because of the large sample size, this difference is statistically significant, but it does not

appear to be strong in a substantive sense. Finally, subjective financial strain is related to

neighborhood type as expected. Almost three fifths of the respondents in disadvantaged

neighborhoods report high levels of subjective financial strain compared to about two

fifths of respondents in advantaged neighborhoods.

The results presented in Tables 6.1a and 6.1b suggest that some forms of

economic distress are related to community level socio-economic disadvantage but not

others. Clearly, and unsurprisingly, in regards to objective economic distress poverty is

more pervasive among respondents located in disadvantaged neighborhoods. It is also

clear that there are differences in subjective economic distress between respondents

located in disadvantaged versus advantaged areas. The former are more likely to feel a

sense of subjective financial strain than the latter. Yet, contrary to our expectations,

there are practically no differences in debts or employment instability between

respondents located in advantaged versus disadvantaged neighborhoods.

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Table 6.1a Individual Economic Distress by Neighborhood Type, Wave 1.

	Neighborhood Type	
Income to Needs Ratio	Advantaged	Disadvantaged
Less than Half of Poverty Level	3.1%	7.6%
Half to Equal to Poverty Level	3.1%	9.8%
Equal to Two Times Poverty Level	11.9%	23.4%
Two to Five Times Poverty Level	46.1%	44.1%
More than Five Times Poverty Level	35.8%	15.2%
N	4,277	1,741

$X^2 = 450.8, p < .000$

Number of Debts	Advantaged	Disadvantaged
Low	68.7%	70.2%
High	31.3%	29.8%
N	5,289	2,265

$X^2 = 1.7, p = .19$

Table 6.1b Individual Economic Distress by Neighborhood Type, Wave 2

Income to Needs Ratio	Neighborhood Type	
	Advantaged	Disadvantaged
Less than Half of Poverty Level	2.1%	5.1%
Half to Equal to Poverty Level	1.1%	7.1%
Equal to Two Times Poverty Level	9.1%	20.6%
Two to Five Times Poverty Level	48.1%	47.5%
More than Five Times Poverty Level	39.6%	19.8%
N	4,336	1,839

$X^2 = 482.4$, p < .000

Number of Debts	Advantaged	Disadvantaged
Low	65.3%	65.0%
High	34.7%	35.0%
N	4,373	1,874

$X^2 = .05$, p = .824

Subjective Financial Strain	Advantaged	Disadvantaged
Low	56.5%	42.0%
High	43.5%	58.0%
N	3,548	1,395

$X^2 = 84.4$, p < .000

Periods of Unemployment	Advantaged	Disadvantaged
Low (1 or none)	94.9%	93.4%
High (2 or more)	5.1%	6.6%
N	3,952	1,663

$X^2 = 4.7, p = .031$

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Economic Distress, Community Context, and the Prevalence of Intimate Violence Against Women

To assess the joint effects of household economic distress and community context on intimate violence against women, we use a series of three-way contingency tables. In each table the relationship between an indicator of household economic distress and intimate violence is examined controlling for neighborhood type.

Table 6.2a shows rates of intimate violence by the income to needs ratio and neighborhood type in wave 1. As expected, rates of violence are generally higher in disadvantaged compared to advantaged neighborhoods within each of the income to needs categories, especially in the higher income brackets. For example, in the wealthiest households, that is those making more than five times the poverty level, the rate of violence is 7.8 percent in disadvantaged neighborhoods, but it is only 4.7 percent in advantaged neighborhoods. Within neighborhood types, income is related to rates of intimate violence in disadvantaged neighborhoods but not in advantaged neighborhoods. In disadvantaged neighborhoods, rates of violence are notably higher among respondents in the three lower income brackets compared to respondents in the two upper income brackets. A similar pattern is observed in advantaged neighborhoods but it is not as pronounced and is not statistically significant. These results would appear to indicate that the aggregate correlation between neighborhood type and intimate violence reflects in part a contextual effect and is not simply the result of compositional differences in populations between neighborhood types.

Table 6.2b shows the joint effects of household debt and neighborhood type on intimate violence in wave 1. Rates of violence are higher among respondents with low debts in

disadvantaged neighborhoods than advantaged neighborhoods (7.7 percent to 4.8 percent, respectively). The same pattern holds for those with high debts. Within neighborhood types, rates of violence are higher among respondents with high debts compared to those with low debts. Thus, the overall pattern of relationships between debts and intimate violence appears to be the same regardless of neighborhood type. High debts are associated with higher rates of violence in both advantaged and disadvantaged neighborhoods in. Recall that neighborhood type is not related to the number of household debts. Thus, the higher rates of intimate violence in disadvantaged neighborhoods for respondents having similar levels of debt suggests a contextual versus compositional effect.

Tables 6.2c through 6.2f report the results of our analysis of economic distress and community context for wave 2. In regards to the income to needs ratio and the number of household debts, the patterns in wave 2 are similar to those observed in wave 1. Regardless of the indicator of economic distress, couples in disadvantaged neighborhoods generally have higher rates of intimate partner violence than couples in advantaged neighborhoods. For example, for couples in advantaged neighborhoods that report household incomes that are more than five times the poverty level, the rate of violence is 2.8 percent, but it is 5.2 percent among similarly well off couples in disadvantaged neighborhoods. Couples with high levels of debt who live in disadvantaged neighborhoods have a rate of intimate violence of 10.5 percent, whereas for their counterparts in advantaged neighborhoods the rate is 5.9 percent. In both types of neighborhoods, the relationship between the two indicators of economic distress and violence is significant. Overall, there is no evidence that the relationship between these

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indicators of economic, community context, and intimate violence against women changed between waves of the NSFH.

Table 6-2a Effects of Income to Needs Ratio and Neighborhood Type on Intimate Violance Against Women, Wave 1.

Income to Needs Ratio	Violence Rate by Neighborhood Type	
	Advantaged	Disadvantaged
Less than Half of Poverty Level	5.6%	12.4%
Half to Equal to Poverty Level	10.4%	13.9%
Equal to Two Times Poverty Level	7.6%	11.3%
Two to Five Times Poverty Level	6.2%	8.9%
More than Five Times Poverty Level	4.7%	7.8%
N	3,010	2,892

X^2 Advantaged Neighborhoods = 7.7, p = .105
X^2 Disadvantaged Neighborhoods = 10.6, p = .031

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Table 6-2b Effects of Household Debts and Neighborhood Type on Intimate Violence Against Women, Wave 1

Number of Household Debts	Violence Rate by Neighborhood Type	
	Advantaged	Disadvantaged
Low	4.8%	7.7%
High	7.2%	13.4%
N	3,707	3,668

X^2 Advantaged Neighborhoods = 12.5, p < .000
X^2 Disadvantaged Neighborhoods = 36.1, p < .000

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Tables 6.2e and 6.2f report the results for employment instability and subjective financial strain in wave 2. The patterns of results for these two new indicators of economic distress are similar to the ones observed earlier for different indicators in wave 1 and wave 2. In all cases, respondents in disadvantaged neighborhoods have higher rates of intimate violence compared to their similarly situated counterparts in advantaged neighborhoods. However, some interesting variations in relationships are apparent. Looking first at subjective financial strain and couples with low levels of subjective strain, we note that there is little variation in rates by neighborhood type. Couples with low subjective strain and who live in disadvantaged neighborhoods report a violence of 3.8 percent, while those who live in advantaged neighborhoods report a rate of 2.3 percent. The combination of neighborhood disadvantage and high subjective strain appears to be particularly potent, as intimate violence against women is reported in 13.8 percent of these cases, In contrast, violence is reported in only 7.3 percent of couples in advantaged neighborhoods who have high strain, a rate that is roughly half as high as observed in highly strained couples in disadvantaged neighborhoods. Within neighborhood types, the relative increase in violence over levels of subjective strain is roughly similar. For couples in disadvantaged neighborhoods, couples with high levels of subjective strain report violence at a rate that is 3.63 times higher than couples with low strain. In advantaged neighborhoods, the increase in violence rate between low and high levels of subjective strain is 3.17.

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Table 6-2c Effects of Income to Needs Ratio and Neighborhood Type on Intimate Violance Against Women, Wave 2.

Income to Needs Ratio	Violence Rate by Neighborhood Type	
	Advantaged	Disadvantaged
Less than Half of Poverty Level	3.8%	4.8%
Half to Equal to Poverty Level	18.4%	8.7%
Equal to Two Times Poverty Level	7.5%	11.7%
Two to Five Times Poverty Level	4.6%	9.3%
More than Five Times Poverty Level	2.8%	5.2%

X^2 Advantaged Neighborhoods = 42.9, p < .000
X^2 Disadvantaged Neighborhoods = 11.5, p = .021

Table 6-2d Effects of Number of Household Debts and Neighborhood Type on Intimate Violence Against Women, Wave 2

Number of Household Debts	Violence Rate by Neighborhood Type	
	Advantaged	Disadvantaged
Low	3.5%	7.7%
High	5.9%	10.5%
N	4,303	1,830

X^2 Advantaged Neighborhoods = 14.4, p < .000
X^2 Disadvantaged Neighborhoods = 4.2, p = .041

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Finally, with respect to the prevalence of intimate violence, Table 6.2f reports results for employment instability in wave 2. Regardless of neighborhood type, couples in which the male experienced 2 or more periods of unemployment between waves have notably higher rates of violence against women than couples where the male had more stable employment. Among couples located in advantaged neighborhoods, the rate of violence increases from 4 percent when the male had stable employment to 10.6 percent when the male had unstable employment. This is a relative increase of 265 percent. In disadvantaged neighborhoods, the relative increase in violence is 190 percent. As with the results reported for other indicators of economic strain, the results for employment instability suggest that neighborhood context influences intimate violence against women independently of levels of employment instability.

Table 6-2e Effects of Subjective Financial Strain and Neighborhood Type on Intimate Violence Against Women, Wave 2

| Subjective | Violence Rate by Neighborhood Type | |
Financial Strain	Advantaged	Disadvantaged
Low	2.3%	3.8%
High	7.3%	13.8%

X^2 Advantaged Neighborhoods = 49.2, p < .000
X^2 Disadvantaged Neighborhoods = 39.5, p < .000

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Table 6-2f Effects of Periods of Unemployment and Neighborhood Type on Intimate Violence Against Women, Wave 2

| | Violence Rate by Neighborhood Type | |
Number of Periods Of Unemployment	Advantaged	Disadvantaged
Low (1 or none)	4.0%	8.2%
High (2 or more)	10.6%	15.6%

X^2 Advantaged Neighborhoods = 19.5, p < .000
X^2 Disadvantaged Neighborhoods = 7.0, p = .008

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Economic Distress, Community Context, and the Severity of Intimate Violence Against Women

In chapter 3, we showed that patterns in the severity of intimate violence varied with neighborhood type in wave 2 but not in wave 1. We defined one time violence with no injury as minor violence. Serious violence was defined as 2 or more violent incidents in the past year or 1 or more incidents with injury requiring medical treatment. Among all women who were assaulted in wave 1, nearly identical percentages in advantaged and disadvantaged neighborhoods experienced serious violence (63.3 percent and 65.9 percent, respectively). In wave 2, the pattern was different. Among all women who were victimized in wave 2, those located in disadvantaged neighborhoods were significantly more likely to experience serious violence than those located in advantaged neighborhoods (67.9 percent to 56.3 percent, respectively). Wave 2 women in continuing couples were more likely to experience serious violence if they were located in a disadvantaged neighborhood than in an advantaged one, but the effect was not statistically significant.

Tables 6.3a and 6.3b show the relationship between the income to needs ratio and seriousness of violence controlling for neighborhood type for waves 1 and 2. In wave 1, poverty appears to be related to seriousness of violence in advantaged neighborhoods but not in disadvantaged neighborhoods (see Table 6.3a). Couples with low incomes in wave 1 who were located in advantaged neighborhoods have rates of serious violence that ranged from 5.6 percent to 11.8 percent across the three lowest income categories. Although low income couples in disadvantaged neighborhoods also have higher rates of serious violence than their more well to do counterparts, the difference is not significant. The rate of serious violence in the two upper income categories ranges from 6.3 to 6.6

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percent; in the three lower income categories it ranges from 7.3 to 10.5 percent. A similar pattern is observed in wave 2 (see Table 6.3b). Within the income to needs categories, couples located in disadvantaged neighborhoods generally have higher rates of serious violence than those located in advantaged neighborhoods. In both waves, women in couples that have low incomes and that are located in disadvantaged neighborhoods experienced the highest rates of serious violence.

Neighborhood socio-economic disadvantage also combines with subjective financial strain and employment instability to produce notably higher rates of serious violence for some women in wave 2 (see Tables 6.3c and 6.3d). As shown in Table 6.3c, women who are located in disadvantaged neighborhoods and who have high levels of subjective financial strain experienced serious violence at a rate of 8.8 percent. This rate is notably higher than those for women in couples with low subjective strain or who reside in advantaged neighborhoods. Likewise, couples where the male has high levels of employment instability and that reside in disadvantaged neighborhoods have high levels of serious violence. Their rate of serious violence (10.1 percent) is more than twice that for couples with high male employment instability who reside in advantaged neighborhoods (4.6 percent). Overall, the combination of economic distress and neighborhood disadvantage appears to be particularly risky for serious intimate violence against women.

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Table 6-3a Effects of Income to Needs Ratio and Neighborhood Type on Seriousness of Intimate Violence Against Women, Wave 1.

| | Seriousness of Violence by Neighborhood Type | | | |
| | Advantaged | | Disadvantaged | |
Income to Needs Ratio	Minor	Serious	Minor	Serious
Less than Half of Poverty Level	2.4%	5.6%	4.0%	7.3%
Half to Equal to Poverty Level	2.4%	11.8%	1.2%	10.5%
Equal to Two Times Poverty Level	3.4%	5.8%	3.8%	7.3%
Two to Five Times Poverty Level	2.9%	3.8%	3.6%	6.3%
More than Five Times Poverty Level	1.7%	3.3%	2.7%	6.6%

X^2 Advantaged Neighborhoods = 32.8, p < .000
X^2 Disadvantaged Neighborhoods = 6.7, p = .572

Table 6-3b Effects of Income to Needs Ratio and Neighborhood Type on Seriousness of Intimate Violence Against Women, Wave 2.

| | Seriousness of Violence by Neighborhood Type | | | |
| Income to Needs Ratio | Advantaged | | Disadvantaged | |
	Minor	Serious	Minor	Serious
Less than Half of Poverty Level	2.5%	1.3%	0.0%	4.8%
Half to Equal to Poverty Level	8.2%	10.2%	0.8%	7.2%
Equal to Two Times Poverty Level	4.4%	3.1%	3.5%	7.9%
Two to Five Times Poverty Level	1.5%	2.9%	3.5%	5.7%
More than Five Times Poverty Level	1.5%	1.3%	1.4%	3.9%

X^2 Advantaged Neighborhoods = 52.9, p < .000
X^2 Disadvantaged Neighborhoods = 15.7, p = .047

Table 6-3c Effects of Subjective Financial Strain and Neighborhood Type on Seriousness of Intimate Violance Against Women, Wave 1.

| | Seriousness of Violence by Neighborhood Type | | | |
| Subjective Financial Strain | Advantaged | | Disadvantaged | |
	Minor	Serious	Minor	Serious
Low	1.1%	1.2%	1.2%	2.6%
High	3.4%	3.7%	4.7%	8.8%

X^2 Advantaged Neighborhoods = 46.4, p < .000
X^2 Disadvantaged Neighborhoods = 38.2, p < .000

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Table 6-3d Effects of Periods of Unemployment and Neighborhood Type on Seriousness of Intimate Violance Against Women, Wave 1.

| | Seriousness of Violence by Neighborhood Type | | | |
| Periods of | Advantaged | | Disadvantaged | |
Unemployment	Minor	Serious	Minor	Serious
Low (1 or none)	1.8%	2.2%	2.7%	5.4%
High (2 or more)	5.1%	4.6%	5.5%	10.1%

X^2 Advantaged Neighborhoods = 15.9, p < .000
X^2 Disadvantaged Neighborhoods = 7.4, p = .025

Conclusion: Economic Distress, Community Context and Intimate Violence

Some forms of economic distress appear to be more prevalent in disadvantaged neighborhoods but not all forms. Levels of poverty and subjective financial strain are notably higher in disadvantaged neighborhoods, but the levels of debt and employment instability are roughly similar in advantaged and disadvantaged neighborhoods. This result, especially in regards to employment instability, appears counterintuitive. As we noted in chapter two, during the period covered by the two waves of the NSFH the economic fortunes of many American workers deteriorated. Stagnation or decline in earnings, flattened career trajectories, and substantial downsizing and outsourcing of jobs affected all levels of the economy (Farley 1996). In the face of job loss and the subsequent interruption in the household income stream, many families increase their debt levels to offset or compensate for income loss (Sullivan et al, 2000).

The results presented in this chapter consistently show that economic distress is related to the risk of intimate violence in both advantaged and disadvantaged neighborhoods. Regardless of neighborhood type, women in couples that have low household incomes are more likely to report intimate violence than their counterparts in couples with high household incomes. The same relationship holds for the other measures of objective economic distress – number of household debts and male employment instability. Violence is more common in households with high levels of debt and where the male has an unstable employment history. Subjective economic

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distress also influences the risk of violence regardless of neighborhood type. Couples that are located in either advantaged or disadvantaged neighborhoods are more likely to report intimate violence if they have high levels of subjective financial strain. Thus, residing in an advantaged neighborhood does not eliminate the harmful effects of individual level economic distress on the risk of intimate violence against women.

Although economic distress increases the risk of intimate violence for women who are located in advantaged neighborhoods, it does so to an even greater degree for women located in disadvantaged neighborhoods. In both waves, we consistently found that regardless the level of economic distress, women in disadvantaged neighborhoods experienced higher rates of intimate violence than women located in advantaged neighborhoods. Indeed, an important finding is that women in couples with low levels of economic distress who are located in disadvantaged neighborhoods consistently have higher rates of intimate violence than women with low economic distress who reside in advantaged neighborhoods. This pattern holds for both objective and subjective measures of economic distress. It indicates that neighborhood disadvantage has an independent effect on the risk of intimate violence over and above that of economic distress.

Neighborhood disadvantage also influences the seriousness of violence. Regardless of the type or level of economic distress, women in disadvantaged neighborhoods experience higher rates of serious intimate violence than women in

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advantaged neighborhoods. But the combination of high levels of economic distress and residence in a disadvantaged neighborhood is particularly risky for women.

Taken together, the results presented here indicate that aggregate correlations between neighborhood characteristics and intimate violence are not solely a function of compositional differences in population. At least this is true with respect to compositional differences in levels of economic distress. But neighborhood population compositions may differ on a host of other individual level characteristics that may also be associated with intimate violence. Hence, it is possible that other compositional differences in neighborhood populations account for the relationship between neighborhood characteristics and intimate violence. In the next chapter, we explore whether the effects of neighborhood type on intimate violence remain in the presence of a larger and more varied number of controls for compositional differences.

CHAPTER SEVEN

COMMUNITY CONTEXT AND MINORITIES

Our final research questions focus on the effects of community context and economic distress on intimate violence in minority couples. Are the effects of context and distress more pronounced for minority women, or do they operate independently of race and other demographic characteristics? In this final results chapter we investigate whether the relationship between community context, economic distress, and intimate violence is moderated by race and ethnicity. We also develop a comprehensive model of intimate violence that controls for many of the known precursors and demographic characteristics that influence the likelihood of violence intimate violence in couples. In chapter 6, we showed that the effects of community context on intimate violence appeared to operate independently of household economic distress. We interpreted the results as indicating that neighborhood disadvantage has a contextual effect on violence that is not reducible to the compositional differences between neighborhoods in levels of economic distress. But it is important to determine whether this contextual relationship holds when other individual level characteristics, besides economic distress, are included in the model.

The importance of race as a correlate of domestic violence is frequently noted but rarely discussed. As William Julius Wilson has pointed out in regards to ordinary street crime, criminologists are reluctant to discuss race directly even though it is known to be highly correlated with rates of street crime offending and victimization. In this chapter we attempt to determine whether the higher rate of domestic violence among blacks

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results from a combination of economic distress and their location in criminogenic

ecological contexts. As Sampson has noted in regards to street crime "the correlations of

race and crime may be systematically confounded with important differences in

community contexts" (Sampson 1993, p. 44). Is the same true with respect to violence

against women in intimate relationships?

Race, Community Context, and Intimate Violence

For over two decades, criminologists and family researchers have observed

marked variation in rates of domestic violence among demographically and socio-

economically defined populations. Domestic violence has been associated with race and

poverty. Higher rates are observed among racial minorities and people of low socio-

economic status (Straus et al. 1980; Sugarman and Hotaling 1989; Stets 1991; Magdol,

Moffitt, and Silva 1998).

Race, poverty, and community disadvantage have long been linked in the United

States. Blacks are more likely to be poor than whites, and the poor are more likely to live

in disadvantaged communities than the rich. Poor black people are particularly likely to

live in disadvantaged areas. Despite the passage of the Fair Housing Act and other civil

rights legislation, the United States remains a highly racially segregated society (Massey

1990; Massey and Denton 1993). Residential segregation has the effect of isolating high

levels of black poverty within black neighborhoods (Wilson 1987). Particularly during

the last quarter of the 20th century pockets of ghetto poverty grew in the United States,

and the concentration of poverty affected racial minorities more than whites (Hagan

1994). The concentration of poverty in inner city ghettos suggests that the problem of

domestic violence may be particularly severe in these areas. It is important to ascertain

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whether the effects of individual poverty and community disadvantage on domestic violence are more pronounced for racial minorities, or whether these variables operate independently of race. Although variation in rates of domestic violence across race, economic status, and neighborhood context have been observed for some time, there has been little research on their joint effects. Whether and how the convergence of race, poverty, and community disadvantage influences domestic violence deserves thorough investigation.

Surveys of the general population show higher rates of domestic violence among blacks than whites. For example, in the first wave of the National Family Violence Survey higher rates of family violence were found among blacks (Straus et al. 1980). An early analysis of National Crime Victimization Survey (NCVS) conducted in the 1970s found black women were more likely than whites to be victimized by intimates (Gaquin 1977-1978). These differences have persisted in the ensuing years. In the 1985 National Family Violence Survey married black women were 2.36 times as likely as white wives to experience severe partner violence (Hampton and Gelles 1994). More recent analyses of NCVS data reveal higher rates of violence by intimates among blacks, especially black women compared to white women, in the 1990s (Greenfeld et al. 1998). Finally, analyses of the National Survey of Families and Households also show significant race differences in violence against women in relationships (Stets 1991; Sorenson, Upchurch, and Shen 1996; Umberson, Anderson, Glick, and Shapiro 1998).

We begin our investigation by first examining the relationship between location in a disadvantaged community, economic distress and race/ethnicity. Before we discuss our results, however, it is important to reiterate again the limitations of our sample. By the

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standards of social science research, the NSFH has a relatively large sample, and great pains were taken to include minorities and to insure the sample's representativeness. Nevertheless, it still does not contain large numbers of representatives of many racial and ethnic sub-groups. Our analysis is limited to whites, blacks, and Hispanics who constitute over 95 percent of the sample. Unfortunately, there are two few cases to say anything definitive about other groups. With this caveat in mind, we turn to our results. Table 7.1a shows the relationship between race/ethnicity and income and between race/ethnicity and neighborhood type in wave 1. As expected, both blacks and Hispanics fare worse than whites in their economic status. Roughly a third of black couples and over half of Hispanics have low incomes, that is less than twice the poverty level, compared to about one fifth of white couples. And as expected, blacks and Hispanics are much more likely than whites to live in disadvantaged neighborhoods.

For blacks and Hispanics their individual economic status often does not match the economic status of the neighborhoods they live in. For example, we note that 35.8 percent of the black couples fall into the lower three income categories and may be considered economically disadvantaged, but 77.2 percent of blacks live in disadvantaged neighborhoods. Or viewed from the other direction, 64.2 percent of blacks have incomes that are more than twice the poverty level, but only 22.8 percent of blacks live in advantaged neighborhoods. A similar pattern is observed for Hispanics. Just over half (56.5 percent) of Hispanic couples have low incomes, but 71.7 percent live in disadvantaged neighborhoods. In contrast, white couples are much more likely to live in a neighborhood that matches their economic status. About one-fifth of white couples

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have low incomes (20.1 percent) and about one-fifth (18.6 percent) live in a disadvantaged neighborhood.

Similar patterns are observed in wave 2 (see Table 7.1b). Over three-quarters of the black and Hispanic couples are located in disadvantaged neighborhoods (78.7 percent and 76.5 percent, respectively) compared to only one-fifth of white couples. Two-thirds of the black couples have incomes that are two or more times the poverty level and over half of the Hispanic couples are similarly well situated financially. Most white couples (85.4 percent) earn this much. In wave 2, black and Hispanic couples experience significantly more subjective financial strain than white couples, but there are no differences between the race and ethnic groups in employment instability. Thus, black and Hispanic couples that are relatively well-off financially and that are similar to whites in employment stability are nevertheless much more likely than white couples to live in disadvantaged neighborhoods.

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Table 7.1a Levels of Economic Distress and Location in Neighborhood Types by Race and Ethnicity, Wave 1

Race and Ethnicity

Income to Needs Ratio	Black	Hispanic	White
Less than Half of Poverty Level	5.6%	12.1%	3.5%
Half to Equal to Poverty Level	8.7%	19.0%	3.4%
Equal to Two Times Poverty Level	21.5%	25.5%	13.2
Two to Five Times Poverty Level	46.4%	33.3%	46.5
More than Five Times Poverty Level	17.8%	10.0%	33.4
N	675	321	4,795

$X^2 = 389.5, p < .000$

Race and Ethnicity

Neighborhood Type	Black	Hispanic	White
Advantaged	22.8%	28.3%	81.4%
Disadvantaged	77.2%	71.7%	18.6%
N	926	392	5,934

$X^2 = 1708.2, p < .000$

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Table 7.1b Levels of Economic Distress and Location in Neighborhood Types by Race and Ethnicity, Wave 2

Race and Ethnicity

Income to Needs Ratio	Black	Hispanic	White
Less than Half of Poverty Level	6.7%	5.4%	2.3%
Half to Equal to Poverty Level	6.0%	13.4%	2.0%
Equal to Two Times Poverty Level	19.9%	29.3%	10.4
Two to Five Times Poverty Level	46.2%	42.8%	48.3
More than Five Times Poverty Level	21.2%	9.1%	37.1
N	699	276	5,025

$X^2 = 399.8$, p < .000

Race and Ethnicity

Subjective Financial Strain	Black	Hispanic	White
Low	36.7%	38.5%	55.3%
High	63.3%	61.5%	44.7%
N	490	205	4,122

$X^2 = 77.9$, p < .000

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Race and Ethnicity

Periods of Unemployment	Black	Hispanic	White
Low (1 or None)	93.7%	92.2%	94.8%
High (2 or More)	6.3%	7.8%	5.2%
N	616	244	4,600

$X^2 = 4.1, p = .129$

Race and Ethnicity

Neighborhood Type	Black	Hispanic	White
Advantaged	21.3%	23.5%	80.0%
Disadvantaged	78.7%	76.5%	20.0%
N	705	285	5,056

$X^2 = 1341.9, p < .000$

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Next, we examined the joint effects of race and neighborhood type on rates of domestic violence (see Tables 7.2a and 7.2b). In wave 1, there is a significant race effect on intimate violence in advantaged neighborhoods, but not in disadvantaged neighborhoods. In advantaged neighborhoods, the rate of intimate violence for blacks is significantly higher (11.8 percent) than it is for whites (6.3 percent) or Hispanics (7.3 percent). However, in disadvantaged neighborhoods, the rate of intimate violence is essentially the same for all three race and ethnic groups. For whites the rate is 9.3 percent, while blacks and Hispanics have only slightly higher rates (10.9 percent and 10.2 percent, respectively). In wave 2, black couples have higher rates in both advantaged and disadvantaged neighborhoods than the other race and ethnic groups, but these differences are not statistically significant at the .05 level. In both waves, it is clear that for all three race and ethnic groups, women in couples located in disadvantaged areas experience higher rates of victimization than do their counterparts in advantaged neighborhoods. Taken together these results suggest that the effect of community context on intimate violence operates independently of race and ethnicity, and accounts in some measure for aggregate correlations between race/ethnicity and intimate violence.

Table 7.2a Percentage of Couples with Intimate Violence Against the Woman by Race/Ethnicity and Neighborhood Type, Wave 1.

| | Race and Ethnicity | | |
Neighborhood Type	White	Black	Hispanic
Advantaged	6.3%	11.8%	7.3%
Disadvantaged	9.3%	10.9%	10.2%

χ^2 advantaged = 9.6, p = .008
χ^2 disadvantaged = 1.2, p = .548

Table 7.2b Percentage of Couples with Intimate Violence Against the Woman by Race/Ethnicity and Neighborhood Type, Wave 2.

| | Race and Ethnicity | | |
Neighborhood Type	White	Black	Hispanic
Advantaged	4.2%	7.6%	1.5%
Disadvantaged	7.7%	10.4%	7.6%

χ^2 advantaged = 5.3, p = .072
χ^2 disadvantaged = 3.5, p = .175

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A Model of Intimate Violence Against Women

As we noted earlier, correlations between the aggregate characteristics of areas and rates of intimate violence have been observed before (Miles-Doan 1998). But the significance of these correlations remains in doubt. Whether the association of intimate violence with neighborhood economic conditions is due to the structural features of neighborhoods or to the composition of their resident populations is an open question. At the individual level, the connection between economic distress and intimate violence also raises difficult issues. Does individual level economic distress motivate this type of violence as may be deduced, for example, from general strain theory (Agnew 1992; Messner and Rosenfeld 1997) or are economic distress and intimate violence simply different manifestations of some underlying individual characteristic such as low self-control (Gottfredson and Hirschi 1990)? Because people of low socioeconomic status tend to live in economically disadvantaged areas, separating the structural effects of neighborhood disadvantage from the compositional effect of individual economic distress can be complex.

Social disorganization and other contextual theories hold that the structural characteristics of neighborhoods can either facilitate or hinder crime (Bursik 1988) (Sampson et al. 1997). Several studies have documented associations between crime and the perception or fear of crime by residents and such neighborhood features as community socioeconomic status, ethnic heterogeneity, residential stability, the extent of family disruption, housing deterioration, residential overcrowding, and population density (Greenberg et al. 1982; Byrne and Sampson 1986; Sampson 1986b; Sampson and

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Groves 1989). That these associations obtain despite a complete turnover in the populations of neighborhoods over time suggests to Stark (1987) that the structural, or contextual, features of neighborhoods themselves must play some role in the etiology of deviance.

Yet, neighborhoods are selective in terms of the sociodemographic profiles of the inhabitants they attract. Despite turnover in the actual residents of a neighborhood there may nonetheless be continuity in the types of people found there over time. Differences in aggregate crime rates between neighborhoods with different structural characteristics may be primarily due to differences in their population compositions (Bursik and Webb 1982; Simcha-Fagan and Schwartz 1986; Reiss 1986; Sampson 1986a). For example, as Sampson notes, an "aggregate offense rate may be positively related to the percentage of the population that is black because blacks have a higher rate of offending than do whites (an effect of composition) or because blacks in cities with a large black population have higher offending rates than do blacks in areas where they are a minority (an effect of context)" (Sampson 1986a). Because it is often difficult to untangle contextual from compositional effects, this debate is still largely unresolved. Another possibility is that the higher rates of officially reported intimate violence in disadvantaged neighborhoods are caused by differential reporting to criminal justice personnel, based on individual and neighborhood characteristics (Miles-Doan 1998). Differential reporting may be particularly troublesome for studies of intimate violence. Analyses of National Crime Victimization Survey data indicate, for example, that black women are more likely than white women to report intimate violence to the police (Greenfeld et al. 1998). One way to get around this problem is to embed questions about physical aggression in surveys of the

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general population, as is done in the NSFH. Hopefully, those unwilling to report violence to official agencies or to the police would feel freer to report it in the context of an anonymous survey.

Up to this point, we have presented suggestive evidence that correlation between community context and intimate violence results at least in part for contextual reasons and is not entirely due to compositional differences in neighborhood populations. However, we have concentrated primarily on the connections between economic distress, community context, and intimate violence. We have generally ignored other individual and household characteristics that are known to be associated with intimate violence. It is possible that there are compositional differences between neighborhood types that are unrelated to economic distress and that account for the higher rate of intimate violence in disadvantaged neighborhoods. To investigate this possibility, we developed a more comprehensive model of intimate violence, one that includes a wide range of individual level characteristics as well as indicators of community context. We then used logistic regression to test whether the significant effect of neighborhood type on intimate violence remained after these individual level correlates of intimate violence were included in the model. Because of variation in the availability of measures in the different waves of the NSFH, the models that we develop for wave 1, wave 2 and continuing couples are similar but not identical.

Although contextual effects constitute measures of higher-level units—i.e. census tracts—than measures of other couple characteristics, we were not able to employ multilevel modeling techniques for two reasons. First, because of the way that NSFH distributes census tract data, we do not know the tract ids for the respondents. Second,

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even if we could obtain tract ids, stable estimates of parameters in multilevel models require at least several cases per secondary unit (Bryk and Raudenbush 1992). On average, there are only about 5 households per census tract in the NSFH, rendering robust estimation of household-level parameters unlikely in a multilevel framework. For this reason, we treat neighborhood characteristics as though they were measured at the household level. As others have noted, this approach "...is likely to be adequate for detecting all but the smallest contextual influences" (Miethe and McDowall 1993:785).

The model for wave 1 includes concentrated disadvantage, residential instability, the income to needs ratio, age of primary respondent, education for the primary respondent, race, number of children under age 18 in the household, and man's drinking problems. As noted above, previous research consistently finds that intimate violence is more common among blacks than whites or others (Greenfeld et al. 1998) and among couples of lower class standings (Straus et al. 1980). Hence, our model includes race and the primary respondent's educational attainment, which serves as an indicator of social class that is independent of our economic measures. Previous research also indicates that intimate violence is inversely related to age. Accordingly, we include age of the primary respondent as a control. As a measure of household composition, we include the number of children under 18 in the household. Finally, drug and alcohol use have long been viewed as important risk markers for intimate violence (Straus et al. 1980; Jasinski and Williams 1998). Hence, we include a measure of the male's drinking problems. The operationalization of the variables is described in chapter 2.

Table 7.3a presents the results of the logistic regression analysis of intimate violence in wave 1. To clarify the effects of the different independent variables, they are

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entered as a series of blocks, beginning with the indicators of community context, followed by economic distress measures, and then the control variables. Model 1 includes the measure of concentrated disadvantage and residential instability. The odds ratio for concentrated disadvantage is 1.85 and is significant at the .01 level. The coefficient for residential instability is not significant. In model 2, the income to needs ratio is added. It is not significant, but the coefficient for concentrated disadvantage remains significant at the .01 level. Finally, model 3 includes the control variables. Several have significant effects, including age, race/ethnicity, and male drinking problems. In the full model, the odds of victimization decline with age, and for white women the odds of victimization are about half those for black women. Male drinking problems increase the odds of victimization more than four fold. Importantly, the coefficient for concentrated disadvantage is significant at the .05 level in the final model but reduced in size (Odds ratio = 1.36). We interpret this as indicating that neighborhood type does have a contextual effect on the risk of violence against women in intimate relationships.

The model for overall violence in wave 2 is substantially similar to that for wave 1, but it includes two additional measures of economic distress – male job instability and subjective financial distress. Otherwise, the model for wave 2 includes the same variables as for wave 1. However, as described in chapter 2, two of the variables are operationalized differently. In wave 2, educational attainment refers to the male's educational attainment rather than the educational attainment of the primary respondent. The measure of male drinking in wave 2 is a factor score based on a factor analysis of four items as described in chapter 2.

Table 7.3a. Logistic Regression Model of Violence in Wave 1.

Variables	Model 1	Model 2	Model 3
	Odds Ratio	Odds Ratio	Odds Ratio
Concentrated Disadvantage	1.85**	1.79**	1.36*
Residential Instability	.97	.98	.40
Income to Needs Ratio	------	.98	1.00
Age	------	------	.92**
Education	------	------	.97
Race[1]			
White	------	------	.50**
Hispanic	------	------	.76
Number of Children	------	------	.95
Drinking Problem	------	------	4.60**

- 2 LL	2,423.1	2,420.7	2,112.8
Model Chi-Square	30.4**	32.8**	340.7**
Block Chi-Square	30.4**	2.4	308.0**
N = 4,344			

* p < .05
** p < .01

[1] The comparison category is African-American.

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Model 1 of Table 7.3b includes only the contextual measures. Concentrated disadvantage has a significant positive effect on the odds of intimate violence (odds ratio = 2.16). The size of the effect of concentrated disadvantage is reduced in model 2, which includes the three measures of economic distress. Two of the measures of economic distress have significant effects in the expected directions. Greater male employment instability and greater subjective financial strain increase the odds of intimate violence. In model 3, the control variables are entered. Age, race, number of children in the household, and male drinking have significant effects. The smaller size of the odds ratio for male drinking in wave 2 compared to wave 1 does not indicate that drinking problems became less significant as a cause of intimate violence. Recall that the available measures of drinking problems are quite different in the two waves. Importantly, the effects of our measures of community context and economic distress remain significant in the full model and are only slightly diminished in size even after all of the control variables are included in the model. As in wave 1, this result suggests that concentrated disadvantage exerts an independent contextual effect on intimate violence.

The results presented in Tables 7.3a and 7.3b suggest that the aggregate correlation between neighborhood type and intimate violence is not entirely due to compositional differences in resident populations. The results also suggest that some forms of economic distress exert independent effects on intimate violence. Yet, it is possible that one other individual level characteristic that we have not yet taken into account may reduce or eliminate both of these apparent effects. That characteristic is prior intimate violence. An increasingly well-documented and consistent finding is that

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Table 7.3b. Logistic Regression Model of Violence in Wave 2.

Variables	Model 1	Model 2	Model 3
	Odds Ratio	Odds Ratio	Odds Ratio
Concentrated Disadvantage	2.16**	1.67**	1.66**
Residential Instability	1.15	.97	.76
Income to Needs Ratio	------	.98	1.03
Male Job Instability	------	1.28**	1.28**
Subjective Financial Strain	------	2.11**	1.85**
Age	------	------	.93**
Male Education	------	------	.99
Race[1]			
White	------	------	.60**
Hispanic	------	------	.34**
Number of Children	------	------	1.12*
Male Drinking	------	------	1.28**
- 2 LL	1,920.6	1,814.6	1,671.3
Model Chi-Square	33.2**	139.1**	282.4**
Block Chi-Square	33.2**	105.9**	143.3**
N = 4,406			

* p < .05
** p < .01

[1] The comparison category is African-American.

violence at time 1 predicts violence at time 2 (Wolfgang et al. 1972; Sampson and Laub 1993; Nagin et al. 1995). Furthermore, longitudinal research on crime and violence has shown that many cross-sectional correlations between violence and other individual level characteristics, such as employment status and educational attainment, disappear or are substantially reduced in size once prior levels of violence are controlled for. This result is usually interpreted as indicating that violence reflects an underlying individual level characteristic that affects not only future violence but also future employment and educational attainment as well as other outcomes. It is possible that the same is true of intimate violence against women. If men with a high propensity to be violent against their intimate partners also are more likely to locate in disadvantaged neighborhoods, and if they also are more likely to experience employment instability and other forms of economic distress, then the cross-sectional correlations that we have observed in wave 1 and wave 2 may be to some degree spurious.

To investigate this possibility, we focus on the continuing couples in the NSFH. Recall that continuing couples are those who were married or cohabiting in wave 1 and who are still together in wave 2. For the continuing couples in wave 2, we know whether they were violent in wave 1. Hence, we can control for prior violence in these couples. Because the data are longitudinal, we evaluated whether there was evidence of selective attrition as a function of intimate violence. Probit analysis of participation in wave 2 indicates that violence is not a predictor of exclusion from wave 2. However, because we are focusing on continuing couples, there is some selectivity on violence. Couples experiencing violence in wave 1 are more likely to disrupt between waves of the NSFH (DeMaris 2000). So, the sub-sample used here likely has been subjected to some

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selectivity. We believe that this selectivity weakens the effects of our most important

theoretical predictors, because males who live in disadvantaged areas and who engage in

violence against their partners are the ones most likely to separate and to not show up in

our sample of continuing couples. Therefore, use of this sub-sample makes for a

conservative test of the question whether community context and economic distress

influence intimate violence.

Table 7.3c presents the results of our logistic regression of violence in wave 2

among continuing couples. The model is the same as that used for all couples in wave 2

except that it includes violence at wave 1. To maintain consistency with the form of the

analyses for waves 1 and 2, we present a series of equations so that changes in the effects

of variables may be observed. However, we concentrate on model 4 as this is the model

which contains new information. As expected, violence in wave 1 has a sizeable and

positive effect on the odds of violence in wave 2 (odds ratio = 8.58). This result is

consistent with a cascade of research on other forms of violence. However, despite the

strong effect of prior violence, concentrated disadvantage, employment instability, and

subjective financial strain continue to have significant effects on the likelihood of

violence against women in intimate relationships. This result confirms the importance of

both neighborhood socio-economic disadvantage and individual level economic distress

for our understanding of the problem of violence against women. Another notable result

in model 4 involves race and ethnicity. This variable is not significant in the full model.

Among continuing couples, black women are not significantly more likely to experience

violence in intimate relationships than white or Hispanic women.

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Table 7.3c. Logistic Regression Model of Violence Among Continuing Couples in Wave 2.

Variables	Model 1	Model 2	Model 3	Model 4
	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio
Concentrated Disadvantage	2.15**	1.96**	1.65**	1.81**
Residential Instability	.64	.45	.37	.30
Violence Time 1	------	12.82**	11.13**	8.58**
Income to Needs Ratio	------	------	1.00	1.03
Male Job Instability	------	------	1.29**	1.31**
Subjective Financial Strain	------	------	1.76**	1.54**
Age	------	------	------	.94**
Male Education	------	------	------	1.04
Race[1] Blacks	------	------	------	.72
Other Non-whites	------	------	------	.41
Number of Children	------	------	------	1.11
Male Drinking	------	------	------	1.36**
-2 LL	1,233.4	1,091.6	1,059.1	992.1
Model Chi-Square	19.6**	161.4**	193.9**	260.8**
Block Chi-Square	19.6**	141.8**	32.5**	67.0**

N = 3,455

* p < .05

** p < .01

[1] The comparison category is white.

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Because the insignificant finding for race and ethnicity is unusual we investigated it further. Additional logistic analyses revealed that race has a significant effect on intimate violence at the bivariate level among continuing couples. The effect remains significant even after we control for prior violence in wave 1, but it becomes insignificant once we control for concentrated disadvantage. This result points to the importance of Sampson's observation cited earlier in this chapter that aggregate correlations between race and crime must be interpreted cautiously because they may be systematically confounded with differences in ecological contexts.

Conclusions: Community Context and Economic Distress

The results presented in this chapter provide the strongest evidence yet that community level socio-economic disadvantage and individual level economic distress are associated with intimate violence against women. The relationship between community context and intimate violence does not appear to result from compositional differences in neighborhood populations. Rather, they represent real contextual effects. The effect of individual level economic distress on intimate violence does not appear to be the result of some underlying individual propensity in men toward violence against their intimate partners.

The effects of economic disadvantage on a large number of social pathologies clearly can be observed at the aggregate level. Decades of research have shown that economically distressed communities tend to suffer from high rates of other social pathologies, including crime, substance abuse, mental and physical health problems, and family disruption (Wilson 1987; Sampson et al. 1997). As the connection between individual problems and the community context within which individuals live and work

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has engaged researchers and theorists (Sampson 1985; Wilson 1987; Hagan 1993), the detrimental effects of economic distress on individuals also have been increasingly well-documented. Economically disadvantaged individuals are more likely to suffer a host of deleterious outcomes compared to more well off individuals. Physical and mental health problems are more common and severe among the poor compared to the more affluent (Robert 1999). The poor also are more likely to be victims of violent crimes (U. S. Department of Justice 1996).

We have attempted to extend this line of research by investigating the effects of community economic disadvantage and individual economic distress on intimate violence against women. Our results show that intimate violence against women is more common in disadvantaged neighborhoods, corroborating other research on domestic violence that has relied on calls to the police (Miles-Doan 1999). In that our measures of violence are based on reporting in an anonymous survey, they should be less affected by differential reporting than are results based on studies of calls to police. At least part of the difference in frequency of calls to the police appears to be due to real differences in intimate violence behavior across neighborhoods and not just differences in reporting behavior. Of course, it is possible that both types of effects are operating. Residents of disadvantaged neighborhoods may experience more domestic violence and may also be more likely to call the police when such incidents occur.

We found that the relationship between neighborhood disadvantage and wife assault remains even after controls for prior violence and other individual and couple level attributes are included in the model. This result suggests that higher rates of intimate violence in disadvantaged neighborhoods in part reflect contextual effects. The

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data at our disposal did not permit us to investigate whether these structural characteristics are associated with the social and cultural processes identified by the concept collective efficacy. Nevertheless, the results suggest that this would be a fruitful avenue of future research.

With the data at our disposal, we cannot tell whether the contextual effect of concentrated disadvantage on intimate violence against women is as strong as its effects on other forms of criminal victimization. The special characteristics of intimate violence, most notably its location in the home, would suggest that contextual effects might be weaker. Social disorganization and collective efficacy theory posit that neighborhood rates of offending and victimization are a function of the strength of informal social controls (Bursik 1988; Sampson and Groves 1989; Sampson et. al. 1997). In structurally disorganized communities, residents are theorized to be less willing and less able to supervise others, especially youth, in public places and on public streets. Hence, those predisposed to engage in crime and deviance are freer to indulge their proclivities than individuals in more organized communities. Intimate violence, however, tends to be perpetrated more in private than in public. The perpetrators may be less susceptible to influence by community-level informal social controls than are the perpetrators of other forms of criminal behavior. Thus, the family's special characteristics of intimacy and privacy may require the development of specialized theories for crimes that take place within that setting (Straus et al. 1980). In addition, recent research suggests that the personality factors associated with violence between intimates are generally not the same as those associated with general crime (Moffitt, Krueger, Caspi, and Fagan 2000).

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Residential instability has long been associated with neighborhood disadvantage and traditionally viewed as an exogenous source of social disorganization (Shaw and McKay 1942; Sampson and Groves 1989). Hence, we expected to find that residential instability would be positively associated with intimate violence but instead found that instability reduces the odds of intimate violence. One explanation for this counterintuitive finding comes from recent theory and research on residential mobility. Wilson's (1987) theory of concentration effects suggests that extremely disadvantaged neighborhoods may have little population turnover because racial and economic discrimination prevent residents from leaving. Farley's (1996) analysis of 1990 census data finds that persons with college and advanced degrees are more likely to move than less educated persons. Hence, high levels of neighborhood residential mobility may no longer be closely tied to high levels of neighborhood economic disadvantage. Economically disadvantaged neighborhoods may be quite stable. The combination of low residential mobility and high economic disadvantage in neighborhoods, however, has deleterious effects on psychological well-being and increases the risk of street crime victimization (Wikstrom and Loeber 2000; Walsh 2000). Our results suggest that this combination also increases the risk of intimate violence.

Consistent with the hypothesis of Fagan and Browne (1994) regarding economic distress as a triggering factor in intimate violence, we found that two measures of economic distress have significant effects on intimate violence. More employment instability and greater financial strain increase its likelihood. But measures of economic deprivation and change in deprivation did not have significant effects. The more pronounced effect of employment instability as compared to the two other measures of

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objective economic distress suggests that something other than resource deprivation alone drives the relationship between economic distress and intimate violence. If reduced access to economic resources is the primary way in which economic distress triggers intimate violence, we would expect that employment instability would have little direct effect on intimate violence independent of our measure of household income to needs and our measure of change in the income to needs ratio (MacMillan and Gartner 1999). Yet, we find that it is employment instability rather than household income that has the significant effect. Following MacMillan and Gartner (1999), we suspect that male employment instability may increase the risk of intimate violence against women because it reduces men's sense of self-worth and represents a threat to their sense of masculinity. Being repeatedly fired or released from employment may provoke feelings of stigmatization and anger in males, who then may take out their frustrations on their partners. Men's sense of self-worth may be particularly vulnerable when they cannot hold a job, so they may become especially sensitive to affronts to their authority. Thus, the economic aspects of male unemployment may be a less important source of stress than its symbolic aspects.

The idea that the subjective aspects of economic distress are potentially important sources of intimate violence is buttressed by our finding on perceptions of financial strain. How couples subjectively perceive and interpret their financial situations matters. Females in couples that interpret their financial situations pessimistically appear to be at greater risk of intimate violence. As dissatisfaction with finances and worry about income sufficiency increase, the likelihood of male to female violence also increases. This conclusion should be tempered, however, by a major limitation in our measure of

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subjective strain. As this measure was only available in wave 2, it may well be

endogenous to violence rather than a cause of it. That is, the ordering of the measures of

violence and subjective strain in wave 2 does not preclude the possibility that violence in

the year preceding the survey engendered a greater sense of financial strain. We await

replication of this finding with more precise measures before placing too much emphasis

on it. Financial strain was related both to overall violence in wave 2 and to the initiation

of violence in wave 2. Unfortunately, because there are no measures of subjective strain

in wave 1, we also cannot ascertain how much change there is in this dimension of

economic distress over time or whether change in subjective strain affects the likelihood

of violence.

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CHAPTER EIGHT

SUMMARY OF THE PROJECT AND POLICY IMPLICATIONS

Summary of the Project

The primary goal of this project was to investigate how community level socio-economic disadvantage and individual level economic distress influence violence against women in intimate relationships. The selection of this goal was motivated by the National Research Council's Panel on Research on Violence Against Women, which called upon researchers to focus on "the influence of socioeconomic, cultural, and ethnic factors" on violence against women. The Panel (1996) noted that intimate violence is a complex phenomenon and that enhanced understanding of intimate violence against women will require multi-factor causal models. These models must take into account both its structural and contextual causes as well as individual level factors. Accordingly, we designed this project to focus on the structural and contextual dimensions of intimate violence while at the same time taking into account measures of individual level economic distress as well as other relevant individual level variables.

The project was based on a data set that we created by merging waves 1 and 2 of the National Survey of Families and Households with census tract data from the 1990 U. S. Census. The resulting data set was particularly well-suited for an investigation of a multi-factor causal model of intimate violence against women. It enabled us to trace the experiences of women in intimate relationships over time and to explore the independent and joint effects of a host of individual level and contextual level factors. As far as we

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know, this data set is the only one available which permits such complex and multi-dimensional longitudinal, contextual, and situational analyses.

Limitations of the Data

As with all data sets, NSFH data are not perfect. Before we summarize our findings, it is appropriate to first identify and briefly discuss four important weaknesses in the data. One general shortcoming of the NSFH for longitudinal analyses is the relatively large time lag between waves 1 and 2. On average, about five years elapsed between interviews for most respondents. With respect to studies of trajectories in intimate violence, this gap is problematic because the reference period for the violence questions is one year. Hence, there is a period of approximately four years between waves about which no information on violence is available. It is possible, indeed probably quite likely, that some unknown proportion of the couples that we categorized as non-violent actually displayed violence during this period. In effect, the data on violence are middle-censored. Furthermore, because only two observation points are available the data also are both left and right censored. Couples may have exhibited violence before the reference period in wave 1 or after wave 2. We do not know to what extent this censoring may have influenced the findings. However, because the overall patterns of results for wave 1 and wave 2 are so similar, we believe that censoring did not dramatically affect the relationships that we observed. We also note that a third wave of the NSFH is scheduled to be conducted in the future. So, this issue can be adjudicated by future researchers.

Another weakness of the NSFH concerns the measures of intimate violence. As we noted above, like other national surveys the NSFH is probably best suited to

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identifying women who are experiencing common couple violence as opposed to patriarchal terrorism. In addition, because the NSFH items focus on physical violence related to arguments, they do not capture violence by men that does not arise out of arguments, as, for example, when a male gets drunk and attacks his partner without provocation. The NSFH items also are poorly suited to identifying non-physical forms of violence against women such as verbal or emotional violence. As with the issue of data censoring, we do not know to what extent the findings have been influenced by the nature of the measures of violence available in the NSFH.

There are problems with the measure of subjective financial strain. The main one being that it is available only for wave 2. The lack of a wave 1 measure of this concept is unfortunate, because it prevented us from investigating the effects of changes in subjective strain on intimate violence. It also prevented from exploring how changes in the objective dimensions of economic distress are related to changes in subjective economic distress. In addition, only two items are available to measure this important concept.

Finally, we argued that concentrated disadvantaged may be related to intimate violence via the processes associated with collective efficacy. Unfortunately, with the data available in the NSFH we are unable to construct measures of this intervening concept. We believe our results show that community context is related to rates of intimate violence and that this relationship is not entirely due to compositional differences in neighborhood populations. However, we recognize that the exact nature of the connecting mechanism is unclear.

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Despite its limitations, the NSFH remains an extremely valuable data set for investigating the phenomenon of intimate violence against women and family relations. As far as we know, it is the only data set available that permits both longitudinal and contextual analyses of a nationally representative sample of couples. It contains solid measures of many of the variables known to be related to intimate violence, thus permitting the specification and analysis of complex multivariate models. Although they are not perfect, the questions pertaining to violence and many other important concepts in the NSFH are asked of both the male and the female members of couples. These replicate questions provide for more accurate and comprehensive measurement. For these reasons, we are confident that our findings are reliable, and we turn to a summary of them now.

Summary of Findings

The major findings of the study concern the effects of community context and economic distress on violence against women in intimate relationships. In capsule form, we present the four major findings here and then discuss them below:

1. Women in couples that are located in socio-economically disadvantaged neighborhoods are at a higher risk of experiencing violence at the hands of their male partners than women located in advantaged neighborhoods.

2. The relationship between community context and intimate violence is not the result of compositional differences in neighborhood populations but rather represents a contextual effect.

3. Different forms of economic distress are related to the likelihood of violence against women in intimate relationships.

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4. The correlation of race and ethnicity with intimate violence is confounded with differences in community context.

The elevated risk of intimate violence to women in disadvantaged neighborhoods is substantial and appeared consistently in both waves of the NSFH. This finding, based upon self-reports of couples from a nationally representative random sample of households, corroborates similar findings based upon crime reports to police and victimization surveys. The greater vulnerability of women in disadvantaged neighborhoods appears to be real and not simply an artifact of the method used to obtain the reports of violence.

The substantive significance of finding that living in a disadvantaged neighborhood entails a higher risk of intimate violence is enhanced by our second major finding. That is, the neighborhood effect is not reducible to differences in the socioeconomic makeup of neighborhood residents. Although we found that sample respondents living in neighborhoods of concentrated disadvantage had lower income-to-need ratios, more periods of job instability, and greater levels of subjective economic distress, once these measures of economic well-being were taken into account by holding them constant, rates of intimate violence still were higher for women living in disadvantaged neighborhoods. We can say with assurance that where a woman lives matters significantly to her risk of violent victimization at the hands of her intimate partner.

Our analyses do not, unfortunately, allow us to say with certainty why this is so. However, we can speculate that many of the same social mechanisms that others have suggested to account for the greater risk of street crime in disadvantaged neighborhoods may also be operative here to account for the higher risk of intimate violence for women in disadvantaged neighborhoods. These include a greater tolerance for deviance among residents

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of highly disadvantaged communities (Anderson, 1990), a lower degree of collective efficacy

and social capital to stave off or respond to criminal behavior in the neighborhood and among

neighborhood residents (Coleman 1988; Sampson et al 1997), and a lack of models for and ties

to more conventional social behaviors (Wilson, 1987). Moreover, research on women in

disadvantaged neighborhoods shows that such women have fewer neighborhood-based

resources to draw upon to ensure the safety of their homes and children and often resort to

isolating themselves from other residents and to withdrawal within their own quarters as the

surest means of self-protection to stay safe (Brodsky 1996; Burton and Jarrett 2000; Fox 2000).

In these neighborhood contexts there literally may be no one nearby whom a victimized

woman might call upon informally for assistance with a violent partner, and there may be

nowhere to turn to escape an abusive relationship, even for a brief period.

Our third major finding was that different aspects of economic stress or well being –

including having income beyond the family's basic needs, the number of debts, and work

stability of the male partner -- are systematically related to the risk of violence. It is important

to underline that although some violence was found across all levels of our various measures of

economic well being, the highest risks and the most severe violence were not evenly

distributed across the economic spectrum but rather were concentrated among the women who

were least well off in terms of our measures of economic well being. Further, our finding that

the women at greatest risk are those with the fewest economic resources who also live in the

most disadvantaged neighborhoods highlights the limited degrees of freedom for women in

economically precarious situations living in impoverished neighborhoods. In the decision-

making calculus of women struggling on the margins, the importance of a partner's economic

contributions to household survival – even when the contributions are only sporadic or minimal

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– may outweigh the risk of violence. Having food on the table, money for next month's rent, and shoes for growing children may make the risk of severe violence and occasional injury seem a not illogical bargain. Thus, when the loss of partner contributions are so costly to economic survival, some women may be compelled to live with his violent behavior rather than take the almost universally recommended steps to exit such relationships.

Our fourth major finding -- that the correlations of race and ethnicity with violence are confounded with neighborhood context – provides a very important insight into the links among race/ethnicity, socioeconomic context, and violence against intimates. Specifically, our analyses show that when controls for community context are in place, the association between race/ethnicity and violence weakens or disappears. That is, the effect of race and ethnicity on intimate violence is in large part a function of the greater likelihood of Black and Hispanic couples to reside in neighborhoods with concentrated economic disadvantage. This suggests that economic and contextual explanations of intimate violence are likely to be more informative than are culturally or race-based explanations. An understanding of the social dynamics that lead to patterns of race and ethnic residential concentration in the economically and socially most impoverished neighborhoods will shed light on the commonly found link between race/ethnicity and intimate violence.

Policy Implications

Few doubt that social change and economic distress can have pathological consequences on communities, intimate couples, and individuals. Further, the impact of change and distress certainly varies with the community context in which it takes place. To develop effective prevention and intervention strategies, policy makers need to know how changes that produce distress influence violence against women and whether the causes of violence differ among

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racial and ethnic subgroups. With respect to intimate violence, however, little has been known about the impact that change and distress can have on victimization risks or on how these risks may differ among subgroups. Little has been known about the connections between intimate violence and personal and community economic well being or about the ways in which community context may influence the reasons why women stay in abusive relationships or why they leave them. This project was designed to shed light on these issues and to help articulate the relationship between community context, demographic characteristics, economic distress, and intimate violence. We believe this knowledge will enable policy-makers to target intervention and prevention programs more effectively and to anticipate more accurately when the demand for such programs is likely to increase because of social change.

Although our analyses do not allow us to make specific recommendations to policy makers and service providers, nonetheless we can suggest in more general terms some strategies for policy, services and research that grow out of this project. Intimate violence is not solely a matter of individual psychopathology or inadequate interpersonal skills, and responses to intimate violence should not be based solely on these individual level causes. We would be wise to broaden our thinking beyond individual level causes of intimate violence to include a larger spectrum of potential areas for strategic intervention and change.

In this study, intimate violence was strongly linked to the economic well being of individual couples and to the community contexts in which couples were found. This suggests that economic practices and jobs policies may be important conditional influences on the risks of intimate violence to women. We note that job stability rather than employment per se was an important risk factor for violence against women in this

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study. Giving preference to economic practices and job policies that balance transitory labor supply/demand ratios by preserving job security for workers rather than by widespread layoffs and periodic rehires exemplifies a policy initiative that takes into account the role of job stability in the risk of violence against women. For service providers, an implication of the findings from this study is to be vigilant about changes in local jobs markets in terms of their potential to cause short-term increases in the numbers of victims of intimate violence.

Our findings about the central importance of community context to the risk of intimate violence shifts focus to the social dynamics of spatial location in violence against women. The continuation of already strongly entrenched patterns of residential segregation by race and ethnicity has been exacerbated by an increasing spatial concentration of affluence and extreme poverty (Massey 1996). These current demographic trends in residential location patterns suggest that increasing numbers of women in the US population will be exposed to the contextual effects we identified in our study. In that housing policies, mortgage and lending policies, and insurance regulations are all relevant in shaping the spatial dynamics of residential patterning, it is not inappropriate to suggest that all might be seen as potential strategic targets for altering the risks of violence against women. For service providers, the implications of our findings about community context and economic distress are two fold. If the goal is to target services where the risk of violence is greatest, then priority for services should be given to women in the most disadvantaged neighborhoods. Second, given the cumulation of risk from community context and individual economic distress, services to women in the most disadvantaged areas must address their straitened economic circumstances. For

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many women who seek to exit an abusive relationship, their correlative needs for immediate cash assistance to replace the economic contributions of their male partners become paramount. Failure to address their economic needs may render any other services merely palliative.

We conclude with some recommendations for future research on violence against women. Our project implies that future research on violence against women will be most valuable when the study design

- is couple-based, including both partners as respondents;

- includes a sampling design that focuses on couples drawn randomly from areal sampling units that represent socioeconomically the most disadvantaged neighborhoods;

- relies upon rich measures of a broad range of potential causes, contexts, and consequences of intimate violence;

- relies upon rich measures of a range of types and circumstances of intimate violence;

- relies upon a multi-method design for data collection;

- is a multi-wave design, revisiting couples at least three times over the course of the project, with time intervals between waves of no more than twelve months duration;

- includes the collection of contextual information on the neighborhood so that a more finely drawn picture may be drawn of the social dynamics through which neighborhood contexts affect the risk of intimate violence against women.

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Appendix A

Variables Abstracted from the U. S. Census

These are the original variables that were extracted from the census Internet cite (http:/venus.census.gov).

Census Variable Names (spss variable names)	Variable Description (Explanations of some of the variables appear in the endnotes.)

STATE [1]

FIPS.STATE	State

COUNTY

FIPS.COUNTY90	County

TRACT

FIPS.TRACT90	Census Tract Number

NOTE: state, county and tract do not appear in files "utkw1m" or "utkw2m". Instead, these files begin with the case id numbers from the NSFH, and then proceed as follows.

PERSONS / Universe: Persons

P0010001	Total

HOUSEHOLDS [2] / Universe: Households

P0050001	Total

URBAN AND RURAL / Universe: Persons
Urban:

P0060001	Inside urbanized area
P0060002	Outside urbanized area

Rural:

P0060003	Farm
P0060004	Non-farm

SEX / Universe: Persons

P0070001	Male
P0070002	Female

RACE / Universe: Persons

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P0080001	White
P0080002	Black
P0080003	American Indian, Eskimo, or Aleut
P0080004	Asian or Pacific Islander
P0080005	Other race
P0090001	White (800-869, 971)
P0090002	Black (870-934, 972)
P0090003	American Indian, Eskimo, or Aleut (000-599, 935-970, 973-975):
P0090004	Eskimo (935-940, 974)
P0090005	Aleut (941-970, 975)
P0090006	Chinese (605-607, 976)
P0090007	Filipino (608, 977)
P0090008	Japanese (611, 981)
P0090009	Asian Indian (600, 982)
P0090010	Korean (612, 979)
P0090011	Vietnamese (619, 980)
P0090012	Cambodian (604)
P0090013	Hmong (609)
P0090014	Laotian (613)
P0090015	Thai (618)
P0090016	Other Asian (601-603, 610, 614-617, 620-652, 985) Pacific Islander (653-699, 978, 983, 984): Polynesian (653-659, 978, 983): Pacific Islander (653-699, 978, 983, 984): Polynesian (653-659, 978, 983):
P0090017	Hawaiian (653, 654, 978)
P0090018	Samoan (655, 983)
P0090019	Tongan (657)
P0090020	Other Polynesian (656, 658, 659) Micronesian (660-675, 984):
P0090021	Guamanian (660, 984)
P0090022	Other Micronesian (661-675)
P0090023	Melanesian (676-680)
P0090024	Pacific Islander, not specified (681-699)
P0090025	Other race (700-799, 986-999)

AGE / Universe: Persons

P0130001	Under 1 year
P0130002	1 and 2 years
P0130003	3 and 4 years
P0130004	5 years
P0130005	6 years
P0130006	7 to 9 years
P0130007	10 and 11 years
P0130008	12 and 13 years
P0130009	14 years
P0130010	15 years

P0130011	16 years
P0130012	17 years
P0130013	18 years
P0130014	19 years
P0130015	20 years
P0130016	21 years
P0130017	22 to 24 years
P0130018	25 to 29 years
P0130019	30 to 34 years
P0130020	35 to 39 years
P0130021	40 to 44 years
P0130022	45 to 49 years
P0130023	50 to 54 years
P0130024	55 to 59 years
P0130025	60 and 61 years
P0130026	62 to 64 years
P0130027	65 to 69 years
P0130028	70 to 74 years
P0130029	75 to 79 years
P0130030	80 to 84 years
P0130031	85 years and over

RACE BY SEX BY AGE / Universe: White males

P014A001	Under 1 year
P014A002	1 and 2 years
P014A003	3 and 4 years
P014A004	5 years
P014A005	6 years
P014A006	7 to 9 years
P014A007	10 and 11 years
P014A008	12 and 13 years
P014A009	14 years
P014A010	15 years
P014A011	16 years
P014A012	17 years
P014A013	18 years
P014A014	19 years
P014A015	20 years
P014A016	21 years
P014A017	22 to 24 years
P014A018	25 to 29 years
P014A019	30 to 34 years
P014A020	35 to 39 years
P014A021	40 to 44 years

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P014A022	45 to 49 years
P014A023	50 to 54 years
P014A024	55 to 59 years
P014A025	60 and 61 years
P014A026	62 to 64 years
P014A027	65 to 69 years
P014A028	70 to 74 years
P014A029	75 to 79 years
P014A030	80 to 84 years
P014A031	85 years and over

Universe: White females

P014B001	Under 1 year
P014B002	1 and 2 years
P014B003	3 and 4 years
P014B004	5 years
P014B005	6 years
P014B006	7 to 9 years
P014B007	10 and 11 years
P014B008	12 and 13 years
P014B009	14 years
P014B010	15 years
P014B011	16 years
P014B012	17 years
P014B013	18 years
P014B014	19 years
P014B015	20 years
P014B016	21 years
P014B017	22 to 24 years
P014B018	25 to 29 years
P014B019	30 to 34 years
P014B020	35 to 39 years
P014B021	40 to 44 years
P014B022	45 to 49 years
P014B023	50 to 54 years
P014B024	55 to 59 years
P014B025	60 and 61 years
P014B026	62 to 64 years
P014B027	65 to 69 years
P014B028	70 to 74 years
P014B029	75 to 79 years
P014B030	80 to 84 years
P014B031	85 years and over

Universe: Black males

P014C001	Under 1 year

P014C002	1 and 2 years
P014C003	3 and 4 years
P014C004	5 years
P014C005	6 years
P014C006	7 to 9 years
P014C007	10 and 11 years
P014C008	12 and 13 years
P014C009	14 years
P014C010	15 years
P014C011	16 years
P014C012	17 years
P014C013	18 years
P014C014	19 years
P014C015	20 years
P014C016	21 years
P014C017	22 to 24 years
P014C018	25 to 29 years
P014C019	30 to 34 years
P014C020	35 to 39 years
P014C021	40 to 44 years
P014C022	45 to 49 years
P014C023	50 to 54 years
P014C024	55 to 59 years
P014C025	60 and 61 years
P014C026	62 to 64 years
P014C027	65 to 69 years
P014C028	70 to 74 years
P014C029	75 to 79 years
P014C030	80 to 84 years
P014C031	85 years and over

Universe: Black females

P014D001	Under 1 year
P014D002	1 and 2 years
P014D003	3 and 4 years
P014D004	5 years
P014D005	6 years
P014D006	7 to 9 years
P014D007	10 and 11 years
P014D008	12 and 13 years
P014D009	14 years
P014D010	15 years
P014D011	16 years
P014D012	17 years
P014D013	18 years

P014D014	19 years
P014D015	20 years
P014D016	21 years
P014D017	22 to 24 years
P014D018	25 to 29 years
P014D019	30 to 34 years
P014D020	35 to 39 years
P014D021	40 to 44 years
P014D022	45 to 49 years
P014D023	50 to 54 years
P014D024	55 to 59 years
P014D025	60 and 61 years
P014D026	62 to 64 years
P014D027	65 to 69 years
P014D028	70 to 74 years
P014D029	75 to 79 years
P014D030	80 to 84 years
P014D031	85 years and over

Universe: American Indian, Eskimo, or Aleut males

P014E001	Under 1 year
P014E002	1 and 2 years
P014E003	3 and 4 years
P014E004	5 years
P014E005	6 years
P014E006	7 to 9 years
P014E007	10 and 11 years
P014E008	12 and 13 years
P014E009	14 years
P014E010	15 years
P014E011	16 years
P014E012	17 years
P014E013	18 years
P014E014	19 years
P014E015	20 years
P014E016	21 years
P014E017	22 to 24 years
P014E018	25 to 29 years
P014E019	30 to 34 years
P014E020	35 to 39 years
P014E021	40 to 44 years
P014E022	45 to 49 years
P014E023	50 to 54 years
P014E024	55 to 59 years
P014E025	60 and 61 years

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P014E026	62 to 64 years
P014E027	65 to 69 years
P014E028	70 to 74 years
P014E029	75 to 79 years
P014E030	80 to 84 years
P014E031	85 years and over

Universe: American Indian, Eskimo, or Aleut females

P014F001	Under 1 year
P014F002	1 and 2 years
P014F003	3 and 4 years
P014F004	5 years
P014F005	6 years
P014F006	7 to 9 years
P014F007	10 and 11 years
P014F008	12 and 13 years
P014F009	14 years
P014F010	15 years
P014F011	16 years
P014F012	17 years
P014F013	18 years
P014F014	19 years
P014F015	20 years
P014F016	21 years
P014F017	22 to 24 years
P014F018	25 to 29 years
P014F019	30 to 34 years
P014F020	35 to 39 years
P014F021	40 to 44 years
P014F022	45 to 49 years
P014F023	50 to 54 years
P014F024	55 to 59 years
P014F025	60 and 61 years
P014F026	62 to 64 years
P014F027	65 to 69 years
P014F028	70 to 74 years
P014F029	75 to 79 years
P014F030	80 to 84 years
P014F031	85 years and over

Universe: Asian or Pacific Islander males

P014G001	Under 1 year
P014G002	1 and 2 years
P014G003	3 and 4 years
P014G004	5 years
P014G005	6 years

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P014G006	7 to 9 years
P014G007	10 and 11 years
P014G008	12 and 13 years
P014G009	14 years
P014G010	15 years
P014G011	16 years
P014G012	17 years
P014G013	18 years
P014G014	19 years
P014G015	20 years
P014G016	21 years
P014G017	22 to 24 years
P014G018	25 to 29 years
P014G019	30 to 34 years
P014G020	35 to 39 years
P014G021	40 to 44 years
P014G022	45 to 49 years
P014G023	50 to 54 years
P014G024	55 to 59 years
P014G025	60 and 61 years
P014G026	62 to 64 years
P014G027	65 to 69 years
P014G028	70 to 74 years
P014G029	75 to 79 years
P014G030	80 to 84 years
P014G031	85 years and over

Universe: Asian or Pacific Islander females

P014H001	Under 1 year
P014H002	1 and 2 years
P014H003	3 and 4 years
P014H004	5 years
P014H005	6 years
P014H006	7 to 9 years
P014H007	10 and 11 years
P014H008	12 and 13 years
P014H009	14 years
P014H010	15 years
P014H011	16 years
P014H012	17 years
P014H013	18 years
P014H014	19 years
P014H015	20 years
P014H016	21 years
P014H017	22 to 24 years

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P014H018	25 to 29 years
P014H019	30 to 34 years
P014H020	35 to 39 years
P014H021	40 to 44 years
P014H022	45 to 49 years
P014H023	50 to 54 years
P014H024	55 to 59 years
P014H025	60 and 61 years
P014H026	62 to 64 years
P014H027	65 to 69 years
P014H028	70 to 74 years
P014H029	75 to 79 years
P014H030	80 to 84 years
P014H031	85 years and over

Universe: Other race males

P014I001	Under 1 year
P014I002	1 and 2 years
P014I003	3 and 4 years
P014I004	5 years
P014I005	6 years
P014I006	7 to 9 years
P014I007	10 and 11 years
P014I008	12 and 13 years
P014I009	14 years
P014I010	15 years
P014I011	16 years
P014I012	17 years
P014I013	18 years
P014I014	19 years
P014I015	20 years
P014I016	21 years
P014I017	22 to 24 years
P014I018	25 to 29 years
P014I019	30 to 34 years
P014I020	35 to 39 years
P014I021	40 to 44 years
P014I022	45 to 49 years
P014I023	50 to 54 years
P014I024	55 to 59 years
P014I025	60 and 61 years
P014I026	62 to 64 years
P014I027	65 to 69 years
P014I028	70 to 74 years
P014I029	75 to 79 years

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P014I030	80 to 84 years
P014I031	85 years and over

Universe: Other race females

P014J001	Under 1 year
P014J002	1 and 2 years
P014J003	3 and 4 years
P014J004	5 years
P014J005	6 years
P014J006	7 to 9 years
P014J007	10 and 11 years
P014J008	12 and 13 years
P014J009	14 years
P014J010	15 years
P014J011	16 years
P014J012	17 years
P014J013	18 years
P014J014	19 years
P014J015	20 years
P014J016	21 years
P014J017	22 to 24 years
P014J018	25 to 29 years
P014J019	30 to 34 years
P014J020	35 to 39 years
P014J021	40 to 44 years
P014J022	45 to 49 years
P014J023	50 to 54 years
P014J024	55 to 59 years
P014J025	60 and 61 years
P014J026	62 to 64 years
P014J027	65 to 69 years
P014J028	70 to 74 years
P014J029	75 to 79 years
P014J030	80 to 84 years
P014J031	85 years and over

PERSONS IN HOUSEHOLD / Universe: Households

P0160001	1 person
P0160002	2 persons
P0160003	3 persons
P0160004	4 persons
P0160005	5 persons
P0160006	6 persons
P0160007	7 or more persons

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HOUSEHOLD TYPE AND RELATIONSHIP / Universe: Persons

In family households [2]:

P0170001	Householder [2]
P0170002	Spouse

     Child:

P0170003	Natural-born or adopted
P0170004	Step
P0170005	Grandchild
P0170006	Other relatives
P0170007	Nonrelatives

In nonfamily households [2]:

     Male householder:

P0170008	Living alone
P0170009	Not living alone

     Female householder:

P0170010	Living alone
P0170011	Not living alone
P0170012	Non-relatives

In group quarters [3]:

P0170013	Institutionalized persons [3]
P0170014	Other persons in group quarters

HOUSEHOLD TYPE AND PRESENCE AND AGE OF CHILDREN / Universe: Households

Family households:

     Married-couple family:

P0190001	With own children under 18 years
P0190002	No own children under 18 years

Other family:

     Male householder, no wife present:

P0190003	With own children under 18 years
P0190004	No own children under 18 years

     Female householder, no husband present:

P0190005	With own children under 18 years
P0190006	No own children under 18 years
P0190007	Nonfamily households

SEX BY MARITAL STATUS / Universe: Persons 15 years and over

Male:

P0270001	Never married

     Now married:

P0270002	Married, spouse present

     Married, spouse absent:

P0270003	Separated
P0270004	Other

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P0270005	Widowed
P0270006	Divorced

Female:

P0270007	Never married

Now married:

P0270008	Married, spouse present

Married, spouse absent:

P0270009	Separated
P0270010	Other
P0270011	Widowed
P0270012	Divorced

GROUP QUARTERS [3]/ Universe: Persons in group quarters

Institutionalized persons (00I-99I):

P0400001	Correctional institutions (20I-24I, 27I, 28I, 95I)
P0400002	Nursing homes (60I-67I)
P0400003	Mental (Psychiatric) hospitals (45I-48I)
P0400004	Juvenile institutions (01I-05I, 10I-12I, 15I)
P0400005	Other institutions (00I, 06I-09I, 13I, 14I, 16I-19I, 25I, 26I,29I-

Other persons in group quarters (00N-99N):

P0400006	College dormitories (87N)
P0400007	Military quarters (96N-98N)
P0400008	Emergency shelters for homeless persons (82N, 83N)
P0400009	Visible in street locations (84N, 85N) [4]
P0400010	Other noninstitutional group quarters (00N-81N, 86N, 88N-95N, 99N)

EDUCATIONAL ATTAINMENT / Universe: Persons 25 years and over

P0570001	Less than 9th grade
P0570002	9th to 12th grade, no diploma
P0570003	High school graduate (includes equivalency)
P0570004	Some college, no degree
P0570005	Associate degree
P0570006	Bachelor's degree
P0570007	Graduate or professional degree

EDUCATIONAL ATTAINMENT / Universe: Persons 18 years and over

P0600001	Less than 9th grade
P0600002	9th to 12th grade, no diploma
P0600003	High school graduate (includes equivalency)
P0600004	Some college, no degree
P0600005	Associate degree
P0600006	Bachelor's degree
P0600007	Graduate or professional degree

SCHOOL ENROLLMENT, EDUCATIONAL ATTAINMENT, AND EMPLOYMENT STATUS [5]/ Universe: Persons 16 to 19 years

In Armed Forces:

Enrolled in school:

P0610001	High school graduate
P0610002	Not high school graduate

Not enrolled in school:

P0610003	High school graduate
P0610004	Not high school graduate

Civilian:

Enrolled in school:

P0610005	Employed
P0610006	Unemployed
P0610007	Not in labor force

Not enrolled in school:

High school graduate:

P0610008	Employed
P0610009	Unemployed
P0610010	Not in labor force

Not high school graduate:

P0610011	Employed
P0610012	Unemployed
P0610013	Not in labor force

SEX BY EMPLOYMENT STATUS [5]/ Universe: Persons 16 years and over

Male:

In labor force:

P0700001	In Armed Forces

Civilian:

P0700002	Employed
P0700003	Unemployed
P0700004	Not in labor force[6]

Female:

In labor force:

P0700005	In Armed Forces

Civilian:

P0700006	Employed
P0700007	Unemployed
P0700008	Not in labor force

OCCUPATION / Universe: Employed persons 16 years and over

Managerial and professional specialty occupations (000-202):

P0780001	Executive, administrative, and managerial occupations (000-042)
P0780002	Professional specialty occupations (043-202)

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Technical, sales, and administrative support occupations (203-402):

P0780003	Technicians and related support occupations (203-242)
P0780004	Sales occupations (243-302)
P0780005	Administrative support occupations, including clerical (303-402)

Service occupations (403-472):

P0780006	Private household occupations (403-412)
P0780007	Protective service occupations (413-432)
P0780008	Service occupations, except protective and household (433-472)
P0780009	Farming, forestry, and fishing occupations (473-502)
P0780010	Precision production, craft, and repair occupations (503-702)

Operators, fabricators, and laborers (703-902):

P0780011	Machine operators, assemblers, and inspectors (703-802)
P0780012	Transportation and material moving occupations (803-863)
P0780013	Handlers, equipment cleaners, helpers, and laborers (864-902)

HOUSEHOLD INCOME [5] IN 1989 / Universe: Households

P0800001	Less than $5,000
P0800002	$5,000 to $9,999
P0800003	$10,000 to $12,499
P0800004	$12,500 to $14,999
P0800005	$15,000 to $17,499
P0800006	$17,500 to $19,999
P0800007	$20,000 to $22,499
P0800008	$22,500 to $24,999
P0800009	$25,000 to $27,499
P0800010	$27,500 to $29,999
P0800011	$30,000 to $32,499
P0800012	$32,500 to $34,999
P0800013	$35,000 to $37,499
P0800014	$37,500 to $39,999
P0800015	$40,000 to $42,499
P0800016	$42,500 to $44,999
P0800017	$45,000 to $47,499
P0800018	$47,500 to $49,999
P0800019	$50,000 to $54,999
P0800020	$55,000 to $59,999
P0800021	$60,000 to $74,999
P0800022	$75,000 to $99,999
P0800023	$100,000 to $124,999
P0800024	$125,000 to $149,999
P0800025	$150,000 or more

MEDIAN HOUSEHOLD INCOME IN 1989 / Universe: Households

| P080A001 | Median household income in 1989 |

RACE OF HOUSEHOLDER BY HOUSEHOLD INCOME IN 1989 / Universe: Households

White:

P0820001	Less than $5,000
P0820002	$5,000 to $9,999
P0820003	$10,000 to $14,999
P0820004	$15,000 to $24,999
P0820005	$25,000 to $34,999
P0820006	$35,000 to $49,999
P0820007	$50,000 to $74,999
P0820008	$75,000 to $99,999
P0820009	$100,000 or more

Black:

P0820010	Less than $5,000
P0820011	$5,000 to $9,999
P0820012	$10,000 to $14,999
P0820013	$15,000 to $24,999
P0820014	$25,000 to $34,999
P0820015	$35,000 to $49,999
P0820016	$50,000 to $74,999
P0820017	$75,000 to $99,999
P0820018	$100,000 or more

American Indian, Eskimo, or Aleut:

P0820019	Less than $5,000
P0820020	$5,000 to $9,999
P0820021	$10,000 to $14,999
P0820022	$15,000 to $24,999
P0820023	$25,000 to $34,999
P0820024	$35,000 to $49,999
P0820025	$50,000 to $74,999
P0820026	$75,000 to $99,999
P0820027	$100,000 or more

Asian or Pacific Islander:

P0820028	Less than $5,000
P0820029	$5,000 to $9,999
P0820030	$10,000 to $14,999
P0820031	$15,000 to $24,999
P0820032	$25,000 to $34,999
P0820033	$35,000 to $49,999
P0820034	$50,000 to $74,999
P0820035	$75,000 to $99,999
P0820036	$100,000 or more

Other race:

P0820037	Less than $5,000

P0820038	$5,000 to $9,999
P0820039	$10,000 to $14,999
P0820040	$15,000 to $24,999
P0820041	$25,000 to $34,999
P0820042	$35,000 to $49,999
P0820043	$50,000 to $74,999
P0820044	$75,000 to $99,999
P0820045	$100,000 or more

PUBLIC ASSISTANCE INCOME IN 1989 / Universe: Households

P0950001	With public assistance income
P0950002	No public assistance income

AGGREGATE PUBLIC ASSISTANCE INCOME IN 1989 / Universe: Households

P1030001	Total

WORKERS IN FAMILY IN 1989 / Universe: Families

P1120001	No workers
P1120002	1 worker
P1120003	2 workers
P1120004	3 or more workers

PER CAPITA INCOME IN 1989 [7]/ Universe: Persons

P114A001	Per capita income in 1989

RATIO OF INCOME IN 1989 TO POVERTY LEVEL / Universe: Persons for whom poverty status is determined

P1210001	Under .50
P1210002	.50 to .74
P1210003	.75 to .99
P1210004	1.00 to 1.24
P1210005	1.25 to 1.49
P1210006	1.50 to 1.74
P1210007	1.75 to 1.84
P1210008	1.85 to 1.99
P1210009	2.00 and over

HOUSING UNITS / Universe: Housing units

H0010001	Total

OCCUPANCY STATUS / Universe: Housing units

H0040001	Occupied
H0040002	Vacant

TENURE / Universe: Occupied housing units

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H0080001	Owner occupied
H0080002	Renter occupied

UNITS IN STRUCTURE / Universe: Housing units

H0200001	1, detached
H0200002	1, attached
H0200003	2
H0200004	3 or 4
H0200005	5 to 9
H0200006	10 to 19
H0200007	20 to 49
H0200008	50 or more
H0200009	Mobile home or trailer
H0200010	Other

MEDIAN YEAR STRUCTURE BUILT / Universe: Housing units

H025A001	Median year structure built

YEAR HOUSEHOLDER MOVED INTO UNIT / Universe: Occupied housing units

H0280001	1989 to March 1990
H0280002	1985 to 1988
H0280003	1980 to 1984
H0280004	1970 to 1979
H0280005	1960 to 1969
H0280006	1959 or earlier

TENURE BY TELEPHONE IN HOUSING UNIT / Universe: Occupied housing units
Owner occupied:

H0350001	With telephone
H0350002	No telephone

Renter occupied:

H0350003	With telephone
H0350004	No telephone

TENURE BY VEHICLES AVAILABLE / Universe: Occupied housing units
Owner occupied:

H0370001	None
H0370002	1
H0370003	2
H0370004	3
H0370005	4
H0370006	5 or more

Renter occupied:

H0370007	None

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H0370008	1
H0370009	2
H0370010	3
H0370011	4
H0370012	5 or more

MEDIAN GROSS RENT / Universe: Specified renter-occupied housing units paying cash rent

H043A001	Median gross rent

MEDIAN VALUE / Universe: Specified owner-occupied housing units

H061A001	Median value

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ENDNOTES: Endnotes come from http/:venus.census.gov.

1. **FIPS.STATES**

01, Alabama	21, Kentucky	38, North Dakota
02, Alaska	22, Louisiana	39, Ohio
04, Arizona	23, Maine	40, Oklahoma
05, Arkansas	24, Maryland	41, Oregon
06, California	25, Massachusetts	42, Pennsylvania
08, Colorado	26, Michigan	44, Rhode Island
09, Connecticut	27, Minnesota	45, South Carolina
10, Delaware	28, Mississippi	46, South Dakota
11, District of Columbia	29, Missouri	47, Tennessee
12, Florida	30, Montana	48, Texas
13, Georgia	31, Nebraska	49, Utah
15, Hawaii	32, Nevada	50, Vermont
16, Idaho	33, New Hampshire	51, Virginia
17, Illinois	34, New Jersey	53, Washington
18, Indiana	35, New Mexico	54, West Virginia
19, Iowa	36, New York	55, Wisconsin
20, Kansas	37, North Carolina	56, Wyoming

2. **Household**--A household includes all the persons who occupy a housing unit. A **housing unit** is a house, an apartment, a mobile home, a group of rooms, or a single room that is occupied (or if vacant, is intended for occupancy) as separate living quarters. Separate living quarters are those in which the occupants live and eat separately from any other persons in the building and which have direct access from the outside of the building or through a common hall. The occupants may be a single family, one person living alone, two or more families living together, or any other group of related or unrelated persons who share living arrangements.

In 100-percent tabulations, the count of households or householders always equals the count of occupied housing units. In sample tabulations, the numbers may differ as a result of the weighting process.

Householder--The data on relationship to householder were derived from answers to questionnaire item 2, which was asked of all persons in housing units. One person in each household is designated as the householder. In most cases, this is the person, or one of the persons, in whose name the home is owned, being bought, or rented and who is listed in column 1 of the census questionnaire. If there is no such person in the household, any adult household member 15 years old and over could be designated as the householder.

Households are classified by type according to the sex of the householder and the presence of relatives. Two types of householders are distinguished: a **family householder** and a **nonfamily householder**. A family householder is a householder living with one or more persons related to him or her by birth, marriage, or adoption. The householder and all persons in the household related to him or her are family members. A nonfamily householder is a householder living alone or with nonrelatives only.

3. **Group Quarters**--All persons not living in households are classified by the Census Bureau as living in group quarters. Two general categories of persons in group quarters are recognized:
 (1) institutionalized persons and
 (2) other persons in group quarters (also referred to as
   "noninstitutional group quarters").

Institutionalized Persons--Includes persons under formally authorized, supervised care or custody in institutions at the time of enumeration. Such persons are classified as "patients or inmates" of an institution regardless of the availability

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of nursing or medical care, the length of stay, or the number of persons in the institution. Generally, institutionalized persons are restricted to the institutional buildings and grounds (or must have passes or escorts to leave) and thus have limited interaction with the surrounding community. Also, they are generally under the care of trained staff who have responsibility for their safekeeping and supervision.

Type of Institution--The type of institution was determined as part of census enumeration activities. For institutions which specialize in only one specific type of service, all patients or inmates were given the same classification. For institutions which had multiple types of major services (usually general hospitals and Veterans' Administration hospitals), patients were classified according to selected types of wards. For example, in psychiatric wards of hospitals, patients were classified in "mental (psychiatric) hospitals"; in hospital wards for persons with chronic diseases, patients were classified in "hospitals for the chronically ill." Each patient or inmate was classified in only one type of institution. Institutions include the following types:

- **Correctional Institutions**--Includes prisons, Federal detention centers, military stockades and jails, police lockups, halfway houses, local jails, and other confinement facilities, including work farms.
- **Prisons**--Where persons convicted of crimes serve their sentences. In some census products, the prisons are classified by two types of control:
  - (1) "Federal" (operated by the Bureau of Prisons of the Department of Justice) and
  - (2) "State." Residents who are criminally insane were classified on the basis of where they resided at the time of enumeration:
    - (1) in institutions (or hospital wards) operated by departments of correction or similar agencies; or
    - (2) in institutions operated by departments of mental health or similar agencies.
- **Federal Detention Centers**--Operated by the Immigration and Naturalization Service (INS) and the Bureau of Prisons. These facilities include detention centers used by the Park Police; Bureau of Indian Affairs Detention Centers; INS Centers, such as the INS Federal Alien Detention Facility; INS Processing Centers; and INS Contract Detention Centers used to detain aliens under exclusion or deportation proceedings, as well as those aliens who have not been placed into proceedings, such as custodial required departures; and INS Detention Centers operated within local jails, and State and Federal prisons.
- **Military Stockades, Jails**--Operated by military police and used to hold persons awaiting trial or convicted of violating military laws.
- **Local Jails and Other Confinement Facilities**--Includes facilities operated by counties and cities that primarily hold persons beyond arraignment, usually for more than 48 hours. Also included in this category are work farms used to hold persons awaiting trial or serving time on relatively short sentences and jails run by private businesses under contract for local governments (but not by State governments).
- **Police Lockups**--Temporary-holding facilities operated by county and city police that hold persons for 48 hours or less only if they have not been formally charged in court.
- **Halfway Houses**--Operated for correctional purposes and include probation and restitution centers, pre- release centers, and community-residential centers.
- **Other Types of Correctional Institutions**--Privately operated correctional facilities and correctional facilities specifically for alcohol/drug abuse.

Nursing Homes--Comprises a heterogeneous group of places. The majority of patients are elderly, although persons who require nursing care because of chronic physical conditions may be found in these homes regardless of their age. Included in this category are skilled-nursing facilities, intermediate-care facilities, long-term care rooms in wards or buildings on the grounds of hospitals, or long-term care rooms/nursing wings in congregate housing facilities. Also included are nursing, convalescent, and rest homes, such as soldiers', sailors', veterans', and fraternal or religious homes for the aged, with or without nursing care. In some census products, nursing homes are classified by type of ownership as "Federal," "State," "Private not-for-profit," and "Private for profit."

Mental (Psychiatric) Hospitals--Includes hospitals or wards for the criminally insane not operated by a prison, and psychiatric wards of general hospitals and veterans' hospitals. Patients receive supervised medical/nursing care from formally-trained staff. In some census products, mental hospitals are classified by type of ownership as "Federal," "State or local," "Private," and "Ownership not known."

Hospitals for Chronically Ill--Includes hospitals for patients who require long-term care, including those in military

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hospitals and wards for the chronically ill located on military bases; or other hospitals or wards for the chronically ill, which include tuberculosis hospitals or wards, wards in general and Veterans' Administration hospitals for the chronically ill, neurological wards, hospices, wards for patients with Hansen's Disease (leprosy) and other incurable diseases, and other unspecified wards for the chronically ill. Patients who had no usual home elsewhere were numerated as part of the institutional population in the wards of general and military hospitals. Most hospital patients are at the hospital temporarily and were enumerated at their usual place of residence. (For more information, see "Wards in General and Military Hospitals for Patients Who Have No Usual Home Elsewhere.")

Schools, Hospitals, or Wards for the Mentally Retarded--Includes those institutions such as wards in hospitals for the mentally retarded, and intermediate-care facilities for the mentally retarded that provide supervised medical/nursing care from formally-trained staff. In some census products, this category is classified by type of ownership as "Federal," "State or local," "Private," and "Ownership not known."

Schools, Hospitals, or Wards for the Physically Handicapped—Includes three types of institutions: institutions for the blind, those for the deaf, and orthopedic wards and institutions for the physically handicapped. Institutions for persons with speech problems are classified with "institutions for the deaf." The category "orthopedic wards and institutions for the physically handicapped" includes those institutions providing relatively long-term care to accident victims, and to persons with polio, cerebral palsy, and muscular dystrophy. In some census products, this category is classified by type of ownership as "Public," "Private," and "Ownership not known."

Hospitals, and Wards for Drug/Alcohol Abuse--Includes hospitals, and hospital wards in psychiatric and general hospitals. These facilities are equipped medically and designed for the diagnosis and treatment of medical or psychiatric illnesses associated with alcohol or drug abuse. Patients receive supervised medical care from formally-trained staff.

Wards in General and Military Hospitals for Patients Who Have No Usual Home Elsewhere--Includes maternity, neonatal, pediatric (including wards for boarder babies), military, and surgical wards of hospitals, and wards for persons with infectious diseases. Juvenile Institutions--Includes homes, schools, and other institutions providing care for children (short- or long-term care). Juvenile institutions include the following types:

Homes for Abused, Dependent, and Neglected Children—Includes orphanages and other institutions which provide long-term care (usually more than 30 days) for children. This category is classified in some census products by type of ownership as "Public" and "Private." Residential Treatment Centers--Includes those institutions which primarily serve children who, by clinical diagnosis, are moderately or seriously disturbed emotionally. Also, these institutions provide long-term treatment services, usually supervised or directed by a psychiatrist.

Training Schools for Juvenile Delinquents--Includes residential training schools or homes, and industrial schools, camps, or farms for juvenile delinquents.

Public Training Schools for Juvenile Delinquents--Usually operated by a State agency (for example, department of welfare, corrections, or a youth authority). Some are operated by county and city governments. These public training schools are specialized institutions serving delinquent children, generally between the ages of 10 and 17 years old, all of whom are committed by the courts.

Private Training Schools--Operated under private auspices. Some of the children they serve are committed by the courts as delinquents. Others are referred by parents or social agencies because of delinquent behavior. One difference between private and public training schools is that, by their administrative policy, private schools have control over their selection and intake.

Detention Centers--Includes institutions providing short-term care (usually 30 days or less) primarily for delinquent children pending disposition of their cases by a court. This category also covers diagnostic centers. In practice, such institutions may be caring for both delinquent and neglected children pending court disposition.

Other Persons in Group Quarters (also referred to as "noninstitutional group quarters")--Includes all persons who live in group quarters other than institutions. Persons who live in the following living quarters are classified as

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"other persons in group quarters" when there are 10 or more unrelated persons living in the unit; otherwise, these living quarters are classified as housing units.

Rooming Houses--Includes persons residing in rooming and boarding houses and living in quarters with 10 or more unrelated persons.

Group Homes--Includes "community-based homes" that provide care and supportive services. Such places include homes for the mentally ill, mentally retarded, and physically handicapped; drug/alcohol halfway houses; communes; and maternity homes for unwed mothers.

Homes for the Mentally Ill--Includes community-based homes that provide care primarily for the mentally ill. In some data products, this category is classified by type of ownership as "Federal," "State," "Private," and "Ownership not known." Homes which combine treatment of the physically handicapped with treatment of the mentally ill are counted as homes for the mentally ill.

Homes for the Mentally Retarded--Includes community-based homes that provide care primarily for the mentally retarded. Homes which combine treatment of the physically handicapped with treatment of the mentally retarded are counted as homes for the mentally retarded. This category is classified by type of ownership in some census products, as "Federal," "State," "Private," or "Ownership not known."

Homes for the Physically Handicapped--Includes community-based homes for the blind, for the deaf, and other community-based homes for the physically handicapped. Persons with speech problems are classified with homes for the deaf. In some census products, this category is classified by type of ownership as "Public," "Private," or "Ownership not known."

Homes or Halfway Houses for Drug/Alcohol Abuse--Includes persons with no usual home elsewhere in places that provide community-based care and supportive services to persons suffering from a drug/alcohol addiction and to recovering alcoholics and drug abusers. Places providing community-based care for drug and alcohol abusers include group homes, detoxification centers, quarterway houses (residential treatment facilities that work closely with accredited hospitals), halfway houses, and recovery homes for ambulatory, mentally competent recovering alcoholics and drug abusers who may be re-entering the work force.

Maternity Homes for Unwed Mothers--Includes persons with no usual home elsewhere in places that provide domestic care for unwed mothers and their children. These homes may provide social services and post-natal care within the facility, or may make arrangements for women to receive such services in the community. Nursing services are usually available in the facility.

Other Group Homes--Includes persons with no usual home elsewhere in communes, foster care homes, and job corps centers with 10 or more unrelated persons. These types of places provide communal living quarters, generally for persons who have formed their own community in which they have common interests and often share or own property jointly.

Religious Group Quarters--Includes, primarily, group quarters for nuns teaching in parochial schools and for priests living in rectories. It also includes other convents and monasteries, except those associated with a general hospital or an institution.

College Quarters Off Campus--Includes privately-owned rooming and boarding houses off campus, if the place is reserved exclusively for occupancy by college students and if there are 10 or more unrelated persons. In census products, persons in this category are classified as living in a college dormitory.

Persons residing in certain other types of living arrangements are classified as living in "noninstitutional group quarters" regardless of the number of people sharing the unit. These include persons residing in the following types of group quarters:
- **College Dormitories**--Includes college students in dormitories (provided the dormitory is restricted to students

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who do not have their families living with them), fraternity and sorority houses, and on-campus residential quarters used exclusively for those in religious orders who are attending college. Students in privately-owned rooming and boarding houses off campus are also included, if the place is reserved exclusively for occupancy by college-level students and if there are 10 or more unrelated persons.

- **Military Quarters**--Includes military personnel living in barracks and dormitories on base, in transient quarters on case for temporary residents (both civilian and military), and on military ships. However, patients in military hospitals receiving treatment for chronic diseases or who had no usual home elsewhere, and persons being held in military stockades were included as part of the institutional population.
- **Agriculture Workers' Dormitories**--Includes persons in migratory farm workers' camps on farms, bunkhouses for ranch hands, and other dormitories on farms, such as those on "tree farms."
- **Other Workers' Dormitories**--Includes persons in logging camps, construction workers' camps, firehouse dormitories, job-training camps, energy enclaves (Alaska only), and nonfarm migratory workers' camps (for example, workers in mineral and mining camps).
- **Emergency Shelters for Homeless Persons (with sleeping facilities) and Visible in Street Locations**--Includes persons enumerated during the "Shelter-and-Street-Night" operation primarily on March 20-21, 1990. Enumerators were instructed not to ask if a person was "homeless." If a person was at one of the locations below on March 20-21, the person was counted as described below. (For more information on the "Shelter-and-Street-Night" operation, see Appendix D, Collection and Processing Procedures.) This category is divided into four classifications:
- **Emergency Shelters for Homeless Persons (with sleeping facilities)**--Includes persons who stayed overnight on March 20, 1990, in permanent and temporary emergency housing, missions, hotels/motels, and flophouses charging $12 or less (excluding taxes) per night; Salvation Army shelters, hotels, and motels used entirely for homeless persons regardless of the nightly rate charged; rooms in hotels and motels used partially for the homeless; and similar places known to have persons who have no usual home elsewhere staying overnight. If not shown separately, shelters and group homes that provide temporary sleeping facilities for runaway, neglected, and homeless children are included in this category in data products.
- **Shelters for Runaway, Neglected, and Homeless Children**--Includes shelters/group homes which provide temporary sleeping facilities for juveniles.
- **Shelters for Abused Women (Shelters Against Domestic Violence or Family Crisis Centers)**--Includes community-based homes or shelters that provide domiciliary care for women who have sought shelter from family violence and who may have been physically abused. Most shelters also provide care for children of abused women. These shelters may provide social services, meals, psychiatric treatment, and counseling. In some census products, "shelters for abused women" are included in the category "other noninstitutional group quarters."
- **Dormitories for Nurses and Interns in General and Military Hospitals**--Includes group quarters for nurses and other staff members. It excludes patients.
- **Crews of Maritime Vessels**--Includes officers, crew members, and passengers of maritime U.S. flag vessels. All ocean-going and Great Lakes ships are included.
- **Staff Residents of Institutions**--Includes staff residing in group quarters on institutional grounds who provide formally-authorized, supervised care or custody for the institutionalized population.
- **Other Nonhousehold Living Situations**--Includes persons with no usual home elsewhere enumerated during transient or "T-Night" enumeration at YMCA's, YWCA's, youth hostels, commercial and government-run campgrounds, campgrounds at racetracks, fairs, and carnivals, and similar transient sites.
- **Living Quarters for Victims of Natural Disasters**--Includes living quarters for persons temporarily displaced by natural disasters.

Limitation of the Data--Two types of errors can occur in the classification of "types of group quarters":
- **Misclassification of Group Quarters**--During the 1990 Special Place Prelist operation, the enumerator determined the type of group quarters associated with each special place in their assignment. The enumerator used the Alphabetical Group Quarters Code List and Index to the Alphabetical Group Quarters Code List to assign a two-digit code number followed by either an "I," for institutional, or an "N," for noninstitutional to each group quarters. In 1990, unacceptable group quarter codes were edited. (For more information on editing of unacceptable data, see Appendix C, Accuracy of the Data.)
- **No Classification (unknowns)**--The imputation rate for type of institution was higher in 1980 (23.5 percent) than in 1970 (3.3 percent). Improvements were made to the 1990 Alphabetical Group Quarters Code List; that is, the inclusion of more group quarters categories and an "Index to the Alphabetical Group Quarters Code List." (For

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more information on the allocation rates for Type of Institution, see the allocation rates in 1990 CP-1, General Population Characteristics.) In previous censuses, allocation rates for demographic characteristics (such as age, sex, race, and marital status) of the institutional population were similar to those for the total population. The allocation rates for sample characteristics such as school enrollment, highest grade completed, income, and veteran status for the institutional and noninstitutional group quarters population have been substantially higher than the population in households at least as far back as the 1960 census. The data, however, have historically presented a reasonable picture of the institutional and noninstitutional group quarters population.

- **Shelter and Street Night (S-Night)**--For the 1990 census "Shelter-and- Street-Night" operation, persons well hidden, moving about, or in locations enumerators did not visit were likely to be missed. The number of people missed will never be known; thus, the 1990 census cannot be considered to include a definitive count of America's total homeless population. It does, however, give an idea of relative differences among areas of the country. Other components were counted as part of regular census procedures.
  - The count of persons in shelters and visible on the street could have been affected by many factors. How much the factors affected the count can never be answered definitively, but some elements include: How well enumerators were trained and how well they followed procedures.
  - How well the list of shelter and street locations given to the Census Bureau by the local government reflected the actual places that homeless persons stay at night.
  - Cities were encouraged to open temporary shelters for census night, and many did that and actively encouraged people to enter the shelters. Thus, people who may have been on the street otherwise were in shelters the night of March 20, so that the ratio of shelter-to-street population could be different than usual.
  - The weather, which was unusually cold in some parts of the country, could affect how likely people were to seek emergency shelter or to be more hidden than usual if they stayed outdoors.
  - The media occasionally interfered with the ability to do the count.
  - How homeless people perceived the census and whether they wanted to be counted or feared the census and hid from it.
  - The Census Bureau conducted two assessments of Shelter and Street Night: (1) the quality of the lists of shelters used for the Shelter-and-Street-Night operation, and (2) how well procedures were followed by census-takers for the street count in parts of five cities (Chicago, Los Angeles, New Orleans, New York, and Phoenix). Information about these two assessments is available from the Chief, Center for Survey Methods Research, Bureau of the Census, Washington, DC 20233.

Comparability--For the 1990 census, the definition of institutionalized persons was revised so that the definition of "care" only includes persons under organized medical or formally-authorized, supervised care or custody. As a result of this change to the institutional definition, maternity homes are classified as noninstitutional rather than institutional group quarters as in previous censuses. The following types of other group quarters are classified as institutional rather than noninstitutional group quarters: "halfway houses (operated for correctional purposes)" and "wards in general and military hospitals for patients who have no usual home elsewhere," which includes maternity, neonatal, pediatric, military, and surgical wards of hospitals, other-purpose wards of hospitals, and wards for infectious diseases. These changes should not significantly affect the comparability of data with earlier censuses because of the relatively small number of persons involved.

- As in 1980, 10 or more unrelated persons living together were classified as living in noninstitutional group quarters. In 1970, the criteria was six or more unrelated persons.
- Several changes also have occurred in the identification of specific types of group quarters. For the first time, the 1990 census identifies separately the following types of correctional institutions: persons in halfway houses (operated for correctional purposes), military stockades and jails, and police lockups. In 1990, tuberculosis hospitals or wards are included with hospitals for the chronically ill; in 1980, they were shown separately. For 1990, the noninstitutional group quarters category, "Group homes" is further classified as: group homes for drug/alcohol abuse; maternity homes (for unwed mothers), group homes for the mentally ill, group homes for the mentally retarded, and group homes for the physically handicapped. Persons living in communes, foster-care homes, and job corps centers are classified with "Other group homes" only if 10 or more unrelated persons share the unit; otherwise, they are classified as housing units.
- In 1990, workers' dormitories were classified as group quarters regardless of the number of persons sharing the dorm. In 1980, 10 or more unrelated persons had to share the dorm for it to be classified as a group quarters. In 1960, data on persons in military barracks were shown only for men. In subsequent censuses, they include both men

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and women.

- In 1990 census data products, the phrase "inmates of institutions" was changed to "institutionalized persons." Also, persons living in noninstitutional group quarters were referred to as "other persons in group quarters," and the phrase "staff residents" was used for staff living in institutions.
- In 1990, there are additional institutional categories and noninstitutional group quarters categories compared with the 1980 census. The institutional categories added include "hospitals and wards for drug/alcohol abuse" and "military hospitals for the chronically ill." The noninstitutional group quarters categories added include emergency shelters for homeless persons; shelters for runaway, neglected, and homeless children; shelters for abused women; and visible-in-street locations. Each of these noninstitutional group quarters categories was enumerated on March 20-21, 1990, during the "Shelter-and-Street-Night" operation. (For more information on the "Shelter-and-Street-Night" operation, see Appendix D, Collection and Processing Procedures.)

4. **Visible in Street Locations**--Includes street blocks and open public locations designated before March 20, 1990, by city and community officials as places where the homeless congregate at night. All persons found at predesignated street sites from 2 a.m. to 4 a.m. and leaving abandoned or boarded-up buildings from 4 a.m. to 8 a.m. on March 21, 1990, were enumerated during "street" enumeration, except persons in uniform such as police and persons engaged in obvious money-making activities other than begging or panhandling. Enumerators were instructed not to ask if a person was "homeless."

This cannot be considered a complete count of all persons living on the streets because those who were so well hidden that local people did not know where to find them were likely to have been missed as were persons moving about or in places not identified by local officials. It is also possible that persons with homes could have been included in the count of "visible in street locations" if they were present when the enumerator did the enumeration of a particular block.

Predesignated street sites include street corners, parks, bridges, persons emerging from abandoned and boarded-up buildings, noncommercial campsites (tent cities), all-night movie theaters, all-night restaurants, emergency hospital waiting rooms, train stations, airports, bus depots, and subway stations.

5. **Employment Status/Income**--The data on employment status were derived from answers to questionnaire items 21, 25, and 26, which were asked of a sample of persons. The series of questions on employment status was asked of all persons 15 years old and over and was designed to identify, in this sequence: (1) persons who worked at any time during the reference week; (2) persons who did not work during the reference week but who had jobs or businesses from which they were temporarily absent (excluding layoff); (3) persons on layoff; and (4) persons who did not work during the reference week, but who were looking for work during the last four weeks and were available for work during the reference week. (For more information, see the discussion under "Reference Week.")

The employment status data shown in this and other 1990 census tabulations relate to persons 16 years old and over. Some tabulations showing employment status, however, include persons 15 years old. By definition, these persons are classified as "Not in Labor Force.". In the 1940, 1950, and 1960 censuses, employment status data were presented for persons 14 years old and over. The change in the universe was made in 1970 to agree with the official measurement of the labor force as revised in January 1967 by the U.S. Department of Labor. The 1970 census was the last to show employment data for persons 14 and 15 years old.

Employed--All civilians 16 years old and over who were either (1) "at work"--those who did any work at all during the reference week as paid employees, worked in their own business or profession, worked on their own farm, or worked 15 hours or more as unpaid workers on a family farm or in a family business; or (2) were "with a job but not at work"-- those who did not work during the reference week but had jobs or businesses from which they were temporarily absent due to illness, bad weather, industrial dispute, vacation, or other personal reasons. Excluded from the employed are persons whose only activity consisted of work around the house or unpaid volunteer work for religious, charitable, and similar organizations; also excluded are persons on active duty in the United States Armed Forces.

Unemployed--All civilians 16 years old and over are classified as unemployed if they (1) were neither "at work" nor

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"with a job but not at work" during the reference week, and (2) were looking for work during the last 4 weeks, and (3) were available to accept a job. Also included as unemployed are civilians who did not work at all during the reference week and were waiting to be called back to a job from which they had been laid off. Examples of job seeking activities are:

- Registering at a public or private employment office
- Meeting with prospective employers
- Investigating possibilities for starting a professional practice or opening a business
- Placing or answering advertisements
- Writing letters of application
- Being on a union or professional register

Civilian Labor Force--Consists of persons classified as employed or unemployed in accordance with the criteria described above.

Experienced Unemployed--These are unemployed persons who have worked at any time in the past.

Experienced Civilian Labor Force--Consists of the employed and the experienced unemployed.

Labor Force--All persons classified in the civilian labor force plus members of the U.S. Armed Forces (persons on active duty with the United States Army, Air Force, Navy, Marine Corps, or Coast Guard).

Not in Labor Force--All persons 16 years old and over who are not classified as members of the labor force. This category consists mainly of students, housewives, retired workers, seasonal workers enumerated in an off season who were not looking for work, institutionalized persons, and persons doing only incidental unpaid family work (less than 15 hours during the reference week).

Worker--This term appears in connection with several subjects: journey-to- work items, class of worker, weeks worked in 1989, and number of workers in family in 1989. Its meaning varies and, therefore, should be determined in each case by referring to the definition of the subject in which it appears.

Actual Hours Worked Last Week--All persons who reported working during the reference week were asked to report in questionnaire item 21b the number of hours that they worked. The statistics on hours worked pertain to the number of hours actually worked at all jobs, and do not necessarily reflect the number of hours typically or usually worked or the scheduled number of hours. The concept of "actual hours" differs from that of "usual hours" described below. The number of persons who worked only a small number of hours is probably understated since such persons sometimes consider themselves as not working. Respondents were asked to include overtime or extra hours worked, but to exclude lunch hours, sick leave, and vacation leave.

Limitation of the Data
- The census may understate the number of employed persons because persons who have irregular, casual, or unstructured jobs sometimes report themselves as not working. The number of employed persons "at work" is probably overstated in the census (and conversely, the number of employed "with a job, but not at work" is understated) since some persons on vacation or sick leave erroneously reported themselves as working. This problem has no effect on the total number of employed persons. The reference week for the employment data is not the same for all persons. Since persons can change their employment status from one week to another, the lack of a uniform reference week may mean that the employment data do not reflect the reality of the employment situation of any given week. (For more information, see the discussion under "Reference Week.")
- Limitation of the Data--Since questionnaire entries for income frequently are based on memory and not on records, many persons tended to forget minor or irregular sources of income and, therefore, underreport their income. Underreporting tends to be more pronounced for income sources that are not derived from earnings, such as Social Security, public assistance, or from interest, dividends, and net rental income.
- There are errors of reporting due to the misunderstanding of the income questions such as reporting gross rather than net dollar amounts for the two questions on net self-employment income, which resulted in an overstatement of these items. Another common error is the reporting of identical dollar amounts in two of the eight type of income

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items where a respondent with only one source of income assumed that the second amount should be entered to represent total income. Such instances of overreporting had an impact on the level of mean nonfarm or farm self-employment income and mean total income published for the various geographical subdivisions of the State.

- Extensive computer editing procedures were instituted in the data processing operation to reduce some of these reporting errors and to improve the accuracy of the income data. These procedures corrected various reporting deficiencies and improved the consistency of reported income items associated with work experience and information on occupation and class of worker. For example, if persons reported they were self-employed on their own farm, not incorporated, but had reported wage and salary earnings only, the latter amount was shifted to net farm self-employment income. Also, if any respondent reported total income only, the amount was generally assigned to one of the type of income items according to responses to the work experience and class-of-worker questions. Another type of problem involved nonreporting of income data. Where income information was not reported, procedures were devised to impute appropriate values with either no income or positive or negative dollar amounts for the missing entries. (For more information on imputation, see Appendix C, Accuracy of the Data.)
- In income tabulations for households and families, the lowest income group (e.g., less than $5,000) includes units that were classified as having no 1989 income. Many of these were living on income "in kind," savings, or gifts, were newly created families, or families in which the sole breadwinner had recently died or left the household. However, many of the households and families who reported no income probably had some money income which was not recorded in the census.
- The income data presented in the tabulations covers money income only. The fact that many farm families receive an important part of their income in the form of "free" housing and goods produced and consumed on the farm rather than in money should be taken into consideration in comparing the income of farm and nonfarm residents. Nonmoney income such as business expense accounts, use of business transportation and facilities, or partial compensation by business for medical and educational expenses was also received by some nonfarm residents. Many low income families also receive income "in kind" from public welfare programs. In comparing income data for 1989 with earlier years, it should be noted that an increase or decrease in money income does not necessarily represent a comparable change in real income, unless adjustments for changes in prices are made.

Comparability
- The questionnaire items and employment status concepts for the 1990 census are essentially the same as those used in the 1980 and 1970 censuses. However, these concepts differ in many respects from those associated with the 1950 and 1960 censuses.
- Since employment data from the census are obtained from respondents in households, they differ from statistics based on reports from individual business establishments, farm enterprises, and certain government programs. Persons employed at more than one job are counted only once in the census and are classified according to the job at which they worked the greatest number of hours during the reference week. In statistics based on reports from business and farm establishments, persons who work for more than one establishment may be counted more than once. Moreover, some tabulations may exclude private household workers, unpaid family workers, and self-employed persons, but may include workers less than 16 years of age.
- An additional difference in the data arises from the fact that persons who had a job but were not at work are included with the employed in the census statistics, whereas many of these persons are likely to be excluded from employment figures based on establishment payroll reports. Furthermore, the employment status data in census tabulations include persons on the basis of place of residence regardless of where they work, whereas establishment data report persons at their place of work regardless of where they live. This latter consideration is particularly significant when comparing data for workers who commute between areas.
- Census data on actual hours worked during the reference week may differ from data from other sources. The census measures hours actually worked, whereas some surveys measure hours paid for by employers. Comparability of census actual hours worked data may also be affected by the nature of the reference week (see "Reference Week").
- For several reasons, the unemployment figures of the Census Bureau are not comparable with published figures on unemployment compensation claims. For example, figures on unemployment compensation claims exclude persons who have exhausted their benefit rights, new workers who have not earned rights to unemployment insurance, and persons losing jobs not covered by unemployment insurance systems (including some workers in agriculture, domestic services, and religious organizations, and self-employed and unpaid family workers). In addition, the qualifications for drawing unemployment compensation differ from the definition of unemployment used by the Census Bureau.

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- Persons working only a few hours during the week and persons with a job but not at work are sometimes eligible for unemployment compensation but are classified as "Employed" in the census. Differences in the geographical distribution of unemployment data arise because the place where claims are filed may not necessarily be the same as the place of residence of the unemployed worker.
- The figures on employment status from the decennial census are generally comparable with similar data collected in the Current Population Survey. However, some difference may exist because of variations in enumeration and processing techniques. Median Income--The median divides the income distribution into two equal parts, one having incomes above the median and the other having incomes below the median. For households and families, the median income is based on the distribution of the total number of units including those with no income. The median for persons is based on persons with income. The median income values for all households, families, and persons are computed on the basis of more detailed income intervals than shown in most tabulations. Median household or family income figures of $50,000 or less are calculated using linear interpolation. For persons, corresponding median values of $40,000 or less are also computed using linear interpolation. All other median income amounts are derived through Pareto interpolation. (For more information on medians and interpolation, see the discussion under "Derived Measures.")
- The income data collected in the 1980 and 1970 censuses are similar to the 1990 census data, but there are variations in the detail of the questions. In 1980, income information for 1979 was collected from persons in approximately 19 percent of all housing units and group quarters. Each person was required to report:
  - Wage or salary income
  - Net nonfarm self-employment income
  - Net farm self-employment income
  - Interest, dividend, or net rental or royalty income Social Security income
  - Public assistance income
  - Income from all other sources
- Between the 1980 and 1990 censuses, there were minor differences in the processing of the data. In both censuses, all persons with missing values in one or more of the detailed type of income items and total income were designated as allocated. Each missing entry was imputed either as a "no" or as a dollar amount. If total income was reported and one or more of the type of income fields was not answered, then the entry in total income generally was assigned to one of the income types according to the socioeconomic characteristics of the income recipient. This person was designated as unallocated.
- In 1980 and 1990, all nonrespondents with income not reported (whether heads of households or other persons) were assigned the reported income of persons with similar characteristics. (For more information on imputation, see Appendix C, "Accuracy of the Data.")
- There was a difference in the method of computer derivation of aggregate income from individual amounts between the two census processing operations. In the 1980 census, income amounts less than $100,000 were coded in tens of dollars, and amounts of $100,000 or more were coded in thousands of dollars; $5 was added to each amount coded in tens of dollars and $500 to each amount coded in thousands of dollars. Entries of $999,000 or more were treated as $999,500 and losses of $9,999 or more were treated as minus $9,999. In the 1990 census, income amounts less than $999,999 were keyed in dollars. Amounts of $999,999 or more were treated as $999,999 and losses of $9,999 or more were treated as minus $9,999 in all of the computer derivations of aggregate income.
- In 1970, information on income in 1969 was obtained from all members in every fifth housing unit and small group quarters (less than 15 persons) and every fifth person in all other group quarters. Each person was required to report:
  - Wage or salary income
  - Net nonfarm self-employment income
  - Net farm self-employment income
  - Social Security or Railroad Retirement
  - Public assistance or welfare payments
  - Income from all other sources
- If a person reported a dollar amount in wage or salary, net nonfarm self-employment income, or net farm self-employment income, the person was considered as unallocated only if no further dollar amounts were imputed for any additional missing entries.
- In 1960, data on income were obtained from all members in every fourth housing unit and from every fourth person 14 years old and over living in group quarters. Each person was required to report wage or salary income, net self-

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employment income, and income other than earnings received in 1959. An assumption was made in the editing process that no other type of income was received by a person who reported the receipt of either wage and salary income or self-employment but who had failed to report the receipt of other money income.

- For several reasons, the income data shown in census tabulations are not directly comparable with those that may be obtained from statistical summaries of income tax returns. Income, as defined for Federal tax purposes, differs somewhat from the Census Bureau concept. Moreover, the coverage of income tax statistics is different because of the exemptions of persons having small amounts of income and the inclusion of net capital gains in tax returns. Furthermore, members of some families file separate returns and others file joint returns; consequently, the income reporting unit is not consistently either a family or a person.

- The earnings data shown in census tabulations are not directly comparable with earnings records of the Social Security Administration. The earnings record data for 1989 excluded the earnings of most civilian government employees, some employees of nonprofit organizations, workers covered by the Railroad Retirement Act, and persons not covered by the program because of insufficient earnings. Furthermore, earnings received from any one employer in excess of $48,000 in 1989 are not covered by earnings records. Finally, because census data are obtained from household questionnaires, they may differ from Social Security Administration earnings record data, which are based upon employers' reports and the Federal income tax returns of self-employed persons.

- The Bureau of Economic Analysis (BEA) of the Department of Commerce publishes annual data on aggregate and per-capita personal income received by the population for States, metropolitan areas, and selected counties. Aggregate income estimates based on the income statistics shown in census products usually would be less than those shown in the BEA income series for several reasons. The Census Bureau data are obtained directly from households, whereas the BEA income series is estimated largely on the basis of data from administrative records of business and governmental sources. Moreover, the definitions of income are different. The BEA income series includes some items not included in the income data shown in census publications, such as income "in kind," income received by nonprofit institutions, the value of services of banks and other financial intermediaries rendered to persons without the assessment of specific charges, Medicare payments, and the income of persons who died or emigrated prior to April 1, 1990. On the other hand, the census income data include contributions for support received from persons not residing in the same household and employer contributions for social insurance.

6. "Not in Labor Force" This category is defined as students, housewives, retired workers, seasonal workers who were not working during the reference period, institutionalized people, and people working less than 15 hours per week.

7. "Per capita income" is the mean income computed for every man, woman, and child in a particular group. It is derived by dividing the total income of a particular group by the total population in that group. Mean Income--This is the amount obtained by dividing the total income of a particular statistical universe by the number of units in that universe. Thus, mean household income is obtained by dividing total household income by the total number of households. For the various types of income the means are based on households having those types of income.

Care should be exercised in using and interpreting mean income values for small subgroups of the population. Because the mean is influenced strongly by extreme values in the distribution, it is especially susceptible to the effects of sampling variability, misreporting, and processing errors. The median, which is not affected by extreme values, is, therefore, a better measure than the mean when the population base is small. The mean, nevertheless, is shown in some data products for most small subgroups because, when weighted according to the number of cases, the means can be added to obtained summary measures for areas and groups other than those shown in census tabulations.

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