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Traditionalism and temporal variance in predictors of gendered homicide, 1970-2000

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TRADITIONALISM AND TEMPORAL VARIANCE
IN PREDICTORS OF GENDERED HOMICIDE, 1970-2000

A Dissertation

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ABSTRACT

During the second half of the 20th century, changes in gender relations and equality have led to substantial shifts in many aspects of American life. As one feature of society, the relationship between social structure and crime has also changed with the shift from traditional to nontraditional views of gendered interaction. In particular, what were once thought to be invariant structural predictors of homicide may, in fact, have varying explanatory power over time; in particular, measurements of disadvantage and population structure may not equally affect men and women between 1970 and 2000.

Therefore, the present study posits a transformation in the strength of these known covariates of homicide to explain county-level rates of homicide disaggregated by gender, by gender and victim/offender relationship, and by gender and race. Using Supplementary Homicide Reports and U.S. census data from 1970 to 2000, negative binomial regression results show variance in the explanatory power of homicide predictors between 1970 and 2000. Specifically, as they are related to male and female offending, measures of resource disadvantage have a greater effect at all time points on homicides perpetrated by females; while in contrast, measures of population structure have a larger effect on male homicide offenses in 1980, 1990, and 2000. When gender and the victim/offender relationship are considered, the most notable outcome indicates that for counts of homicides perpetrated by females who did not know their victims, the effects of structural covariates of homicide drastically increase in their predictive strength between 1980 and 2000. Finally, accounting for offender's gender and race illustrates that with homicides perpetrated by whites, regardless of gender, the association with measures of resource deprivation and population structure is significant in 1980, but nonsignificant in 1990 and 2000. In contrast, the relationship between structural predictors and homicides committed by

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nonwhites is consistently significant from 1980 to 2000. Conceptual and theoretical implications of the results are also proposed.

CHAPTER 1. INTRODUCTION

From the start of the 20th century, attitudes in the United States toward women's roles in education, the workforce, military, marriages, and families have been changing. Traditional gender roles and expectations, often associated with patriarchal social structures, began to erode, with less repressive ideas of women's participation in various aspects of American society becoming more acceptable. Even since 1970, we have witnessed a dramatic alteration in the fabric of gendered life. As gender norms progress over time, it is likely that these substantial changes will influence all aspects of society, including violent criminality. In the past, however, criminological theory has lacked a commanding knowledge of the place of gender in criminal activity. Although, national statistics have shown that women consistently commit fewer violent crimes than men, most traditional criminogenic theories focus on total crime rates or only male crime rates.

Rates of crime disaggregated by offender's sex reveal generous increases in women's participation in property, violent, and lethal crimes (U.S. Federal Bureau of Investigation 2009a). Although research has adequately substantiated that women commit fewer crimes than men in all categories except prostitution, reasons for temporal changes in the gender gap in crime have not been effectively investigated. Without including measures of gender-disaggregated crime, it is difficult to justify hypotheses regarding the ecology of crime, such as those found in strain and social disorganization theories.

Therefore, based on the modifications made to numerous features of gendered living, it has become exceedingly necessary for social scientists to examine how this transition may affect homicide rates in the U.S. As arguably the most heinous of crimes, taking the life of another human is a serious threat to society as a whole. It is therefore imperative that researchers explore

the possible causes and implications of lethal violence. Furthermore, the relationship between homicide rates and aggregate-level disadvantage, deprivation, and changing population structure, has been examined in hopes of finding answers to such questions as, "What characteristics of a geographical area lead to an increase in homicide rates for that area?" The present study expands on this issue by measuring the strength of relationships between rates of lethal violence and structural-level indicators of homicide over the period between 1970 and 2000.

1.1. CRIMINOLOGICAL AND FEMINIST THEORY

In general, many recent theoretical developments in criminology tend to explain only male offending, neglecting aspects of female offenses. However, some early analyses, such as those of positivists in the late 19th and early 20th centuries do spend time discussing female criminality. During this period, social scientists attributed much of women's participation in crime to biological, chemical, or psychological issues (among others, Lombroso and Ferrero 1895; Freud 1933). Such theses assumed that individual-level characteristics overshadowed attributes of the larger social structure. It was also believed that women who broke the law did so because they were more masculine than law-abiding women. Finally, early psychiatric evaluations of female offenders assumed that these women were rebelling against their expected feminine role within society. This rejection of femininity was thought to lead to criminal offending (Belknap 2007). Once much of the work of early positivists regarding gendered crime was questioned, many theorists turned to social-structural theories to explain female violence.

By 1938, Robert Merton had begun his work on the development of strain theory. Building on Durkheim's analysis of anomie, Merton (1938) contended that stratification within the social structure limits accessibility to the means necessary to achieve certain goals, such as wealth, power, and prestige. When legitimate means are unavailable, individuals turn to

illegitimate means, particularly crime, to reach social goals. In 1985, Robert Agnew extended Merton's strain theory to the broader ecological level, creating general strain theory, which accounted for structural strains inherent to a particular location. Agnew (1992) also found that there were several adaptations used to adjust to strain, some of which could lead to illegal activities.

Until this point, the theoretical development of strain theory had not included a component related to gender. In 1997, Broidy and Agnew reported that some reactions to strain were more likely to lead to crime and violence; however women were not as likely to use these adaptations. Although strain causes anger for some men and women, which can lead to the commission of crime, feelings of fear, insecurity, or worry, were more often described by women and are less likely to lead to illegal endeavors. Although Broidy and Agnew (1997) discuss the differences in adaptations made by men and women, their analysis did not include any temporal element, leaving a void in the literature for a discussion of the changes in measures of structural strain that may occur over time.

Not long after Merton's (1938) development of strain theory, Shaw and McKay (1942) constructed a theory of the spatial distribution of crime. They believed that rates of criminal activity were not the same in all places, because there were different levels of social disorganization in each community. Where levels of disorganization were high, violent and property crime rates would be high as well. Although social disorganization theory has been restructured by several other researchers (Sampson and Groves 1989; Sampson, Raudenbush, and Earls 1997), none of these advancements included a longitudinal examination of crime rates disaggregated by gender. The current project is able to extend work previously conducted

regarding social disorganization theory by including measures of disorganization in an analysis of gendered homicide over time.

Furthermore, although earlier theoretical advancements neglected an explicit discussion of gender, the influence of feminism and feminist theory led to more analyses of aspects of gendered crime and violence. Originally, much of the work in feminist research followed the logic of the women's liberation thesis. In 1975, Freda Adler and Rita Simon each published a book, which posited that with women's social liberation and freedom would come increased rates of crime. They argued that when women entered the social sphere as it was occupied by men, they would come to act more like their male counterparts, including the increased likelihood of engaging in criminal enterprises. However, the central contention that the women's liberation theory made was in direct opposition to research previously noting that increased social and economic advantages were associated with decreased crime rates. As research began to shed doubt on the tenets of the liberation hypothesis, new strides were made with the development of sex-roles theory.

Generally based on Talcott Parsons' (1942, 1947) theory of the masculine and feminine role, research in the area of sex-roles explained the gender gap in crime by arguing that males were more likely to be involved in crime because from a young age boys developed more dominant and aggressive characteristics, whereas girls were conditioned to remain relatively passive and nonviolent. Furthermore, the social opportunities and expectations that were based on these sex roles could determine the accessibility males and females had to criminality.

In a more recent rendition of sex-role theory, Steffensmeier and Allan (1996) explored the facets of gender inequality that shape men and women's crime. Specifically, differences in gender norms and expectations, moral development, social control, physicality and sexuality, all

influenced the type, frequency, and context of gendered crime. These gender dissimilarities increased the probability that men would commit crime and women would not.

Although criminological and feminist theorists have investigated the link between gender and crime, it is important that their work be extended to offer a more thorough understanding of the changes in gendered crime that have occurred over time, especially within the last 40 years. Although previous research has established that female crime has different characteristics than male crime, it is important to determine whether attributes of female crime fluctuate over time.

The expansion of literature to include an analysis of temporal changes in covariates of gendered homicide would allow for a more inclusive understanding of female lethal violence. Even though women commit fewer murders than men, it is important that academic research explore this area as comprehensively as possible. Therefore, in light of societal changes in attitudes toward women, the present study aids in clarifying an important aspect of sociological theory by analyzing temporal changes in the strength of known structural covariates of homicide to explain gender-specific acts of lethal violence.

1.2. OUTLINE OF DISSERTATION

In the following chapter, I discuss the shift from traditionalism to nontraditionalism in U.S. gender relations. Furthermore, in addition to a brief description of the similarities and differences of female and male crime, I present elements of criminological theory and feminist research that influence a discussion of gendered homicide. In particular, theories related to the ecology of crime and structural-level predictors of homicide are shown to almost exclusively focus on men's involvement in crime. Additionally, feminist theory and methods of analysis are presented as a guide to research endeavors, such as this one, which seek to explain the gender gap in crime. Finally, the hypotheses of the current study are stated at the end of Chapter 2.

Chapter 3 presents a thorough explanation of the data sources employed in this study, as well as the operationalization of the county-level measurements for gendered homicide and structural predictors utilized in the investigation. Additionally, descriptive statistics, correlation matrices, and the reasons for the use of principal components data reduction are presented. The utilization of negative binomial regression techniques is also addressed.

In Chapter 4, results are presented for each negative binomial regression model. First, those analyses of the association between structural covariates and homicide counts disaggregated by offender's gender are offered. Subsequently, homicide counts were further disaggregated by the victim/offender relationship and offender's race; these results are also discussed in Chapter 4.[1] In addition to comments concerning the results of the negative binomial regression models, standardized percent changes in expected homicide counts are considered as well, further substantiating the initial regression results.

Finally, Chapter 5 provides a brief summary of the findings of the study, as well as the implications of the results for the fields of criminology and gender studies. Limitations of the analysis and avenues for future research are also proposed.

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[1] Although an analysis of homicide counts disaggregated by gender, victim/offender relationship, and race would be fruitful, the Supplementary Homicide Reports between 1970 and 2000 do not allow for the creation of these measurements for all necessary years.

CHAPTER 2. THEORETICAL FRAMEWORK

2.1. CHANGING GENDER ROLE EXPECTATIONS: TRADITIONALISM TO
NONTRADITIONALISM

Since World War II, as women's labor force participation began to increase, there has

been a shift in the ideologies of gender roles from traditional to nontraditional. Traditional

gender norms, often associated with the notions of patriarchies, have morphed into more open-

minded and equitable ideas of women's place in family, marriage, work, education, and the

military (Thornton, Alwin, and Camburn 1983; Mason and Lu 1988; Plutzer 1988, 1991; Davis

and Robinson 1991; Brewster and Padavic 2000; Thornton and Young-DeMarco 2001;

Bolzendahl and Myers 2004). Research has shown that even within the last 40 years, in addition

to the hallmark changes that occurred during the Civil Rights Movement of the 1960s, changes

have continued to spark a new manifestation of our gendered society (Mason and Lu 1988;

Brewster and Padavic 2000; Zuo and Tang 2000; Loftus 2001; Thornton and Young-DeMarco

2001; Bolzendahl and Myers 2004; Martin and Parashar 2006). Thus, as expectations and ideals

regarding men and women fluctuate over time, it can be expected that such monumental changes

influence all aspects of human life, including violence and crime.

The traditionalism of patriarchal societies has long dominated human existence. "Our

society, like all other historical civilizations, is a patriarchy" (Millett 1970: 25). In traditional

societies, the family unit is oriented around men, securing a hierarchy where women are inferior

to men in the household (Hare-Mustin 1988). Thus, Heimer and De Coster (1999: 282-283)

submit the following (emphasis in original text):

> Research shows that in patriarchal society *femininity* often is
> equated with a high capacity for nurturance, a tendency toward
> passivity rather than aggressiveness, and physical and emotional
> weakness; by contrast *masculinity* tends to be equated with
> competitiveness, independence, rationality, and strength (Burke,
> 1989; Burke and Tully, 1977; Jackman, 1994).

The underlining assumption, then, is that masculinity is superior to femininity in social groups that follow patriarchal traditions.

During pre-industrial times, the family worked as a unit, headed by the husband/father, to accomplish the tasks necessary to sustain life, such as sewing clothes, cooking, tending livestock, or harvesting food (Thornton and Young-DeMarco 2001). As geographical areas became more industry-dependent, male family-heads transferred into cities to work and provide money for the family, so they could now purchase food, clothing, and shelters. This change left many women, though not all, in the home and not in the newly-formed marketplaces. They continued to work as they had before, but did not receive monetary compensation as their male-counterparts were. The lack of financial gain, which could not be earned from managing a household, left most women at a preindustrial stage "doing work for the family which has no exchange value in the market place, [… contributing] to their devalued status in the family and society" (Hare-Mustin 1988: 37). In America during this time of increased industrialization at the turn of the 20th century, women who were not required by financial necessity to work often became valued for their ability to produce and raise children (Hare-Mustin 1988). As the social status of females took on the primary roles of nurturer and caregiver, it became increasingly necessary for women to remain out of the workforce and in the home, taking responsibility for the household and familial tasks that would ensure the survival of the family.

In most highly traditional societies, all activities of daily life, whether they are social, religious, legal, or educational, are almost entirely gendered (Thornton and Young-DeMarco 2001). There is a place for men and a place for women; the segmentation of family and work organization is based on gender. Unfortunately, however, it becomes exceedingly difficult to compare gendered tasks, and so this division of labor "supports the belief that different family

members are inherently suited for work of different kinds" (Hare-Mustin 1988: 36). Because patriarchal systems have become so institutionalized in most western civilizations, it is not easy to initiate drastic changes in gender norms, ideologies, and expectations.

However, as the 20th century progressed, social scientists and American citizens alike witnessed a vast change in the roles of women and men in social life. In only the past 40 years, the traditional social structure has continuously been threatened (Flora 1982); consequently, the ideals of patriarchy, which tend to reinforce male dominance and the oppression of women, have begun to fade from the social and cultural framework of more modern lifestyles. Support of traditionalism in sex roles has lessened since World War II, as suggested by numerous studies (Mason, Czajka, and Arber 1976; Thornton and Freedman 1979; Cherlin and Walters 1981; Morgan and Walker 1983; Slevin and Wingrove 1983; Thornton et al. 1983; McBroom 1986). Since 1960, researchers have seen far-reaching changes in individuals' beliefs about gender roles, marriage, divorce, sexuality, education, and work (Thornton 1989; Thornton and Young-DeMarco 2001). Between 1970 and 1990, the liberalization of beliefs concerning gendered behavior has occurred quite rapidly (Spain and Bianchi 1996; Brewster and Padavic 2000).

Recently, Thornton and Young-DeMarco (2001) conducted a research project that looked at five different datasets, including Monitoring the Future, the General Social Survey, the International Social Science Project, the Intergenerational Panel Study of Parents and Children, and the National Survey of Families and Households. Through this assortment of information, Thornton and Young-DeMarco (2001: 1009) found "substantial and persistent long-term trends toward the endorsement of gender equality in families … as reflected in increased acceptance of divorce, premarital sex, unmarried cohabitation, remaining single, and choosing to be childless," all of which act as indicators of nontraditional gender principles. Thornton and Young-DeMarco

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(2001) also note that marriage has recently become decentralized in the organization of social life (see also Axinn and Thornton 2000), as more women, especially wives and mothers, have entered the workforce (Bianchi and Spain 1996; Cohen and Bianchi 1999) and the frequency of premarital sex, nonmarital cohabitation, and out-of-wedlock childbearing has increased dramatically (Bumpass 1990; Laumann et al. 1994; Ventura et al. 1995; Bumpass and Lu 2000).

In addition to changes at the individual-level concerning attitudes, values, and beliefs, there have also been several structural changes that have simultaneously occurred during this time. For instance, Martin and Parashar (2006) point out that as states began to pass no-fault divorce laws, it became easier to dissolve a marriage, which is contrary to traditional views of matrimony as a permanent social bond. Additionally, as an indication of the movement away from traditionalism, the Lesbian, Gay, Bisexual, Transsexual, and Queer (LGBTQ) Movement has gained substantial ground between the 1960s and the start of the 21st century. Recently, states, cities, and counties across the country have created legislation protecting the rights of gays and lesbians (particularly with regards to marriage and civil unions), abolishing sodomy laws, and increasing the number of LGBTQ individuals in elected office (Epstein 1999; Loftus 2001).

Finally, while Mason and Lu (1988) studied the overarching trend toward egalitarianism between 1977 and 1985, Brewster and Padavic (2000) extended this inquiry into the mid-1990s with their look at the General Social Survey from 1977 to 1996. They find that through both period and cohort effects, there has been an increase in attitudes toward gender equality in the home and workplace (Brewster and Padavic 2000). Using pooled cross-sections from the General Social Survey, Brewster and Padavic (2000) looked at the same four items as Mason and Lu (1988) for 13,966 white and African American respondents. "Two of these items concern the

consequences for children of women's employment outside the home, and two address the

desirability of a division of labor in which the wife's primary responsibilities are care of home

and family" (Brewster and Padavic 2000: 479). Below, Table 1 presents the questions asked of

participants in the General Social Survey for each of the years utilized in Brewster and Padavic's

(2000) project. Respondents were asked whether they strongly agree, agree, disagree, or strongly

disagree, coding 1 for the least traditional response and 4 for the most traditional response.

Table 1: General Social Survey Attitudinal Items on Gender Roles

Table 1. General Social Survey Attitudinal Items on Gender Roles	
Figure Label	**Statement to Respondents**
Better for everyone if wife takes care of home.	It is much better for everyone if the man is the achiever and the woman takes care of home and family.
Preschoolers suffer if mothers work.	A preschool child is likely to suffer if his or her mother works.
Working mothers cannot establish warm relationships.	A working mother can establish just as warm and secure a relationship with her children as a mother who does not work.
More important for wife to help husband's career.	It is more important for a wife to help her husband's career than to have one herself.

As evidence of the changes in American attitudes regarding traditional gender roles,

Figure 1 from Brewster and Padavic's (2000) study demonstrates the substantial decrease in

conservative responses toward women's employment and family care. Between 1977 and 1996,

the percent of respondents who gave conservative answers to the item "Better for everyone if

wife takes care of home," decreased 27.38%; "Preschoolers suffer if mothers work," decreased

21.04%; "Working mothers cannot establish warm relationships," decreased 17.54%; and "More

important for wife to help husband's career," decreased 36.07%.

Although in Figure 1 it is evident that item responses become more conservative around

1994, there is a possibility that this is based on a backlash due to poor and improper childcare

facilities available to working women (Brewster and Padavic 2000). However, as a
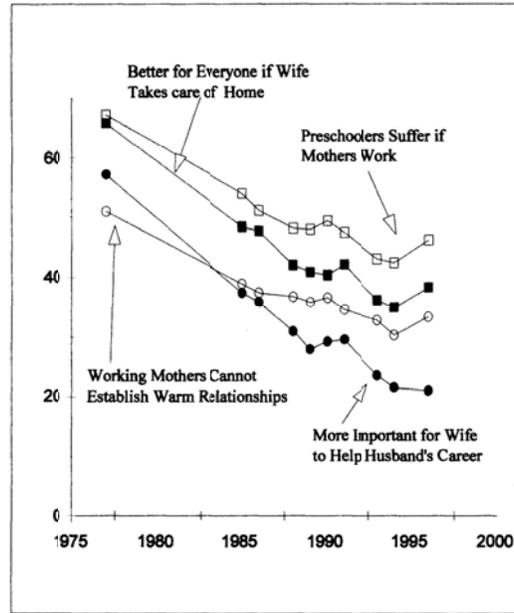
Figure 1: Percent Conservative Responses on General Social Survey Attitudinal Items on Gender Roles (Brewster and Padavic 2000)

demonstration of the decline in traditional attitudes concerning gender roles, Brewster and

Padavic (2000) do present compelling evidence that important aspects of gendered life have

changed dramatically between 1970 and 2000.

Data and results from previous research strongly indicate a powerful shift from the highly

traditional and conservative nature of gender role norms and expectations 40 years ago compared

with today. Situated within a changing social environment, there is a need for research to

specifically examine how the transition from traditionalism to nontraditionalism can inform the

effects of structural covariates on gendered homicide. The present study tests the association of

changes in aggregate-level characteristics of a population and changes in homicide rates for

counties, bearing in mind the contextual implications of an ideological shift in attitudes toward

gender.

2.2. GENDER IN THEORIES OF CRIME

Of the myriad of issues related to the study of crime and its unavoidable bond to social life, few are as controversial and far-reaching as those related to gender and violence. While there are seldom absolute truths found in the study of human social interactions, women have consistently committed fewer crimes of lethality than men in all societies, in all places, throughout all time. In the opening statement of the preface of her book, *The Invisible Woman: Gender, Crime, and Justice*, Joanne Belknap (2007: *xix*) aptly describes this phenomenon, stating, "For as long as anyone has recorded offending rates and behaviors, it has been abundantly clear that breaking the law is 'gendered': Males are far more likely than females to break the law." More specifically, of all the investigations in the area of violent criminality, no credible research has noted women offending at a higher rate than men. Cross-culturally, gender, as a predictor of crime, consistently explains more variance in offending rates than any other sociological variable (Harris 1977).

Regrettably, criminological theory tends to explain only male crime, not female crime. Even with the knowledge that gender is an inarguably important factor with respect to crime, the majority of sociological research has focused either on men in particular or the amalgamation of men and women. Failing to differentiate research as it pertains to sex can result in gender-blind analyses that do not account for the unique qualities of the female experience in crime. Belknap (2007) notes that when theory focuses too heavily on only the experiences of men, there can be severe consequences for theoretical development; specifically, "theories and findings are really theories and findings about male crime, and [consequently] we must question the validity of any 'general' theory if it does not also apply to women (Morris, 1987, 2)." Without accounting for both the similarities and differences between male- and female-perpetrated violence, criminology

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as a discipline will continue to present false theoretical assumptions that do not pertain to the entire population. Furthermore, research that includes a female perspective of crime involvement tends to be limited to cross-sectional analyses that omit the changes in gender role activity, expectations, and ideologies throughout time.

Researchers have found that criminological literature remains relatively androcentric (Messerschmidt 1993); female criminals tend to be judged as masculine because of their commitment to such supposedly male activities as crime. "Women and girls exist as Other: that is to say, they exist only in their difference from the male, the normal" (Cain 1990). The consequence of researching male criminality alone is a neglect of half the human experience. By treating women as the "other," criminologists have ignored their experience in crime and assumed that those explanations of male violence will adequately explain female violence as well.

Because there is such distinct variability in the lives of males and females, it is necessary to take a fresh look at the present state of criminological theory, the influence of feminism, and how these ideas can shape new analyses of gendered violence.

2.2.1. CRIMINOLOGICAL THEORY

2.2.1.1. Early Positivist Perspectives

The classical works of criminological theory were founded in the late 19th and early 20th centuries. The bulk of these studies focused heavily, if not solely, on biologically determined causes of criminal activity. Beginning with the works of Cesare Lombroso in the late 19th century, it was generally assumed that crime was the consequence of faulty biological developments, either physical or evolutionary. In addition to their study of male offenders, positivists Lombroso and Ferrero (1895) also developed hypotheses regarding female crime and

its relation to atavism. For these researchers, criminality was behaviorally atavistic, a relapse to an earlier form of evolutionary development. "Lombroso firmly maintained that deviants are less highly evolved than 'normal' law abiding citizens" (Smart 1976: 31). Women, Lombroso and Ferrero (1895) said, were less likely to become criminal because, although they were not as highly evolved as men, females showed less degenerative tendencies than males (Belknap 2007).

Several other scientists continued this line of positivistic inquiry, investigating female crime, but still situating the acts within a very biologically driven context (Freud 1933; Pollak 1961; Thomas 1967). Although many avenues of positivist research continued to progress, it is generally summarized as having four common theoretical assumptions:

> (1) Individual characteristics, not society, are responsible for criminal behavior; (2) there is an identifiable biological nature inherent in all women; (3) offending women are 'masculine,' which makes them incompetent as women and thus prone to break the law; and (4) the differences between male and female criminality are due to sex, not gender, differences (Belknap 2007: 32-33).

In addition to the works of Lombroso and Ferrero, psychiatrist and researcher Sigmund Freud (1933) attempted to explain female criminal tendencies by focusing strictly on the biological and psychological nature of gender roles. Women were anatomically inferior to men, he said, and thus displayed signs of "penis envy" by perverting the feminine role and overindulging in masculine activities, such as crime (Freud 1933). Female offenders were assumed to be rebelling against their *natural* feminine role and traditional gender expectations. Thus, it was believed that when women learned their place as wife and mother, female criminality would no longer be a concern (Belknap 2007).

Unfortunately, much of the work of early positivist criminologists has since been discredited. Images of either the Madonna or the whore neglect to distinguish other female roles, limiting the feminine character to simply good or bad. Furthermore, the legacy of these classical

theorists, such as Lombroso and Freud, is marked with not only sexism, but classism, racism, and a solitary focus on heterosexual masculinity.

As research has evolved, many theories have developed which move beyond the biological separation of males and females, and look more closely at the social processes of human interaction. Social structure theories, such as strain and social disorganization, departed from the individualistic ideas of positivism and focused on the relationship between social life and criminality. Researchers, such as Robert Merton, Clifford Shaw, and Henry McKay, strove to counter biological determinism and illustrate the relationship between crime and society.

2.2.1.2. Strain Theory

Building on Durkheim's work with anomie and deviance, Robert Merton's (1938) development of strain theory was a significant departure from the biologically grounded hypotheses of the early positivists. Strain theory posited a link between the overarching goals of a society and the socially acceptable means to achieving those goals. Because of social stratification, accessibility to legitimate means is not equally dispersed within the population. Criminal activity, therefore, occurs when other, likely illegitimate, means are utilized to reach goals of wealth, power, and prestige. However, the main focus of Merton's (1938) strain theory was on class stratification, not gender stratification.

In 1955, Albert Cohen drew on Merton's strain theory to explain the growth of gangs in the U.S. He focused exclusively on boys, theorizing that males had broad life aspirations and objectives, thus participating in gang activity to reach their ambitious goals. Alternatively, "girls' narrow ambitions [centered] around males: dating, dancing, attractiveness, and, generally, acquiring a boyfriend or husband" (Belknap 2007), and so they did not need to become a part of delinquent gangs. Likewise, in Cloward and Ohlin's (1960) version of strain theory, they also

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characterize female goals as inconsequential. Young men strive for the quintessential American dream, they said, while teenage girls are concerned with finding boyfriends (Cloward and Ohlin 1960).

In 1985, Robert Agnew made a significant contribution to the development of strain theory by forming general strain theory. Agnew stretched traditional strain theory beyond economic strains of class differences to include as a source of dissatisfaction the inability to legally escape from distressing life circumstances. In addition, Agnew (1992) noted several types of adaptations to strain (cognitive, behavioral, and emotional), some of which could lead to crime.

Another distinguishing feature of Agnew's general strain theory was its ability to explain community-level differences in crime rates. Agnew (1999) hypothesized that structural characteristics, such as economic deprivation, inequality, overcrowding, population mobility, and percentage of the population nonwhite, may induce strain in community members. Results show how "communities differ in their level of crime partly because they differ in the extent to which they produce strain and foster criminal responses to strain" (Agnew 1999: 145). There was, however, no differentiation in crimes perpetrated by males and those perpetrated by females in his analysis.

Consequently, each of these versions of strain theory fails to recognize the significant lack of opportunities available to females, which can produce monumental frustrations and strains. "They ignore the evidence when they insist that women are insulated from the pressures of public life, that their role is less demanding than the male role and that they thus do not experience pressures causing them to deviate" (Naffine 1987: 23). Following such criticisms, in 1997, Broidy and Agnew presented a supplementary perspective of general strain theory that

focused entirely on gender and crime. Unlike other analyses of strain and delinquency, Broidy

and Agnew (1997) contended that women indeed have as much, if not more, strain than men.

"The authors suggest that gender differences in types of strain and the reaction to strain help one

understand the gender gap in criminal behavior" (Broidy and Agnew 1997: 275). Broidy (2001)

continued the line of analysis, concluding that although strain was likely to cause anger in both

males and females, women were more likely to report feelings of guilt, worthlessness,

disappointment, depression, worry, fear, or insecurity, all of which are less likely to produce

criminality than anger.

While advancements were made by general strain theorists in the study of gender and

crime, there has been no test of the applicability of strain variables at the aggregate-level over

time. The present study addresses this need to investigate the possibility that the effects of some

types of strain vary temporally, especially for women. As gender roles and expectations evolve,

criminal responses to societal frustration may shift as well.

2.2.1.3. Social Disorganization Theory

Closely following Merton's (1938) development of strain theory, Shaw and McKay

(1942) built on the works of Park and Burgess (1925) and Wirth (1938), and developed their

theory of the spatial distribution of crime as a consequence of disorganization at the community

level. The major contribution of their study was its aggregate-level use of such variables as

population size, the percentage of families in a population accepting government relief, median

cost of rented housing, and percentage of families owning their own home, and how these factors

were related to delinquency in an area. Shaw and McKay found that high rates of crime were

associated with a diminished capacity of social institutions to control population members (Reiss

1986). Areas characterized by low socioeconomic status, high social heterogeneity, and high

residential mobility were the most likely to have high rates of crime and delinquency (Shaw and McKay 1942).

In 1989, Sampson and Groves reformulated Shaw and McKay's social disorganization theory by including measures of family disruption and urbanization as indicators of community disorganization. Additionally, they concluded that "the capacity of the community to control group-level dynamics is a key mechanism linking community characteristics with delinquency" (Sampson and Groves 1989: 778). Sampson and Groves (1989) found that local friendship networks, groups of unsupervised teens, and low levels of participation in community organizations, mediated the effect of social disorganization on crime rates. Less than a decade later, in 1997, Sampson et al. further enhanced social disorganization theory by developing their concept of collective efficacy, the social cohesion of a community and the willingness of neighbors to act for the common good. It was through collective efficacy, they said, that crime and delinquency could be reduced in socially disorganized neighborhoods (Sampson et al. 1997).

Unfortunately, none of these applications of social disorganization theory have disaggregated crime rates by gender. With changes in the structure of gender relations, components of social disorganization may have varying consequences for rates of female-perpetrated violence. Therefore, the current analysis provides a new understanding of gendered homicide by measuring the effects of social disorganization on murder rates over time.

2.2.2. INFLUENCE OF FEMINISM

In addition to advances in criminological theory, the study of gendered crime is founded substantially on the influence of feminist thought and research. Feminism generally includes those theories that are concerned with the historical and current oppression of women (Daly and Chesney-Lind 1988). Feminist theory, then, "is a woman-centered description and explanation of

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human experience and the social world. It asserts that gender governs every aspect of personal and social life" (Danner 1989: 51). With the feminism of the 1960s, came an increased interest in gender relations, gendered patterns of social life, and, in particular, gendered forms of crime. From this point of reference, criminologists have taken note of patterns of gender relations, debating whether or not specific gendered theories of crime are necessary.

2.2.2.1. Women's Liberation and Crime

As the movement for gender equality progressed, two noteworthy books regarding female criminality were published in 1975. In both Freda Adler's (1975) *Sisters in Crime* and Rita Simon's (1975) *Women and Crime*, the authors presented hypotheses concerning the influence of the women's liberation movement on the female crime rate. Both posited that rates of women's crime, violent and property, would increase as females were treated more like males. "[As] employment opportunities expand and as interests, desires, and definitions of self shift from a traditional to a more liberated view" (Simon 1976: 32), women's participation in crime will come to more closely mimic men's participation in crime. Adler (1975) and Simon (1975) argued that female delinquency was once restrained by limited opportunities and ambitions, so as women enter "man's world," they begin to adopt the same drives and mentalities about success as men, and consequently turn to crime as the means to achieve such goals.

Quickly, however, both Adler and Simon were criticized for flawed hypotheses. One of the fundamental issues with such liberation theories is that they completely oppose previous theories of strain and social class. Adler (1975) and Simon (1975) predict an increase in delinquency with the improvement of women's social opportunities; in contrast, tests of strain and social class consistently demonstrate evidence that as opportunities are increased, criminal activity decreases.

2.2.2.2. Sex-Roles Theory

Beyond liberation hypotheses, criminologists began to view the gender gap in delinquency as a product of sex roles. Based on concepts offered by Talcott Parsons, females and males are ascribed certain "natural" characteristics, which are simply biologically-derived traditional views of gender roles and expectations (Messerschmidt 1993). Parsons indicated that the masculine role was instrumental, focusing on goal attainment and bridging the family to the larger society, while the feminine role was expressive, concentrating on the internal workings of the family. At a young age, most children accept their given role and begin to perform as demanded.

> "Sissy" becomes the worst of all insults. [Boys] get interested in athletics and physical prowess, in the things in which men have the most primitive and obvious advantage over women. Furthermore they become allergic to all expression of tender emotion; they must be "tough…" not because it is simply "masculine nature" but because it is a defense against a feminine identification (Parsons 1947: 171).

With respect to delinquency, Parsons (1942: 605) argued that males were more crime-prone because "girls are more apt to be relatively docile, to conform in general according to adult expectations to be 'good,' whereas boys are more apt to be recalcitrant to discipline and defiant of adult authority and expectations." Opportunities and expectations based on these sex roles shape the types and amount of crime perpetrated by males and females (Messerschmidt 1993). The dichotomy of gender roles and its relationship with delinquency becomes perpetuated as girls and boys are situated in the context of becoming women and men.

In a more recent conceptualization of the link between sex roles and crime, Steffensmeier and Allan (1991: 73) argue that gender inequality "produces no acceptable deviant roles for women comparable to those for romanticized 'rogue' males." In 1996, Steffensmeier and Allan extended theoretical development in an attempt to generate a gender-specific theory of

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offending. They reasoned that although broad social forces exert an influence on both male and female crime, gender has a mediating effect that determines variation in the types, frequencies, and contexts of illegal activity (Steffensmeier and Allan 1996). Furthermore, "the organization of gender … contributes to male and female differences in several types of relatively enduring characteristics that increase the probability of prosocial and altruistic response on the part of females but antisocial and predatory response on the part of males" (Steffensmeier and Allan 1996: 475). Gender norms, moral development, social control, physical strength and aggression, and sexuality all condition involvement in crime (Steffensmeier and Allan 1996). In particular, enmity and hostility are at odds with many of these aspects of the development of the feminine ideal; therefore, women are less likely to perpetrate crimes of violence.

Thus, following the initiatives in place by criminologists and feminist theorists, the present study enhances the current state of literature by measuring the impact of known covariates of lethal violence on gendered homicide rates. Furthermore, between 1970 and 2000, changes in gender role ideologies have become evident. As this shift in gender role norms and expectations takes place, the strength of criminogenic predictors may also be shown to vary temporally and by gender.

2.3. QUANTITATIVE TRENDS IN HOMICIDE

A multitude of stereotypical images exist illustrating the female offender. Often she is seen as impulsive, irrational, and incapable of perpetrating calculated criminal offenses. Literature and the media often portray her as the underling of a male boss, following orders and participating only peripherally in criminal activities. Female offenders are often characterized by their mental or physical state as insane, evil, or driven purely by biological predispositions. Unfortunately, such caricatures of women negate their full participation in crime, as well as their

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cunning and violent tendencies. In truth, females can be as calculating, cold-blooded, and lethal as males.

Evidence from victimization surveys and official crime statistics provides a more realistic image of the female criminal. The U.S. Federal Bureau of Investigation (FBI) (2009b) found that in 2008, females accounted for 24.5% of all arrests, 18.3% of arrests for violent offenses (homicide, rape, aggravated assault, and robbery), and 34.8% of arrests for property offenses (burglary, larceny-theft, motor vehicle theft, and arson). Between 1999 and 2008, although the male crime rate decreased nearly 6% for both violent and property offenses, the female crime rate increased 1.4% for violent offenses and 19.7% for property offenses (U.S. Federal Bureau of Investigation 2009a). Concerning lethal violence, in 2008 females committed 10.8% of all murders and nonnegligent manslaughters (U.S. Federal Bureau of Investigation 2009c).

However, research has found that women are less likely than men to be involved in crimes with high amounts of property damage, that involve serious injury to the victim, or that are highly profitable (Steffensmeier and Allan 1996). Below in Figure 2, a graph of homicide offending by gender demonstrates that, between 1976 and 2005, female crime rates followed similar paths as male rates, simply to a lesser degree (U.S. Bureau of Justice Statistics 2010).
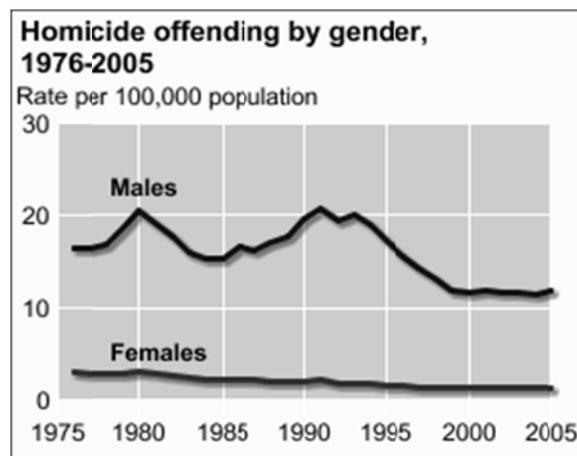
Figure 2: Homicide Offending by Gender, 1976-2005 (U.S. Bureau of Justice Statistics 2010)

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Much like the average male offender, the average female offender is young, a racial/ethnic minority, poorly educated, under- or unemployed, and living in poverty. Unlike male offenders, though, women tend to have at least one child at the time of arrest. Research has found that the careers of female offenders begin, peak, and end more quickly than male offenders. Females also tend to have lower rates of recidivism than men (Steffensmeier and Allan 1996). Additionally, several researchers have noted that disproportionately, female offenders have been victimized as children or adults, or have serious neurological, biological, or psychological afflictions at the time of the offense (Widom 1989; Chesney-Lind and Shelden 1992; Gilfus 1992; Daly 1994; Denno 1994). Women are more likely to resort to violence after prolonged and repeated abuse (Steffensmeier and Allan 1996), to use violence to protect themselves, their families, and their children (Browne 1985; Daly and Wilson 1988; Holmes and Holmes 1994; Gauthier and Bankston 2004), and to kill their children or male partners, such as boyfriends, husbands, or ex-husbands (Browne and Williams 1989; Gauthier and Bankston 1997; Greenfeld and Snell 1999).

With such information, criminologists have devoted a plethora of research to investigate explanations for participation in crime. However, research on crime's specific relationship with gender is often difficult to conduct. Although we know men commit more crime than women in all categories except prostitution, there has been no longitudinal analysis of the relationship between gender and violence. By looking to previous theoretical developments about crime, along with insight from feminist research, we can gain more insight into gendered criminal offending and provide better indications of how gender roles are incorporated into acts of lethality.

2.4. STRUCTURAL COVARIATES OF HOMICIDE

In their 1990 landmark paper and subsequent 2010 follow-up, Land, McCall, and Cohen and McCall, Land, and Parker discuss the "apparent inconsistencies across time and social space" found in empirical results of 21 research studies that concentrated on covariates of homicide rates at the structural-level (Land et al. 1990: 922). Specifically, the authors focused on eleven key independent variables: the Gini index of income inequality, median family income, percentage of families living below the official poverty line, percentage of kids not living with both parents, percentage of the population ages 15 to 29, percentage of the population black, percentage of the population divorced, percentage of the population unemployed, population density, population size, and a variable indicating those geographic units located in the South.

While the original purpose of their 1990 research was to systematically draw evidence that the above causes of crime were stable between 1960 and 1980 and across several geographic units (cities, metropolitan areas, and states), Land et al. (1990: 932) also discuss various "issues of research design and statistical inference," such as the use of diverse units of analysis, samples, model specifications, and problems of theoretical deductions based on the statistical results. They state that between the studies, there is disagreement about which units of analysis are theoretically most appropriate, whether analyses should apply one of several nonlinear transformations (logarithmic, polynomial, or logit), or whether there are severe complications in discussions of results that do not account for issues related to multicollinearity (Land et al. 1990).

Following a series of statistical tests, Land et al. (1990) and McCall et al. (2010) determine that collinearity is a serious problem among the structural covariates of homicide rates at all levels of analysis. Using principal components data reduction techniques, Land et al.

(1990) find that two clusters of independent variables emerge: 1) a population structure component, which includes population size and population density; and 2) a resource deprivation/affluence component, which includes median family income, the percentage of families living below the poverty line, the Gini index, the percentage of children not living with both parents, and the percentage of the population black. The authors recognize that although, theoretically, each of these variables may be distinct, statistically, there is substantial collinearity between the indicators of economic heterogeneity, racial diversity, and family living arrangement. This means that "those cities, metropolitan areas, and states that have low median family incomes, large absolute poverty levels, and great relative economic inequality in 1960, 1970, and 1980 also tend to have large concentrations of blacks and children living in broken families" (Land et al. 1990: 945).

The implications of these studies for criminological research on homicide rates strongly suggest that because of issues of collinearity between independent variables, it is imperative that investigators reduce models to include components of multiple variables that represent broader, but distinct, theoretical concepts. Land et al. (1990) and McCall et al. (2010) find that with their reestimation of the regression models of previous studies, there is invariance in the structural covariates of homicide rates across time and social space. By combining measurements of population size and population density into a single population structure component and median family income, the percentage of families living in poverty, the Gini index, the percentage of children not living with both parents, and the percentage of the population black into a single resource deprivation/affluence component, there is stability in the power of the structural covariates to explain homicide rates in cities, metropolitan areas, and states from 1960 to 1980 (Land et al. 1990), as well as homicide rates in cities from 1970 to 2000 (McCall et al. 2010).

However, as with much of the research on homicide at the structural-level, Land et al. (1990) and McCall et al. (2010) do not differentiate homicides perpetrated by males from those perpetrated by females. Although other research has found that the correlates of criminality are similar for males and females, no investigation could be found that looked at these trends across time (Steffensmeier and Allan 1996; Steffensmeier and Haynie 2000a). Therefore, in an effort to further the research in gender and homicide studies, this investigation examines the possible invariance of structural covariates of homicide between 1970 and 2000, and, in particular, how they relate to rates of lethal violence disaggregated by gender.

2.5. DISAGGREGATION OF GENDERED HOMICIDE

Beyond the disaggregation of homicide counts by gender, the present study offers additional analyses of homicide rates divided by the victim/offender relationship and the offender's race. Just as it has been established that all homicides are not homogenous, the same may be true of all gendered homicides. Over the years, substantial research into each of these factors, victim/offender relationship and race of the offender, has provided evidence of their significance for the study of lethal violence. Although it is not the purpose of this study to fully disentangle the relationship between victim/offender relationship and homicide or race and homicide, a brief explanation for their inclusion in the present analysis is provided below.

2.5.1. VICTIM/OFFENDER RELATIONSHIP

Often discussed in victimology or in terms of nonlethal violence, particularly rape, there is tremendous value in the study of the relationship between victim and offender during the commission of murder. Generally, researchers will divide homicide counts based on the relational distance between offender and victim, e.g., stranger versus nonstranger. If there is a prior association between the offender and victim, this may influence how the act plays out. In

analyzing the effects of the victim/offender relationship, researchers are acknowledging the very social aspects of a homicidal event (Silverman and Kennedy 1987). If murder is looked at as social, then we can assume that the likelihood of it occurring may be related other social factors, such as structural-level measures of socioeconomic status and residential mobility.

Additionally, researchers have previously discerned that a significant correlation exists between the offender's gender and the relationship between the offender and victim (among others, see Dobash and Dobash 1992; Jensen 2001; Haynie and Armstrong 2006). "More distant social relationships involve higher proportions of males as both offenders and victims" (Silverman and Kennedy 1987: 287). Most female lethal offending occurs in the context of interpersonal relationships, such as intimate partners, family members, or friends (Browne 1987; Goetting 1988; Gauthier and Bankston 1997, 2004; Peterson 1999; Kruttschnitt, Gartner, and Ferraro 2002). "Homicide statistics reveal that when women do commit homicide, it is overwhelmingly directed at intimate partners and family members compared to men, who disproportionately target acquaintances and strangers" (Haynie and Armstrong 2006: 3). Although there is a vast gender gap in the commission of murder (males commit roughly 90% of homicides), this decreases significantly when the victim/offender relationship is considered (40% of female homicide offenses involved intimate partners) (Kruttschnitt et al. 2002; Haynie and Armstrong 2006). Therefore, it is critical that research acknowledges the propensity for women to kill those they know.

Although previous theoretical developments have focused much attention on the association between gender and victim/offender relationship, it is equally as important that criminologists ascertain a better understanding of how the strength of structural-level predictors of homicide vary over time depending on relational distance between offender and victim.

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Evidence has been found that the levels of stranger and nonstranger homicides in a community may be affected by structural-level indicators of social disorganization, such as economic disadvantage or population mobility (Grisso et al. 1999; Malik, Sorenson, and Aneshensel 1997; Avakame 1998; Miles-Doan 1998; O'Keefe and Treister 1998; Kruttschnitt et al. 2002). For example, Avakame (1998) found that resource deprivation leads to an increase in intimate partner violence, but not violence between strangers. Furthermore, work by Smith and Parker in the 1980s revealed that measures of socioeconomic status, not subcultural measures, affected homicides where the offender was known to the victim. For homicides where the offender and victim were strangers, they found that neither socioeconomic nor subcultural predictors had an effect (Parker and Smith 1979, 1984; Smith and Parker 1980; Parker 1989).

Due to the significance of the victim/offender relationship for the study of homicide, research must address the fact that rates of female-perpetrated stranger and nonstranger offenses may be fluctuating. Because patterns and trends of stranger homicide differ from patterns and trends of nonstranger homicide over time, it follows that the determinants of each will differ as well, for example the population structure and the levels of disadvantage in a county (Silverman and Kennedy 1987). Additionally, it appears that female homicidal offenses may be becoming less centered on the family, in particular spouses and children, than in the past (Block and Christakos 1995; Kruttschnitt et al. 2002). As the routine activities of women become more public, it is likely that the circumstances of female-perpetrated homicides will involve more strangers than before.

2.5.2. RACE

Much like the gender gap in homicide, the racial gap between whites and nonwhites is exceptionally wide. Although they perpetrate almost 50% of homicides, blacks only comprise

about 12.5% of the U.S. population (Lee and Ousey 2007). This great disparity in the commission of violent crime has led many researchers to question the significance of race in investigations of homicide patterns and trends. Criminologists have long recognized the correlation between crime rates and the racial composition of a locality (Shaw and McKay 1942; Wolfgang and Ferracuti 1967; Curtis 1975). "Almost without exception, these studies reveal a strong positive relationship between percent black and criminal violence, especially homicide" (Sampson 1985: 47). Depending on the researcher, however, race has been linked to violence through social-structural arguments, as well as claims of a black subculture of violence (Wolfgang and Ferracuti 1967; Blau and Blau 1982; Sampson 1985).

Although not entirely discrediting subcultural hypotheses, recently, strong evidence has been presented that depicts racial composition as a structural-level indicator of crime (Blau and Blau 1982; Sampson 1985; Land et al. 1990; Parker and McCall 1997, 1999; Shihadeh and Shrum 2004). However, not only is it important to look at the racial composition of a city (generally in terms of the percentage of the aggregate population who is black), researchers must also statistically account for differences in the characteristics of race-specific homicides. In other words, the disaggregation of homicide rates by race allows researchers to account for the individual-level effects of the offender's race as well. As Berry and Kasarda (1977: 49) explain, "A fundamental assumption of the ecological approach is that social systems exist sui generis and exhibit structural properties that can be examined apart from the personal characteristics of their individual members." By including measures of racial composition, such as percent black, as well as homicide offense counts disaggregated by race, a more complete picture of lethal violence may be illustrated.

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Additionally, several researchers have found that the covariates of homicide are dissimilar for whites and nonwhites (Sampson 1985; Harer and Steffensmeier 1992; Peterson and Krivo 1993; Shihadeh and Steffensmeier 1994; Shihadeh and Flynn 1996; Shihadeh and Ousey 1996). For example, Harer and Steffensmeier (1992) found no support for the relationship between black poverty and black crime. More specifically, in several studies, the use of race-specific homicide rates uncovered no statistical association between black poverty and black homicides rates (Peterson and Krivo 1993; Shihadeh and Flynn 1996; Shihadeh and Ousey 1996; Shihadeh and Maume 1997). Generally, however, evidence suggests that residential segregation and social isolation are more likely to affect nonwhite than white crime rates (Smith 1992; Peterson and Krivo 1993; Shihadeh and Flynn 1996). Without employing race-specific rates of lethal crime, it is impossible to fully discern the effects of structural covariates of homicide over time.

In addition to evidence supporting the use of racially disaggregated homicide offense counts, it is important to note the relationship that exists between race and gender. For example, although they do not look at the relationship between race, gender, and homicide over time, Haynie and Armstrong (2006) use gender- and race-specific homicide rates circa 1990 to determine whether there are consistencies in the predictive power of structural covariates in U.S. cities. "Findings indicate that there are differences in the relative importance of predictors of homicide across race and gender categories" (Haynie and Armstrong 2006: 3). The current study begins to fill a void in criminological literature by looking at the relationship between structural covariates of homicide, such as resource disadvantage and population structure, and gender- and race-specific counts of lethal violence between 1980 and 2000.

2.6. SUMMARY AND HYPOTHESES

Following a review of previous research on traditionalism in the U.S., qualities of female-perpetrated crime, the present state of criminological theories on the ecology of crime, and the impact of feminist research, the present study looks at the influence of key indicators of crime on gendered homicide at the county-level. Beyond gender disaggregation, it is also important to recognize that there may be significant variation in the groups of female and male categories themselves. Specifically, the disaggregation of gendered homicide rates by victim/offender relationship and race will help to more comprehensively explain the relationship between gender and homicide.

In terms of structural-level indicators that have been shown in previous research to be strongly related to homicide, there are, in general, two categories. The first group, measures of disadvantage, includes such items as the proportion of a population living in poverty, the proportion of families headed by females only, and the proportion of a population that is African American. As traditional gender norms erode over time, women may become more attuned to the implications of disadvantage. Although increases in equality are often associated with decreases in female disadvantage, this is not the case in all circumstances. Although some women are able to succeed, increases in equality bring advantages as well as disadvantages. Women may now be more likely to begin to experience the acute burdens of structural-level disadvantage as gender relations become more progressive. From this frustration, strain, and disorganization, we generally see an increase in men's violent offending and may suspect women's participation in such delinquent reactions to increase as well. Because of changes in gendered social life, it is likely that this research will demonstrate variance in the predictive strength of structural-level indicators of gendered homicide over time.

The second category of indicators of homicide at the structural level consists of variables that measure changes in population structure, such as population mobility and size. These indicators of social disorganization and movement are often associated with high levels of crime and delinquency. As with measures of disadvantage, women may become more exposed to the effects of these characteristics of social structure as society increases in egalitarianism. Consequently, the effects of movement in and out of the county, as well as low social cohesion, could also cause increases in female-perpetrated violence, as has previously been found in relation to male-perpetrated homicide.

2.6.1. STATEMENT OF HYPOTHESES

2.6.1.1. Homicide Counts Disaggregated by Gender

Between 1970 and 2000, as the U.S. experienced monumental changes in the structure of gendered life, more women began to experience freedom and liberation from the constrictive role expectations of patriarchy and traditionalism. However, although for some women this led to increased opportunities and economic stability, for others it led to disadvantage and poverty. Because patriarchal systems often relegate women to the domestic sphere, limiting their participation in the broader community, there is less chance of women's involvement in violence and crime. Private patriarchy, the power and dominance exercised by males in the home, further subordinates women (Parker and Reckdenwald 2008). Moreover, Messerschmidt (1986) points out that, because of their confinement to the household, women who experience the severe oppression of patriarchy are more likely to hurt themselves than others. As the dominance of patriarchy begins to erode over time, we are likely to see increased participation by women in the public arena, both lawfully and unlawfully.

Additionally, research has found that the same structural variables that influence male offending, influence female offending as well, though not to the same extent (Steffensmeier and Haynie 2000b). Therefore, building on the works of previous researchers (Steffensmeier and Haynie 2000a, 2000b; Reckdenwald and Parker 2008), the present analysis extends their research by including a temporal component to the analysis of gender and crime. I would expect that as the context of social life changes over time, the influence of structural-level measures of socioeconomic disadvantage and community instability would change as well. Thus, the following hypotheses are proposed:

Hypothesis 1: Measures of disadvantage and population structure will have significant, positive relationships with female-perpetrated homicide offense counts in 1970, 1980, 1990, and 2000.

Hypothesis 2: The predictive strength of measures of disadvantage and population structure will be stronger for male-perpetrated homicide offense counts, than for female-perpetrated homicide offense counts, in 1970, 1980, 1990, and 2000.

Hypothesis 3: The predictive strength of measures of disadvantage and population structure will increase for female-perpetrated homicides between 1970 and 2000.

2.6.1.2. Homicide Counts Disaggregated by Gender and Victim/Offender Relationship

The product of several investigations has been the substantiation that victim/offender relationship is an important factor in the study of homicide (Smith and Parker 1980; Williams and Flewelling 1988; Avakame 1998; Haynie and Armstrong 2006); and so it is assumed that the relational distance of the victim from the offender leads to marked differences in the outcomes of altercations. Because women are significantly more likely to murder an intimate partner or child, it is exceedingly important that we distinguish between nonstranger and stranger homicides.

However, over time, as female involvement in lethality becomes less "family centered" and more often extends into the public sphere, the determinants and explanations of female homicide may change as well. Additionally, Silverman and Kennedy (1987) point out that "stranger homicide will have quite distinct patterns from homicides within more intimate relationships. These patterns may change over time with, for example, changing family patterns." Therefore, as changes are made in the social fabric of communities, we are likely to experience changes in the patterns of stranger and nonstranger homicides perpetuated by women. Thus, the following hypotheses are proposed:

Hypothesis 4: Measures of disadvantage and population structure will have significant, positive relationships with female-perpetrated homicide offense counts, regardless of victim/offender relationship, in 1980, 1990, and 2000. [2]

Hypothesis 5: The predictive strength of measures of disadvantage and population structure will be stronger for male-perpetrated homicide offense counts, than for female-perpetrated homicide offense counts, regardless of victim/offender relationship, in 1980, 1990, and 2000.

Hypothesis 6: The predictive strength of measures of disadvantage and population structure will be stronger for female-stranger homicides, than for female-nonstranger homicides, in 1980, 1990, and 2000.

Hypothesis 7: The predictive strength of measures of disadvantage and population structure will increase for female-stranger homicides, but remain relatively stable for female-nonstranger homicides, between 1980 and 2000.

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[2] Data on homicide counts disaggregated by gender and victim/offender relationship are not available for 1970.

2.6.1.3. Homicide Counts Disaggregated by Gender and Race

As with gender and victim/offender relationship, evidence of the utility of disaggregation has been found with regards to race as well (among others, see Sampson 1985; Harer and Steffensmeier 1992; Massey and Denton 1993; Peterson and Krivo 1993; Shihadeh and Flynn 1996; Shihadeh and Maume 1997; Haynie and Armstrong 2006). Analysis of total homicide rates has been found to mask some of the mechanisms at play in the connection between homicide offending and structural-level indicators. Because contextual items that were thought to be predictive of both white and nonwhite homicide offending collectively, such as socioeconomic inequality, have since been shown to reflect only white offending, it is important to analyze each group separately to examine the most comprehensive results (Harer and Steffensmeier 1992; Ousey 1999; Krivo and Peterson 2000).

Furthermore, evidence has been found which notes that when crime rates are disaggregated by both gender and race, the predictors of violence are different. Hill and Crawford (1990) found support for their contention that structural indicators are better apt to predict the involvement of African American women in crime than the involvement of white women. "The unique position of black women in the structure of power relations in society has profound effects not shared by their white counterparts" (Hill and Crawford 1990: 621). Overtime, it is important to note that the experiences of nonwhite females have been uniquely affected by disadvantage and changes in the population structure. As Americans drift into a period of egalitarianism for women, some African American females in particular are becoming further disadvantaged by the loss of suitable husbands, increases in single headship of households, unemployment, under-education, and segregation from the middle class. Because a black woman is both a female and a minority, it is exponentially more difficult to succeed, even

with advances from traditionalism to nontraditionalism. Thus, the following hypotheses are proposed:

Hypothesis 8: Measures of disadvantage and population structure will have significant, positive relationships with female-perpetrated homicide offense counts, regardless of offender's race, in 1980, 1990, and 2000. [3]

Hypothesis 9: The predictive strength of measures of disadvantage and population structure will be stronger for male-perpetrated homicide offense counts, than for female-perpetrated homicide offense counts, regardless of offender's race, in 1980, 1990, and 2000.

Hypothesis 10: The predictive strength of measures of disadvantage and population structure will be stronger for female-nonwhite homicides, than for female-white homicides, in 1980, 1990, and 2000.

Hypothesis 11: The predictive strength of measures of disadvantage and population structure will increase for female-nonwhite homicides, but remain relatively stable for female-white homicides, between 1980 and 2000.

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[3] Data on homicide counts disaggregated by gender and race are not available for 1970.

<u>**CHAPTER 3. MEASUREMENTS AND ANALYSES**</u>

3.1. DATA SOURCES AND UNITS OF ANALYSIS

In an effort to gather user-friendly, electronic files of early renditions of the U.S. Census of Population and Housing, Terry K. Adams compiled statistics for the years 1970, 1980, and 1990, which are utilized in this study. Census data produced by Adams "was designed to provide a set of contextual variables to be matched to any survey dataset which has been coded for the geographic location of respondents" (Adams 1992). By using this data in addition to the 2000 U.S. Census, I am able to access similar parameters from 1970 through 2000 and combine them with data from the FBI's Supplementary Homicide Reports (SHR). The SHR is a collection of official crime data that provides detailed demographic information on the victims and offenders of lethal violence in the U.S., including the gender and race of the offender as well as the victim/offender relationship.

U.S. counties will act as the units of aggregation for the current study. Counties are suitable units of analysis for this investigation because they permit more comprehensive coverage of the entire U.S. population. Counties are also geographic divisions that can capture variation between, as well as within, states. Additionally, the high number of counties allows for more degrees of freedom, and consequently more robust statistical analyses (Lee et al. 2007). Furthermore, the use of county-level data offers a fresh perspective on the topic of gender and homicide, as an extensive review of the literature revealed no study that focused on this unit of analysis and temporal variation in elements of gendered violence.

3.2. MEASUREMENTS

3.2.1. DEPENDENT VARIABLES

The outcome variables for this analysis are county-level counts of homicide, available from the SHR. In particular, homicide counts include murders and non-negligent manslaughters

for the county, excluding negligent manslaughters. Murders and non-negligent manslaughters are violent crimes that have been found to be closely linked to problems of social disorganization and structural strain, while circumstances that lead to accidental deaths often supersede the structural-level characteristics of the community. Additionally, interest for the current project is only in situations involving a lone offender. "Multiple offenders" alludes to the idea of "partners in crime," which is a separate, distinctive issue from the one on which this study is centered.

In total, four datasets were generated for this project, one for each decade from 1970 to 2000. Summary variables of homicides fitting the above-mentioned conditions were created for each factor of disaggregation (gender, gender and victim/offender relationship, and gender and race). Included in the 1970 summary counts are all homicides that occurred during 1968, 1969, 1970, 1971, and 1972. Likewise, the 1980 summary counts included homicides from 1978 to 1982; the 1990 summary counts included homicides from 1988 to 1992; and the 2000 summary counts included homicides from 1998 to 2002. Mean homicide rates for the dependent variables for each period are provided in Table 2, along with their respective standard deviations.

3.2.2. INDEPENDENT VARIABLES

From the 1970, 1980, 1990, and 2000 censuses, eight independent variables have been extracted for analysis in this project. Considerable effort was made to operationalize each concept discussed in the examinations of Land et al. (1990) and McCall et al. (2010). However, missing county-level data from the four censuses prohibited the creation of several items, e.g., percentage of the population divorced, percentage of kids not living with both parents, and median family income.

In the end, the following eight independent variables were available from each of the four censuses and developed in an attempt to remain consistent with previous research: proportion of

the county population ages 16 to 24 (ages 16 to 24); proportion of the county population black (black); proportion of households with children headed by females (FHH); proportion of the population living below the official poverty line (poverty); proportion of households in the county that are rented (rent)[4]; a dummy variable based on regional location, coded one for Southern counties and zero for non-Southern counties (South)[5]; population turnover, defined as the proportion of the population not living in the same home as they did five years prior to collection of the census (turnover); and proportion of the county's civilian population, ages 16 and older, who are unemployed (unemployment). The mean and standard deviation for each independent variable can be found in Table 2.

Once all dependent and independent measurements were constructed, cases with missing information for any of the variables were dropped. Consequently, samples sizes for each dataset decreased from a total of 3,141 counties to 3,121 counties for the 1970 dataset; 3,129 counties for the 1980 dataset; 3,135 counties for the 1990 dataset; and 2,956 counties for the 2000 dataset. Although not all counties could be included for each year, there remains ample data to determine whether variations in structural predictors of homicide exist over time and by gender.

3.3. DESCRIPTIVE STATISTICS

From Table 2, it is evident that there is both great similarity and diversity between 1970 and 2000 in terms of the dependent and independent variables. The mean homicide rate for females ranges from its lowest at .44 per 100,000 in the 1970 model to its highest at 3.34 per 100,000 in the 1980 model. Likewise, the average male homicide rate ranges from 1.04 per 100,000 in 1970 to 18.06 per 100,000 in 1980. However, it is imperative to note that from 1968

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[4] The variable for the proportion of households in the county rented was not available for 1970.
[5] The "South," as consistently defined by the 1970, 1980, 1990, and 2000 censuses, includes counties within Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, Washington, D.C., and West Virginia.

to 1972, gender of the offender was only recorded in less than 10% of cases, which generously

reduces the mean homicide rate for both males and females for this time period. Otherwise, as

expected, the female homicide rates are at all times considerably smaller than the male rates.

Summary counts over each five-year period also reveal similar information. From 1978 to 1982,

men committed 54,703 homicides, while women committed 10,120 homicides; from 1988 to

1992, men committed 50,677 homicides and women 7,135; and from 1998 to 2002, men

committed 34,235 homicides, while women committed 3,958. Even during the 2000 period,

when the difference between the male and female offense counts were at their lowest, men still

caused over 30,000 more deaths than females. Furthermore, for each time frame, the total five-

year female count was consistently lower than each male count for an individual year.[6]

In addition to the dependent variables, Table 2 also presents the mean and standard

deviation for each of the eight explanatory variables. The proportion of the county population

ages 16 to 24 remained relatively stable over the 30-year timeframe. On average, these teens and

young adults account for roughly 13.5% of the population with a standard deviation around .04.

Between 1970 and 2000, African Americans comprised about 9% of the county populations with

standard deviations between .14 and .15 over the years. Likewise, the proportion of households

rented, as opposed to owned, remained near .25 from 1980 to 2000 with standard deviations near

.08. Southern counties made up 45% of all U.S. counties, until 2000 when this fraction increased

to 47% of counties. Finally, over the four time periods, population turnover fluctuated only

slightly, decreasing from an average of 43% of the county population not living in the same

home as five years prior to 42% by 1990, with standard deviations from .07 to .09.

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[6] Data from 1968 to 1972 were not included in this comparison because summary counts during this period have been artificially reduced by the lack of information available on the offender's gender. Without such information, the counts of gendered homicides are severely lessened, as is the difference between the numbers of male- and female-perpetrated homicides.

Table 2: Descriptive Statistics

TABLE 2. Descriptive Statistics (means with standard deviations in parentheses)				
	1970	1980	1990	2000
Dependent Variables				
Female Homicide Rate*	.44 (1.64)	3.34 (6.04)	2.28 (4.61)	1.24 (2.90)
Male Homicide Rate	1.04 (3.15)	18.06 (20.18)	13.50 (16.10)	8.99 (11.40)
Female-Nonstranger Homicide Rate	– –	3.21 (5.93)	2.20 (4.53)	1.15 (2.75)
Female-Stranger Homicide Rate	– –	.10 (.71)	.22 (2.09)	.04 (.41)
Male-Nonstranger Homicide Rate	– –	14.94 (17.43)	11.31 (13.95)	7.20 (9.28)
Male-Stranger Homicide Rate	– –	2.56 (5.14)	1.73 (4.37)	1.05 (2.92)
Female-White Homicide Rate	– –	1.70 (4.22)	1.24 (3.22)	.77 (2.20)
Female-Nonwhite Homicide Rate	– –	1.63 (4.03)	1.03 (3.09)	.45 (1.71)
Male-White Homicide Rate	– –	11.22 (14.53)	8.31 (10.69)	5.63 (7.99)
Male-Nonwhite Homicide Rate	– –	6.77 (12.88)	5.11 (11.08)	3.27 (7.51)
Explanatory Variables				
Ages 16 to 24	.14 (.04)	.16 (.04)	.12 (.04)	.12 (.03)
Black	.09 (.15)	.09 (.14)	.09 (.14)	.09 (.15)
FHH	.08 (.03)	.12 (.05)	.15 (.06)	.06 (.02)
Poverty	.20 (.11)	.15 (.07)	.16 (.08)	.14 (.06)
Rent	N/A	.24 (.07)	.26 (.08)	.26 (.08)
South	.45 (.50)	.45 (.50)	.45 (.50)	.47 (.50)
Turnover	.43 (.09)	.43 (.09)	.42 (.09)	.42 (.07)
Unemployment	.05 (.02)	.07 (.03)	.07 (.03)	.04 (.02)
	N = 3,121	N = 3,129	N = 3,135	N = 2,956
* Rates for total population, per 100,000.				

Of all the independent variables, only female-headed households, poverty, and

unemployment exhibited substantial changes between 1970 and 2000. In 1970, women were the

primary heads of 8% of households with minor children. By 1990, the share of female-headed

households peaked at 15%, and subsequently decreased to 6% in 2000. Also, for counties in 1970, the average proportion living in poverty was about 20%; by 2000, this had decreased to an average of 14%. Finally, the percentage of civilians 16 and older who were unemployed increased from 5% in 1970 to 7% from 1980 to 1990, but then decreased to 4% by 2000.

3.4. DATA REDUCTION: PRINCIPAL COMPONENTS ANALYSES

Although Table 2 reveals interesting characteristics about the U.S. between 1970 and 2000, it is critical that the focus revolves around the relationship of these variables amongst each other. While the individual facets of each measurement are informative, bivariate correlations, if substantial, determine whether these concepts must be combined in an effort to best explain the variance in the female and male homicide rates.

Based on analyses of the bivariate correlation matrices for 1970, 1980, 1990, and 2000, presented in Tables 3, 4, 5, and 6 respectively, as well as known issues of multicollinearity associated with these structural-level independent variables (see Land et al. 1990; McCall et al. 2010), preliminary Ordinary Least Squares regression models were generated in order to review the variance inflation factors (VIFs) associated with the independent variables.[7] Because several VIFs in the 1970, 1980, 1990, and 2000 datasets were greater than 2.50, a conservative estimate of multicollinearity, it was necessary to combine a number of independent variables into single factors using principal components data reduction techniques.

Consequently, factor analyses were run for each year's dataset, as illustrated in Table 7. Although each of the variables utilized in this project is conceptually distinct, statistically they

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[7] In addition to a review of the variance inflation factors associated with the explanatory variables, Cook's distance tests for influential cases were also computed in an effort to substantiate several exceptionally high homicide counts for a number of counties. Of those cases that were shown to be influential, these were all counties with extremely large cities and notoriously high homicide rates, e.g., New York County, Los Angeles County, and Cook County (Chicago, IL).

Table 3: Pearson's Correlation Coefficients - 1970 Sample

Table 3. Pearson's Correlation Coefficients - 1970 Sample							
	1	2	3	4	5	6	7
1 Ages 16 to 24	1	–	–	–	–	–	–
2 Black	.137	1	–	–	–	–	–
3 FHH	.177	.607	1	–	–	–	–
4 Poverty	-.071	.544	.427	1	–	–	–
5 South	.114	.560	.376	.557	1	–	–
6 Turnover	.492	-.068	.170	-.266	.025	1	–
7 Unemployment	.067	-.005	.231	.206	-.063	.173	1

Table 4: Pearson's Correlation Coefficients - 1980 Sample

Table 4. Pearson's Correlation Coefficients - 1980 Sample								
	1	2	3	4	5	6	7	8
1 Ages 16 to 24	1	–	–	–	–	–	–	–
2 Black	.140	1	–	–	–	–	–	–
3 FHH	.228	.652	1	–	–	–	–	–
4 Poverty	-.049	.477	.303	1	–	–	–	–
5 Rent	.531	.228	.547	-.005	1	–	–	–
6 South	.033	.533	.271	.426	.003	1	–	–
7 Turnover	.400	-.244	.056	-.375	.375	-.125	1	–
8 Unemployment	.048	.045	.244	.217	-.038	-.066	-.006	1

Table 5: Pearson's Correlation Coefficients - 1990 Sample

Table 5. Pearson's Correlation Coefficients - 1990 Sample								
	1	2	3	4	5	6	7	8
1 Ages 16 to 24	1	–	–	–	–	–	–	–
2 Black	.214	1	–	–	–	–	–	–
3 FHH	.285	.726	1	–	–	–	–	–
4 Poverty	.114	.388	.452	1	–	–	–	–
5 Rent	.475	.183	.417	-.014	1	–	–	–
6 South	.190	.515	.305	.386	-.026	1	–	–
7 Turnover	.402	-.073	.135	-.292	.519	-.015	1	–
8 Unemployment	.154	.212	.449	.639	.004	.156	-.068	1

Table 6: Pearson's Correlation Coefficients - 2000 Sample

Table 6. Pearson's Correlation Coefficients - 2000 Sample	1	2	3	4	5	6	7	8
1 Ages 16 to 24	1	–	–	–	–	–	–	–
2 Black	.143	1	–	–	–	–	–	–
3 FHH	.218	.743	1	–	–	–	–	–
4 Poverty	.239	.427	.599	1	–	–	–	–
5 Rent	.506	.166	.384	.176	1	–	–	–
6 South	.046	.501	.328	.399	-.076	1	–	–
7 Turnover	.424	-.069	.044	-.209	.541	.000	1	–
8 Unemployment	.306	.206	.493	.518	.321	.015	.024	1

may overlap in terms of their explanatory power. By using data reduction techniques, such as principal components analyses, it can be determined whether or not "it may be more parsimonious to examine the variable space spanned by the regressors for redundancies and possible simplification" (Land et al. 1990: 942).

As Land et al. (1990) stipulate, principal components analysis is an appropriate method for compressing several variables that, in effect, may measure the same underlying idea. By extracting indices that represent these core concepts, the percent of variance explained by the factors is maximized. Principal components analyses with promax rotation (Kappa = 4) and Kaiser normalization were completed including the following independent variables: ages 16 to 24, black, FHH, poverty, rent, and turnover. In Table 7 are the results from each of the four factor analyses, including eigenvalues and factor loadings for each variable. Only those factors

Table 7: Factor Loadings for Principal Components Analyses with Promax Rotation

TABLE 7. Factor Loadings for Principal Components Analyses with Promax Rotation	1970		1980		1990		2000	
	Resource Disadvantage	Residential Instability	Resource Disadvantage	Residential Instability	Resource Disadvantage	Residential Instability	Resource Disadvantage	Residential Instability
Black	.878	–	.872	–	.844	–	.843	–
FHH	.807	–	.718	–	.816	–	.886	–
Poverty	.792	–	.766	–	.788	–	.810	–
Ages 16 to 24	–	.823	–	.774	–	.695	–	.739
Rent	–	–	–	.818	–	.820	–	.817
Turnover	–	.875	–	.747	–	.864	–	.875
Eigenvalues	2.076	1.605	2.324	1.909	2.438	1.766	2.539	1.756

with eigenvalues greater than one and factor loadings greater than .5 were used, producing two new factors for each year.[8]

The Resource Disadvantage factor includes the proportion of the county population black, the proportion of families with children headed by females only, and the proportion of the county living below the official poverty line. This factor is very similar to Land et al.'s (1990) resource deprivation/affluence component.

The Residential Instability factor includes the proportion of the county population ages 16 to 24, the proportion of the population renting (only available for 1980, 1990, and 2000), and turnover within the county population. Although mobility and social disruption are generally operationalized by movement in and out of a social group, those ages 16 to 24 are often quite mobile, and therefore, it is not surprising that the percentage of teens and young adults within a community may load with other indicators of population structure. Thus, these newly created factors, along with regional location in the South and proportion unemployed, will help to distinguish the explanatory strength of structural variables over time.

3.5. NEGATIVE BINOMIAL REGRESSION

In order to best measure changes in the relationship between structural covariates of homicide and gender over time at the county-level, negative binomial regression techniques have been employed. Numerous scholars who specialize in the statistical properties of count data, such as homicides, suggest that where a substantial number of zero observations are involved, negative binomial regression is the appropriate method of analysis (among others, see Osgood 2000; Osgood and Chambers 2000; Long and Freese 2006). Because homicide is a statistically

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[8] After numerous variations, Resource Disadvantage and Residential Instability were the two indices that were routinely generated from each of the datasets. In order to foster congruency between the models for each year, this combination of proportion black, female-headed households, and poverty into Resource Disadvantage, and proportion ages 16 to 24, rent (except for 1970), and turnover into Residential Instability, was determined to be most appropriate.

rare occurrence, a significant number of counties within each dataset recorded zero or only one

offense of lethality; however, there were a few counties where as many as 3,671 homicides were

committed in a single period. With such a heavily skewed distribution and severe

heteroskedasticity, the results of linear regressions can be tremendously distorted. To correct for

this, non-linear distributions, such as those employed in negative binomial regression techniques,

must be used.[9] Consequently, regression models employed for this study can be presented as

follows:

$$\lambda = \exp(\beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \boldsymbol{\beta_3 x_{i3}}) * \delta$$

Where: λ is the expected homicide count, β_0 is the constant, β_1 is
the coefficient for Resource Disadvantage, β_2 is the coefficient for
Residential Instability, $\boldsymbol{\beta_3}$ is a vector of the coefficients for control
variables, and δ is the exponential of the error term.

Furthermore, each negative binomial regression run required the addition of two optional

model specifications, clustering and offsetting (Long and Freese 2006). Because counties are

nested within states, they are not entirely independent or unique from one another. Clustering by

U.S. states statistically accounts for these similarities in county-level data. Moreover, depending

on the size of the population within a county, exposure to the incident of homicide is not equally

dispersed across the U.S. Therefore, each model was offset by the natural log of the county

population to represent differences in the likelihood of a homicidal event occurring.

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[9] Models were first fitted to a non-linear Poisson distribution. However, in every model, tests for overdispersion
indicated small standard errors that could generate false significance in results. Therefore, it was determined that
negative binomial regression was more suitable.

CHAPTER 4. RESULTS

4.1. HOMICIDE COUNTS DISAGGREGATED BY GENDER

Table 8 illustrates the male and female samples' transitions from 1970 to 2000 and the coefficients, standard errors, and significance levels associated with the Resource Disadvantage and Residential Instability indices, as well as the other independent variables, South and unemployment.

First and foremost, as predicted in Hypothesis 1, results consistently demonstrate the significance of the Resource Disadvantage factor. For both the female and male samples for 1970, 1980, 1990, and 2000, resource disadvantage generated p-values significant at the .001 alpha level. Always in the expected positive direction, coefficients for Resource Disadvantage are significantly related to female- and male-perpetrated county-level homicide rates at every time point.

Second, it is evident that although, as stated in Hypothesis 1, the factor for Residential Instability constantly maintained a positive relationship with homicide counts for both males and females, it was not consistently significantly associated with either throughout time. For the female sample, Residential Instability was only significantly related to homicide rates between 1970 and 1990. In contrast, however, for the male sample, Residential Instability sustained significance from 1970 to 2000, but at varying significance levels, .001 in 1970 to .05 in 2000.

In the regression models with homicide counts disaggregated by gender only, the variable for county location in the South also fluctuated in its significance level. As expected based on previous research, when significant, it remained positively related to homicide rates for both males and females from 1980 to 2000. This positive association with homicide reaffirms the

Table 8: Negative Binomial Regression Models by Gender

Table 8. Negative Binomial Regression Models by Gender (coefficients reported with standard errors in parentheses)				
Female Samples	**1970**	**1980**	**1990**	**2000**
Resource Disadvantage	0.4420*** (0.0637)	0.3473*** (0.0393)	0.4450*** (0.0585)	0.3826*** (0.0468)
Residential Instability	0.2984*** (0.0337)	0.1276*** (0.0301)	0.0973* (0.0450)	0.0740 (0.0384)
South	-0.1661 (0.1142)	0.9177*** (0.1044)	0.6463*** (0.1177)	0.4077** (0.1426)
Unemployment	-11.1715*** (2.4339)	-0.3399 (1.4779)	-1.8651 (1.4963)	1.2515 (2.4955)
Male Samples	**1970**	**1980**	**1990**	**2000**
Resource Disadvantage	0.3468*** (0.0660)	0.2417*** (0.0423)	0.3347*** (0.0663)	0.3371*** (0.0587)
Residential Instability	0.2740*** (0.0266)	0.1546*** (0.0428)	0.1505** (0.0489)	0.0810* (0.0343)
South	0.0403 (0.1232)	0.8626*** (0.0961)	0.5515*** (0.1236)	0.4075** (0.1496)
Unemployment	-7.1816** (2.7292)	1.1635 (1.6858)	1.7418 (1.6135)	3.5365 (3.1903)
	N = 3,121	N = 3,129	N = 3,135	N = 2,956
*p ≤ .05, **p ≤ .01, ***p ≤ .001				

relationship between Southern culture and murder found by other researchers (among others, Hackney 1969; Gastil 1971). Finally, the unemployment rate was only significant in the female and male models in 1970, holding a negative relationship with homicide rates. This negative association with rates of lethality, where an increase in unemployment is predictive of decreased murder rates, possibly provides further evidence for arguments, such as those founded on opportunity and routine activities theories, that posit unemployment leads to greater guardianship and a smaller pool of potential victims (among others, see Cohen and Felson 1979). Therefore, this significant negative finding between unemployment and homicide is not altogether unanticipated.

4.1.1. STANDARDIZED PERCENT CHANGES IN EXPECTED HOMICIDE COUNTS

In addition to Table 8, Table 9 and Figures 3 and 4 present the standardized percent changes in expected homicide counts and thus report the temporal changes in the strength of the key explanatory variables, Resource Disadvantage and Residential Instability, to predict homicide rates between 1970 and 2000. In particular, by analyzing the percent change in the expected county-level female-perpetrated and male-perpetrated homicide counts based on a one standard deviation increase in each of the factors, the varying strength of structural predictors of homicide over time becomes evident. The standardized percent change in the expected homicide counts was calculated using the formula below:

$$E(Y|X) = \{\exp(\beta_k * s_k) - 1\} * 100$$

Where: $E(Y|X)$ is the standardized percent change in the expected homicide count, β_k is the coefficient for a given independent variable, and s_k is the standard deviation for a given independent variable.

Utilization of the standardized percent change in expected homicide counts as a tool for measuring variance in the strength of homicide predictors allows for a deeper understanding of the relationship between homicide and known sociological covariates of lethal violence.

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Table 9: Standardized Percent Changes in Expected Homicide Counts by Gender

Table 9. Standardized Percent Changes in Expected Homicide Counts by Gender				
Female Samples	**1970**	**1980**	**1990**	**2000**
Resource Disadvantage	55.6	41.5	56.1	46.6
Residential Instability	34.8	13.6	10.2	7.7
Male Samples	**1970**	**1980**	**1990**	**2000**
Resource Disadvantage	41.5	27.3	39.7	40.1
Residential Instability	31.5	16.7	16.2	8.4
Note: Signs (+/-) indicate direction of relationship.				
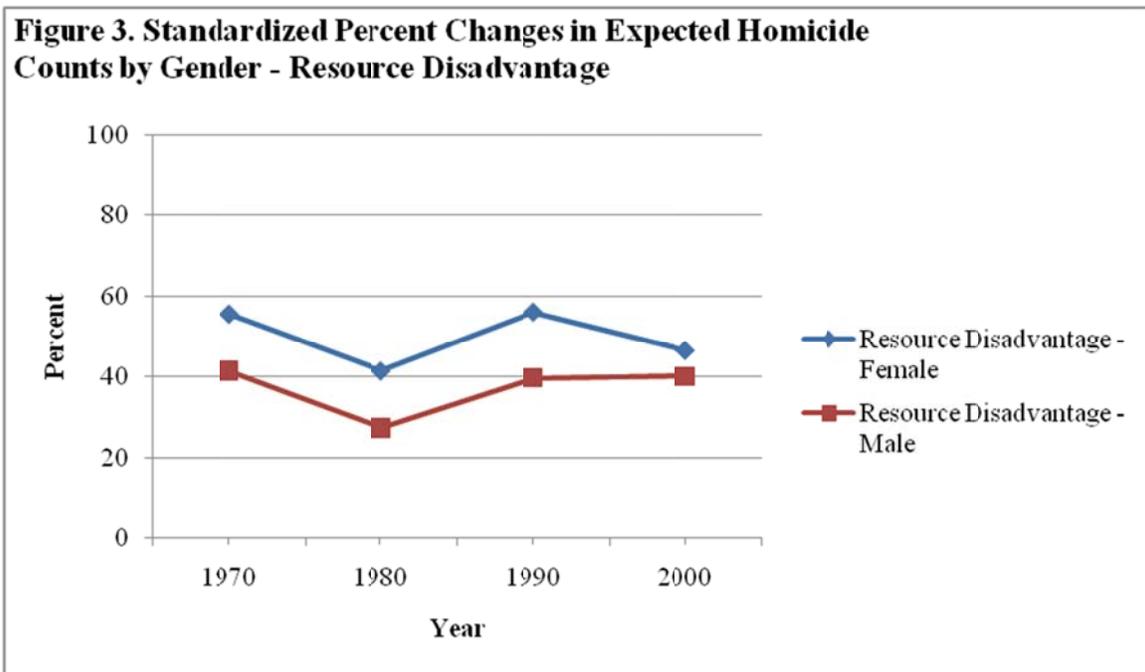
Figure 3. Standardized Percent Changes in Expected Homicide Counts by Gender - Resource Disadvantage

Figure 3: Standardized Percent Changes in Expected Homicide Counts by Gender – Resource Disadvantage

Figure 4. Standardized Percent Changes in Expected Homicide Counts by Gender - Residential Instability
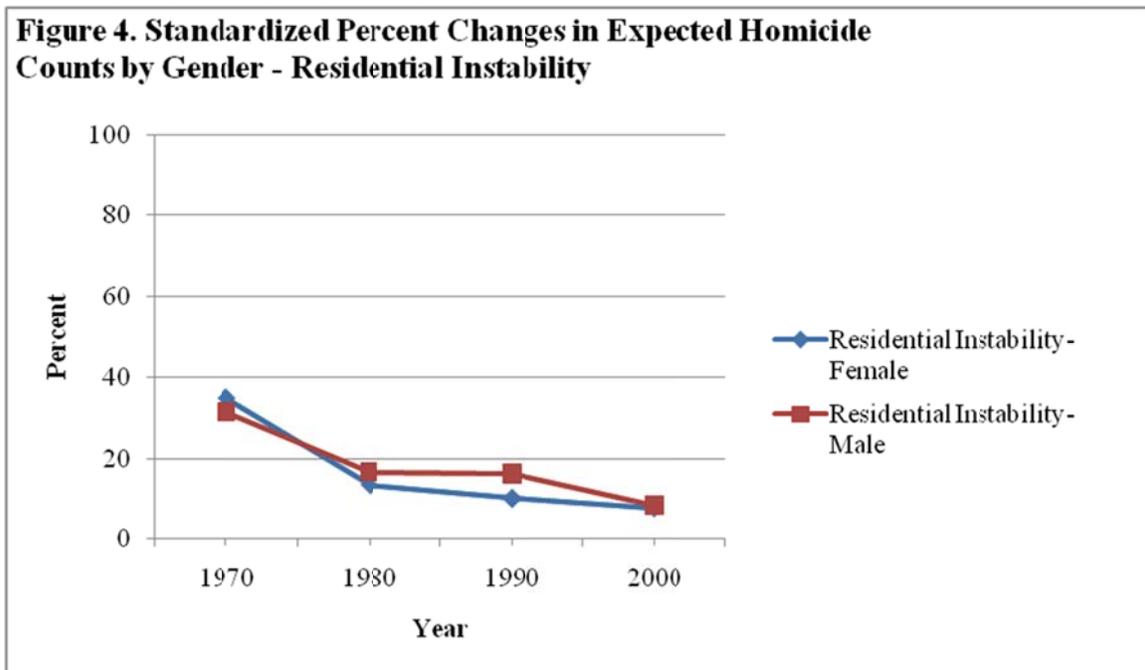
Figure 4: Standardized Percent Changes in Expected Homicide Counts by Gender – Residential Instability

Thus, Table 9 and Figure 3 illustrate that a single standard deviation increase in Resource Disadvantage results in a 55.6% increase in the expected female-perpetrated homicide count in 1970, a 41.5% increase in 1980, a 56.1% increase in 1990, and a 46.6% increase in 2000, when all other variables are held constant. This variance in the percent change in expected female homicide offenses indicates that there is fluctuation or variance in the predictive strength of measurements of economic disadvantage and resource deprivation. However, contrary to Hypothesis 3, the predictive strength does not increase between 1970 and 2000.

For the total male sample, the percent increase in expected homicide counts resulting from a one standard deviation change in Resource Disadvantage decreases from 1970 to 1980, from a 41.5 to a 27.3 percent increase. However, after 1980, the percent change continues to increase slightly from a 39.7% increase in expected male homicide counts in 1990 to 40.1% in 2000. These results do not support Hypothesis 2, as females were consistently affected more

strongly by Resource Disadvantage. However, the findings point to variance in the explanatory

power of measures of disadvantage to predict male offending.

Finally, in disagreement with Hypothesis 3 above, the standardized percent changes for

both the female and male samples provide evidence of a decrease in the effectiveness of

Residential Instability to explain homicide offenses from 1970 to 2000. Specifically, a single unit

increase in the standard deviation of the Residential Instability factor is associated with a 34.8%

increase in the expected female homicide count in 1970, a 13.6% increase in 1980, a 10.2%

increase in 1990, and finally a 7.7% increase in 2000. Likewise, a one standard deviation

increase in Residential Instability leads to a 31.5% increase in counts of male-perpetrated

homicide in 1970, a 16.7% increase in 1980, a 16.2% increase in 1990, and an 8.4% increase in

2000. Over time, it appears that measures of instability are diminishing in their capacity to

predict homicide counts, regardless of whether offenses are committed by males or females.

However, unlike with the resource disadvantage measure, the predictive strength of Residential

Instability is stronger for male-perpetrated homicide counts than female-perpetrated homicide

counts.

4.2. HOMICIDE COUNTS DISAGGREGATED BY GENDER AND VICTIM/OFFENDER RELATIONSHIP

Recognizing the fact that all homicides committed by females and males are not

homogeneous in nature, supplementary analyses were conducted further disaggregating the

dependent variables by relationship between the victim and offender, as well as offender's race

(discussed in detail in Chapter 4.3. Homicide Counts Disaggregated by Gender and Race).

Therefore, in addition to the two primary dependent variables utilized in this project, homicide

offenses for females where the victim and offender were not strangers (female-nonstranger),

females where the victim and offender were strangers (female-stranger), males where the victim

and offender were not strangers (male-nonstranger), and males where the victim and offender were strangers (male-stranger),[10] were also summed for the 1980, 1990, and 2000 datasets. Regrettably, disaggregation beyond gender was not possible with SHR data circa 1970 because the victim/offender relationship was not recorded.

4.2.1. DESCRIPTIVE STATISTICS

As with the gender-only dependent variables, means and standard deviations for homicide counts disaggregated by gender and victim/offender relationship can be found in Table 2. As evident, each mean homicide rate, regardless of the combination of gender and victim/offender relationship, decreased between 1980 and 2000, with the exception of the female-stranger homicide rate. In terms of the male offense rates, both the male-nonstranger and male-stranger rates decreased from 1980 to 2000, from 14.94 to 7.20 per 100,000 and 2.56 to 1.05 per 100,000, respectively. Similarly, female-nonstranger rates decreased from 1980 to 2000, from 3.21 to 1.15 per 100,000. However, female-stranger rates increased from .10 to .22 per 100,000 between 1980 and 1990, then decreased to .04 per 100,000 in 2000. Although women in general are far less likely to kill strangers than known victims, the increase in rate from 1980 to 1990, as well as the subsequent decrease in 2000, indicates that factors influencing female offending may differ based on the victim/offender relationship.

4.2.2. RESULTS

Because so far only total counts of female and male homicide offenses have been analyzed, the fundamental relationship between changes in levels of traditionalism in the U.S.

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[10] Supplementary Homicide Reports from 1978 to 1982, 1988 to 1992, and 1998 to 2002 record relationships between victim and offender in the following terms: husband, wife, common-law husband, common-law wife, mother, father, son, daughter, brother, sister, in-law, stepfather, stepmother, stepson, stepdaughter, other family, neighbor, acquaintance, boyfriend, girlfriend, ex-husband, ex-wife, employee, employer, friend, homosexual relationship, other known to victim, and stranger. For the purposes of the present study, all but "stranger" are considered nonstranger relationships.

and structural predictors of relationship-specific homicides may be masked. Therefore, female-nonstranger, female-stranger, male-nonstranger, and male-stranger homicide counts were regressed on the independent variables discussed above (Resource Disadvantage, Residential Instability, South, and unemployment). Results from these negative binomial regression models are presented in Table 10 and discussed below.

Table 10, reporting coefficients, standard errors, and significance levels, reveals that in every negative binomial regression model, regardless of the combination of gender and victim/offender relationship, the Resource Disadvantage factor, as predicted in Hypothesis 4, is consistently positive and significantly related to homicide counts at the .001 level. In contrast, however, although always demonstrating a positive association with homicide as anticipated, Residential Instability varies in its significance, depending on the gender and victim/offender relationship. Specifically, for female-nonstranger samples, Residential Instability is significant at the .001 alpha level in 1980, but decreases in significance to .05 in 1990, and then is not significant in 2000. For the female-stranger samples, this inconsistency continues showing significance at the .001 level in 1980, then the .05 level in 1990, finally increasing to the .001 level again in 2000. Similar to the female-nonstranger samples, results for regressions by counts of male-nonstranger homicide offenses indicate a decrease in the level of significance from .01 in 1980 to .05 in 1990 to nonsignificance in 2000. Finally, results in Table 10 portray a constantly significant relationship between male-stranger homicide counts and Residential Instability at the .001 level from 1980 to 2000.

In addition to the Resource Disadvantage and Residential Instability indices, the variable for location in the Southern region of the U.S. differs in its level of significance depending on the victim/offender relationship; however, whenever South is significant, it has a positive association

with homicide. For both males and females, regression by nonstranger homicide counts produced significance in the South variable at the .001 level in 1980 and 1990, but the .01 level in 2000. In contrast, for the stranger samples, regression of homicide counts on South produced significance only in 1980, with a p-value of .001. Unemployment, on the other hand, was not significant in any model, regardless of gender and victim/offender relationship, between 1980 and 2000.

4.2.3. STANDARDIZED PERCENT CHANGES IN EXPECTED HOMICIDE COUNTS

As with the gender-only results, Table 11, along with the graphical representation in Figures 5 and 6, presents the percent changes in expected homicide counts by gender and victim/offender relationship from 1980 to 2000. Interestingly, the results of an analysis of the strength of coefficients and their changes over time paints a very different picture from a simple examination of the direction and significance of the relationship between the Resource Disadvantage and Residential Instability factors and homicide. First, Hypothesis 6 is supported by results indicating that, for all time periods, the predictive strength of Resource Disadvantage and Residential Instability is stronger for female-stranger than female-nonstranger homicides. More notably however, as predicted by Hypothesis 7, although the percent change in the expected female-nonstranger homicide counts follows a similar pattern as the total female homicide counts, increasing from 40.7% in 1980 to 55.9% in 1990 and then decreasing to 44.9% in 2000, it is the female-stranger sample that shows a noteworthy difference from the total female-perpetrated homicide rate. All other variables held constant, a single standard deviation increase in the Resource Disadvantage factor in 1980 increases expected female-stranger homicides by 46.8%. This jumps dramatically in 1990 to 70.5% and then again in 2000 to 74.2%. By partitioning female homicide counts based on the relationship between the victim and

Table 10: Negative Binomial Regression Models by Gender and Victim/Offender Relationship

Table 10. Negative Binomial Regression Models by Gender and Victim/Offender Relationship (coefficients reported with standard errors in parentheses)			
Female-Nonstranger Samples	**1980**	**1990**	**2000**
Resource Disadvantage	0.3417*** (0.0391)	0.4440*** (0.0605)	0.3706*** (0.0466)
Residential Instability	0.1132*** (0.0300)	0.0895* (0.0452)	0.0626 (0.0388)
South	0.9474*** (0.1038)	0.6569*** (0.1218)	0.3821** (0.1480)
Unemployment	-0.2630 (1.4964)	-2.2756 (1.5929)	2.1239 (2.3889)
Female-Stranger Samples	**1980**	**1990**	**2000**
Resource Disadvantage	0.3841*** (0.0600)	0.5334*** (0.1460)	0.5551*** (0.1376)
Residential Instability	0.2836*** (0.0571)	0.2969* (0.1410)	0.3495*** (0.0781)
South	0.6610*** (0.1835)	0.3576 (0.2669)	-0.2039 (0.2923)
Unemployment	-3.2752 (3.8942)	0.6802 (4.8884)	-2.4437 (6.3365)
Male-Nonstranger Samples	**1980**	**1990**	**2000**
Resource Disadvantage	0.2393*** (0.0418)	0.3366*** (0.0683)	0.3021*** (0.0506)
Residential Instability	0.1029** (0.0334)	0.1113* (0.0467)	0.0278 (0.0340)
South	0.9441*** (0.0924)	0.5722*** (0.1348)	0.4200** (0.1506)
Unemployment	1.1840 (1.7352)	1.0421 (1.7699)	4.0148 (3.0594)
Male-Stranger Samples	**1980**	**1990**	**2000**
Resource Disadvantage	0.2888*** (0.0485)	0.3795*** (0.0782)	0.3638*** (0.0833)
Residential Instability	0.2261*** (0.0294)	0.3312*** (0.0601)	0.2960*** (0.0480)
South	0.5125*** (0.1217)	0.1800 (0.1740)	0.0549 (0.1922)
Unemployment	-2.3198 (1.6345)	0.9763 (2.5059)	5.0243 (3.7967)
	N = 3,129	N = 3,135	N = 2,956
*p ≤ .05, **p ≤ .01, ***p ≤ .001			

offender, it becomes evident that the strength of the effect of measures of deprivation/affluence varies over time, in fact, escalating at a striking rate.

As with the female-nonstranger sample, the percent change in expected male-nonstranger and male-stranger homicides, based on a one unit increase in the standard deviation of Resource Disadvantage, increases from 1980 to 1990, but decreases in 2000. Specifically, Resource Disadvantage leads to a 27.0% increase in male-nonstranger homicides in 1980, a 40.0% increase in 1990, and a 35.3% increase in 2000. In relation to male-stranger homicide counts, the disadvantage factor causes a 33.5% increase in 1980, a 46.2% increase in 1990, and a 43.9% increase in 2000. Although, these findings do not support Hypothesis 5, as Resource Disadvantage more strongly affects female homicides than male homicides, regardless of victim/offender relationship.

In support of Hypothesis 6, the explanatory strength of Residential Instability is at all times stronger for female-stranger rates than female-nonstranger rates. A one standard deviation increase in the factor for Residential Instability leads to a 12.0% increase in the expected female-nonstranger homicide count in 1980, shrinking to a 9.4% increase in 1990, and finally, a 6.5% increase in 2000. This does not confirm Hypothesis 7, which submitted that the predictive power would remain stable for female-nonstranger offenses. However, again it is the change in expected female-stranger homicide counts that are especially notable. All else held constant, the standardized percent increase in female-stranger homicide counts escalates from 32.8% in 1980 to 34.6% in 1990, ending at 41.8% in 2000, as predicted by Hypothesis 7.

Finally, the percent change in expected male-nonstranger and male-stranger homicide counts, based on a standard deviation increase in Residential Instability, rises from 1980 to 1990, but declines in 2000. In particular, a one standard deviation increase in the Residential Instability

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factor increases the male-nonstranger homicide count by 10.8% in 1980, 11.8% in 1990, and

2.8% in 2000. For the male-stranger samples, the percent increase in expected homicide counts

moves from 25.4% in 1980 to 39.3% in 1990 to 34.4% in 2000. However, the strength of

Residential Instability to predict expected homicide counts is only sometimes greater for males

than females, which does not substantiate Hypothesis 5.

Table 11: Standardized Percent Changes in Expected Homicide Counts by Gender and Victim/Offender Relationship

Table 11. Standardized Percent Changes in Expected Homicide Counts by Gender and Victim/Offender Relationship			
Female-Nonstranger Samples	**1980**	**1990**	**2000**
Resource Disadvantage	40.7	55.9	44.9
Residential Instability	12.0	9.4	6.5
Female-Stranger Samples	**1980**	**1990**	**2000**
Resource Disadvantage	46.8	70.5	74.2
Residential Instability	32.8	34.6	41.8
Male-Nonstranger Samples	**1980**	**1990**	**2000**
Resource Disadvantage	27.0	40.0	35.3
Residential Instability	10.8	11.8	2.8
Male-Stranger Samples	**1980**	**1990**	**2000**
Resource Disadvantage	33.5	46.2	43.9
Residential Instability	25.4	39.3	34.4
Note: Signs (+/-) indicate direction of relationship.			
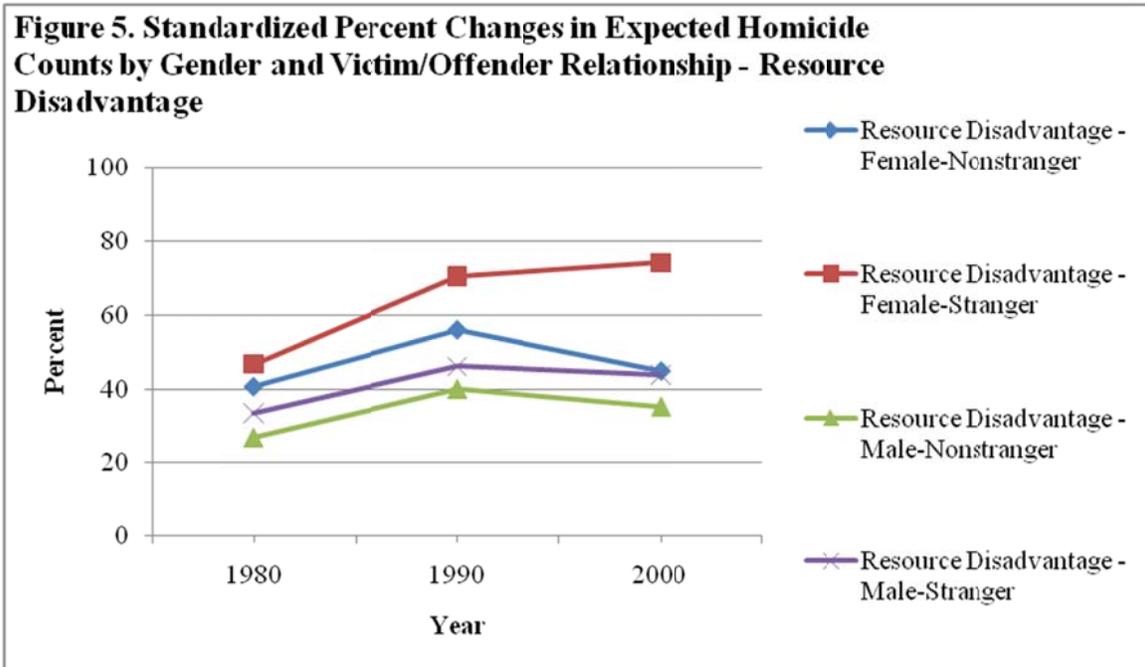
Figure 5: Standardized Percent Changes in Expected Homicide Counts by Gender and Victim/Offender Relationship – Resource Disadvantage
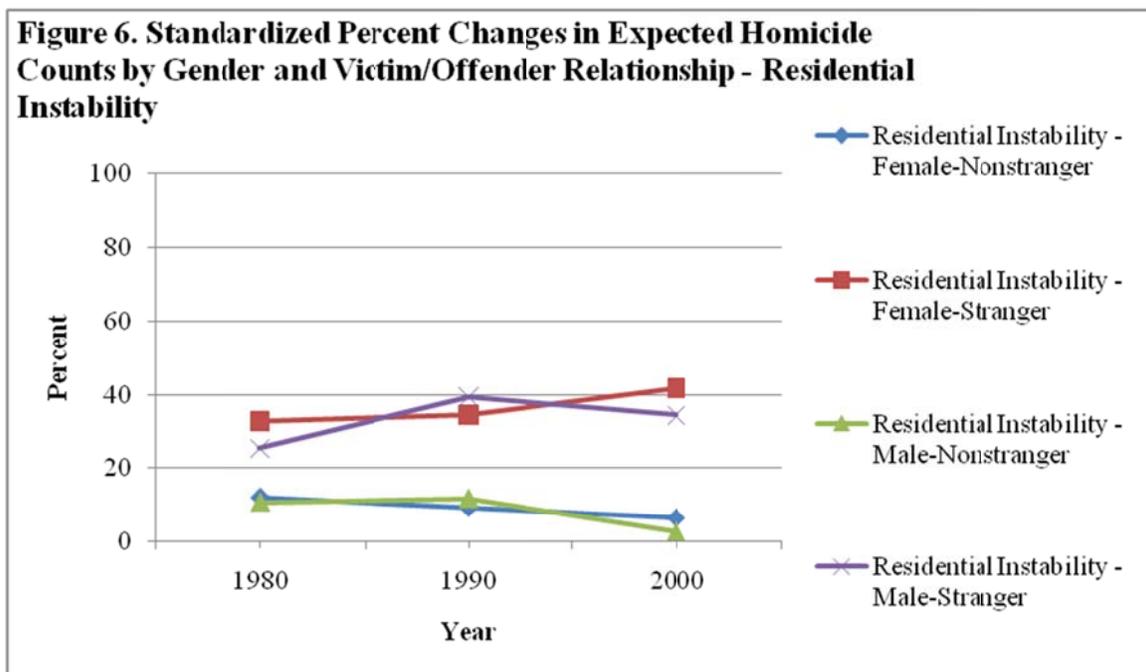
Figure 6: Standardized Percent Changes in Expected Homicide Counts by Gender and Victim/Offender Relationship – Residential Instability

Based on this analysis of the standardized percent changes in expected homicide counts based on the coefficients for Resource Disadvantage and Residential Instability, additional support is found for several of the hypotheses stated for the present study. It is likely that because of temporal changes in the level of traditionalism in U.S. social life, measures of disadvantage and population structure are having less of an effect on female-nonstranger homicide counts, which women are typically more likely to be involved in, but a greater effect on female-stranger homicide counts, in which women are beginning playing a more considerable role.

4.3. HOMICIDE COUNTS DISAGGREGATED BY GENDER AND RACE

As a final extension of the line of inquiry presented in this study, supplementary examinations were also performed disaggregating homicide rates by gender and race. Specifically, male and female offenses were broken into the following categories: female-white, female-nonwhite, male-white, and male-nonwhite. Because race of the offender was not recorded for all years circa 1970, homicide counts were summed at the county-level for 1978 to 1982, 1988 to 1992, and 1998 to 2002.

4.3.1. DESCRIPTIVE STATISTICS

Descriptive statistics, including means and standard deviations, for homicide rates disaggregated by offender's gender and race can be found in Table 2. Again, all means for offense rates decreased between 1980 and 2000. However, it is especially important to note when reviewing these descriptives that study data only allowed for rates to be calculated per 100,000 of the *total* population. In other words, homicide rates, especially for female-nonwhite and male-nonwhite, appear lower than expected, because they are based on the entire population, not a particular segment of the population, i.e., the nonwhite female or nonwhite male populations.

From Table 2, it is apparent that the mean homicide rate for each combination of gender and race decreased between 1980 and 2000. Specifically, the female-white homicide rate decreased from 1.70 per 100,000 in 1980 to .77 per 100,000 in 2000. The female-nonwhite homicide rate also declined, shifting from 1.63 in 1980 to .45 in 2000. Likewise, the male-white homicide rates fell from 11.22 per 100,000 in 1980 to 5.63 per 100,000 in 2000. Finally, the male-nonwhite homicide rate also decreased, dropping from 6.77 in 1980 to 3.27 in 2000.

4.3.2. RESULTS

Most notably, as seen in Table 12 below, regression models with homicide counts disaggregated by gender and race indicated the intrinsic differences between the white and nonwhite populations. Specifically, in complete contrast to Hypothesis 8, for both the female-white and male-white samples, the index for measures of resource deprivation was only significant in 1980, and demonstrated a negative association. In other words, with a significance level of .05, it appears that counties with greater affluence are experiencing increased rates of white homicides, regardless of whether offenses are perpetrated by females or males. This outcome of a negative relationship is in contrast to all results presented above for homicide rates disaggregated by gender alone and gender and victim/offender relationship together. For both the female-white and male-white samples, however, Resource Disadvantage is not significant in 1990 or 2000.

Similarly, the Residential Instability factor is only significant (at the .01 level) for the male-white sample in 1980. Although the relationship is positive as expected, Residential Instability is not significantly related to male-white homicide counts in 1990 or 2000, nor is it significantly related to female-white homicide counts at any point between 1980 and 2000, further refuting Hypothesis 8.

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Interestingly, as predicted by the study's hypotheses, both the Resource Disadvantage and Residential Instability indices are positively and significantly related to the female-nonwhite and male-nonwhite homicide counts in 1980, 1990, and 2000. Always at the .001 significance level, results indicate that as problems of social disorganization and structural strain increase, homicide offenses perpetrated by nonwhite males and females increase as well.

The variable for county location in the census-defined South appears relatively stable. Wherever significant, the association between South and homicide counts is positive. In particular, South is significantly related to female-white homicides at the .001 level in 1980 and 1990, but decreases in significance to .01 in 2000. The relationship between the South variable and female-nonwhite offenses is significant at the .001 level in 1980 and 1990, but not significant in 2000. Finally, for both male samples, South is significantly related to white and nonwhite homicide counts at the .001 level in 1980 and 1990, but only at the .05 level in 2000.

With regards to the variable for the proportion of the county population unemployed, its relationship with the female-white homicide count is positive and significant at the .01 level in 1980 and 1990, but increases to the .001 level in 2000. In contrast, the relationship between homicide and unemployment for nonwhite females is negative and significant at the .05 level in 1980, spikes at the .001 level in 1990, and then diminishes again to the .05 level in 2000. With the male-white samples, unemployment is not significantly related to homicide rates in 1980, significant at the .001 level in 1990, but only significant at the .01 level in 2000; however, with the male-white homicide counts, the relationship is always positive. Finally, the relationship between unemployment and homicides perpetrated by nonwhite males is consistently negative and significant at the .01 level in 1980 and the .001 level in 1990 and 2000.

Table 12: Negative Binomial Regression Models by Gender and Race

Table 12. Negative Binomial Regression Models by Gender and Race (coefficients reported with standard errors in parentheses)			
Female-White Samples	**1980**	**1990**	**2000**
Resource Disadvantage	-0.0782* (0.0338)	-0.0813 (0.0693)	-0.0962 (0.0646)
Residential Instability	0.0654 (0.0341)	0.0255 (0.0562)	-0.0118 (0.0512)
South	0.8708*** (0.1081)	0.6603*** (0.1318)	0.4624** (0.1682)
Unemployment	4.0305** (1.3167)	6.2576** (1.8126)	12.2702*** (2.5474)
Female-Nonwhite Samples	**1980**	**1990**	**2000**
Resource Disadvantage	0.7342*** (0.0855)	0.9253*** (0.0970)	0.9063*** (0.1085)
Residential Instability	0.2324*** (0.0430)	0.1987*** (0.0445)	0.2307*** (0.0406)
South	1.0127*** (0.1595)	0.6618*** (0.1587)	0.2668 (0.1878)
Unemployment	-7.0383* (3.0226)	-12.1015*** (1.9944)	-17.1677* (6.8953)
Male-White Samples	**1980**	**1990**	**2000**
Resource Disadvantage	-0.1373* (0.0539)	-0.1328 (0.0720)	-0.1041 (0.0628)
Residential Instability	0.1250** (0.0460)	0.0962 (0.0517)	0.0201 (0.0398)
South	0.8401*** (0.1198)	0.5225*** (0.1465)	0.4157* (0.1757)
Unemployment	4.2915 (2.2261)	8.3713*** (1.6137)	13.4862** (4.4037)
Male-Nonwhite Samples	**1980**	**1990**	**2000**
Resource Disadvantage	0.7934*** (0.0850)	0.9864*** (0.1107)	0.9619*** (0.1130)
Residential Instability	0.2535*** (0.0553)	0.2906*** (0.0573)	0.2208*** (0.0415)
South	0.9535*** (0.1342)	0.6685*** (0.1450)	0.4261* (0.1744)
Unemployment	-6.9284** (2.4311)	-11.0278*** (2.6679)	-17.2659*** (5.3885)
	N = 3,129	N = 3,135	N = 2,956
*p ≤ .05, **p ≤ .01, ***p ≤ .001			

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4.3.3. STANDARDIZED PERCENT CHANGES IN EXPECTED HOMICIDE COUNTS

In Table 13 and Figures 7 and 8, analyses of the standardized percent change in expected homicide counts disaggregated by gender and race illustrate the significant variations in the strength of associations between homicides perpetrated by nonwhite men and women, and measures of social disorganization and structural strain. Because the relationship between the key explanatory variables and counts of homicide offenses by whites were not significant for the majority of time points, only the association between the factors and male-nonwhite and female-nonwhite samples are discussed in detail below.

Table 13: Standardized Percent Changes in Expected Homicide Counts by Gender and Race

Table 13. Standardized Percent Changes in Expected Homicide Counts by Gender and Race			
Female-White Samples	**1980**	**1990**	**2000**
Resource Disadvantage	-7.5	-7.8	-9.2
Residential Instability	6.8	2.6	-1.2
Female-Nonwhite Samples	**1980**	**1990**	**2000**
Resource Disadvantage	108.4	152.3	147.5
Residential Instability	26.2	22.0	25.9
Male-White Samples	**1980**	**1990**	**2000**
Resource Disadvantage	-12.8	-12.4	-9.9
Residential Instability	13.3	10.1	2.0
Male-Nonwhite Samples	**1980**	**1990**	**2000**
Resource Disadvantage	121.1	168.2	161.7
Residential Instability	28.8	33.7	24.7
Note: Signs (+/-) indicate direction of relationship.			
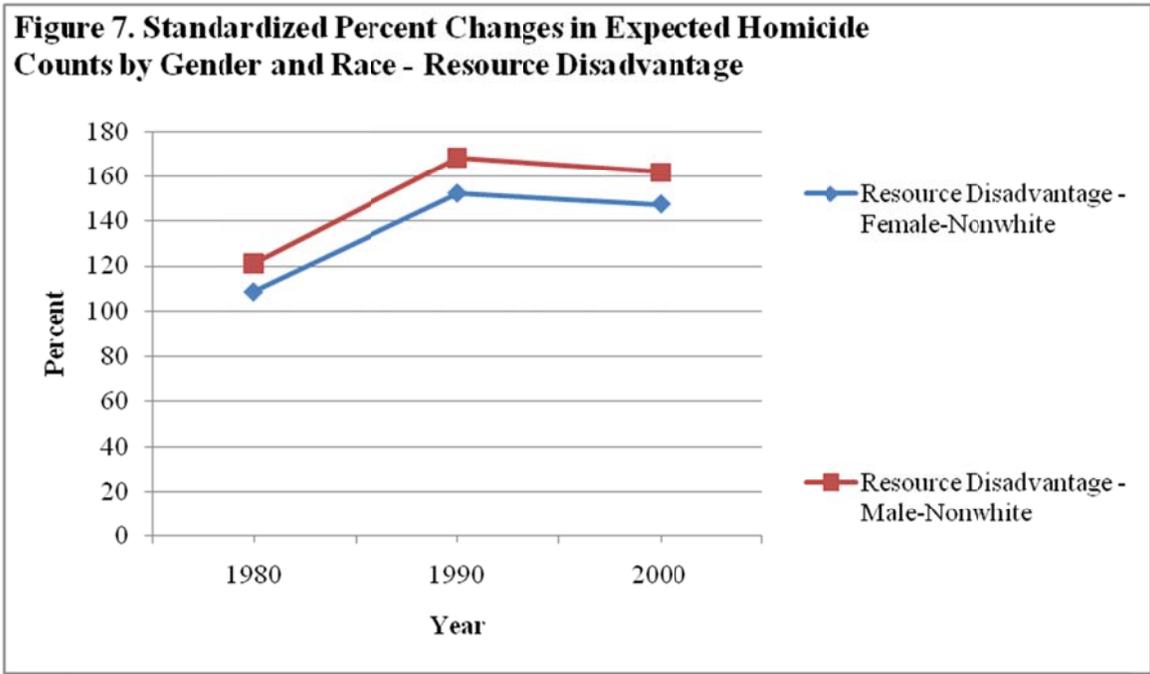
Figure 7: Standardized Percent Changes in Expected Homicide Counts by Gender and Race – Resource Disadvantage
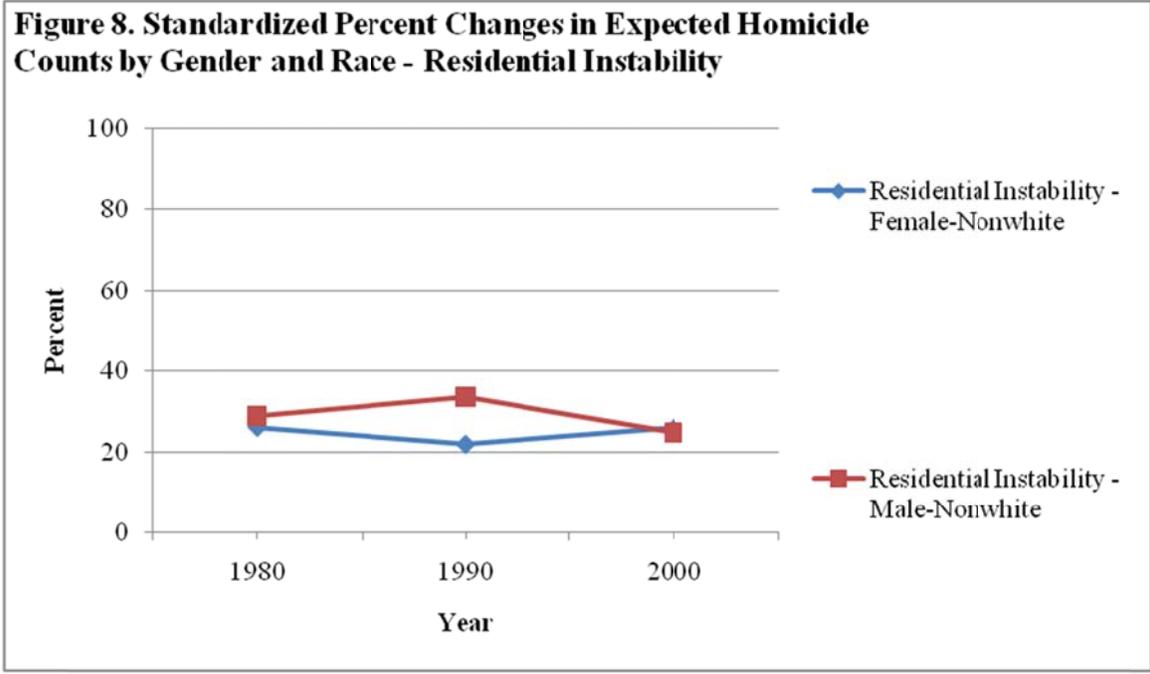
Figure 8: Standardized Percent Changes in Expected Homicide Counts by Gender and Race – Residential Instability

By examining disparities in the standardized percent changes in expected homicide counts, it is apparent that there are greater differences by race than by gender. Hypothesis 9 is confirmed in all instances, except with regards to Residential Instability and the nonwhite samples. Additionally, Hypothesis 10 is supported as measures of disadvantage and instability are more strongly predictive of female-nonwhite than female-white samples. Finally, Hypothesis 11 is confirmed as strengths of Resource Disadvantage and Residential Instability are relatively stable for counts of white female homicides, but increase considerably for nonwhite female homicides. Specifically, expected counts of female-nonwhite homicides rise from a 108.4% increase in 1980 to a 147.5% increase in 2000. Further, a one standard deviation increase in Residential Instability leads to a 26.2% increase in female-nonwhite expected homicide counts in 1980, a 22.0% increase in 1990, and a 25.9% increase in 2000. Thus, results from regression models with homicide counts disaggregated by gender and race provide further evidence of the variance in strength of associations between lethality and structural predictors measuring economic disadvantage and instability in the population structure.

CHAPTER 5. DISCUSSION AND CONCLUSION

In an effort to further explain the intricacies of gendered violence in the U.S., the present endeavor examined the relationship between structural covariates of lethality and county-level homicide rates disaggregated by gender only, gender and victim/offender relationship, and gender and race. In particular, founded on compelling evidence presented by scholars who note drastic changes in attitudes toward gender expectations and norms during the second half of the 20th century (among others, Mason and Lu 1988; Brewster and Padavic 2000; Thornton and Young-DeMarco 2001), it was hypothesized that variance in the predictive strength of measures of structural strain and social disorganization could be expected.

As ideals regarding gender began to shift following World War II, Americans saw an increase in the participation of women in the educational system, the labor force, and the military. Additionally, notions of women's social location in marriages and families began to become more equitable and egalitarian. These changes in gender roles have altered almost every aspect of American life, including crime and violence. Female participation in crime is increasing at a faster pace than male participation, and it is likely that with more changes regarding gender and sex-roles, we will continue to see adjustments in the elements of society that affect crime rates. Specifically, it is likely that researchers will continually observe variation in the effects of predictors of gendered homicide, particularly those related to structural strain and social disorganization.

Thus, following an examination of evidence related to these changing attitudes toward gender, quantitative trends in gendered homicide, and the role of gender in criminological and feminist theories and research, eleven hypotheses were stipulated regarding the influence of structural predictors of crime on gendered homicide rates. By acknowledging the significant

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influence of this alteration of the fabric of gendered life, it was posited that known covariates of homicide, such as measurements of economic deprivation and population mobility, thought to be invariant across time and social space, may in fact vary in their predictive strength once homicide rates are disaggregated by gender.

5.1. SUMMARY OF STUDY RESULTS AND DISCUSSION

5.1.1. HOMICIDE COUNTS DISAGGREGATED BY GENDER

By utilizing negative binomial regression techniques to analyze county-level homicide counts in the U.S. from 1970 to 2000, evidence was found to support several hypotheses posited above. Foremost, although previously thought to be a matter of invariance (Land et al. 1990; McCall et al. 2010), the ability of Resource Disadvantage and Residential Instability to predict county-level rates of homicide, regardless of the gender of the offender, appears to vacillate temporally in conjunction with the drastic changes experienced by Americans concerning gender relations. Following the guidance of previous works in feminism and criminology, it is believed that an important step in understanding the link between cultural changes in attitudes toward gender role expectations and lethal violence is disaggregation of rates by gender. Acknowledging the differences in female-perpetrated and male-perpetrated crime produces more comprehensive findings about gender and violence (among others, Daly and Wilson 1988; Chesney-Lind and Shelden 1992; Steffensmeier and Allan 1996; Gauthier and Bankston 1997, 2004; Steffensmeier and Haynie 2000a, 2000b; Haynie and Armstrong 2006). As research continues to account for modifications experienced in the U.S. concerning traditionalism, gender, and sex-role distinctions, more fruitful studies of the causes and outcomes of crime will be possible. In an attempt to shed more light on the relationship between gender and crime, the present study

presents strong evidence of variance in the strength of structural-level covariates of homicide to predict gendered violence over time.

Interestingly, a major finding of the analysis involved the relationship between Resource Disadvantage and female homicide counts, and Residential Instability and male homicide counts. Results indicate that when the standardized percent changes in expected homicide counts were reviewed, measures of disadvantage had a stronger effect on women's participation in crime than men; likewise, measures of population structure had a stronger effect on the criminal activity of men than women. It is possible that fewer resources are available to women, in the form of social networks and employment, to combat issues of poverty and socioeconomic deprivation. Furthermore, although Residential Instability has a stronger effect on male offenses than female offenses, the predictive strength of the index for all time periods is considerably weaker than Resource Disadvantage for both groups. This may be due to advances in technology and communication. Greater population mobility and instability, general adjustments in the population structure of counties, may have less of a damaging effect on crime rates because individuals do not feel an acute sense of disruption in their social networks, even though relatives, friends, or neighbors have moved beyond the immediate county area. However, in order to more aptly address these possibilities, it is necessary to conduct further analyses of the mechanisms inherent in the relationship between gender-disaggregated homicides and social mobility.

5.1.2. HOMICIDE COUNTS DISAGGREGATED BY GENDER AND VICTIM/OFFENDER RELATIONSHIP

In order to provide a more in-depth analysis of the relationship between known structural covariates of homicide and county-level rates of lethal violence, supplementary analyses were conducted that explored homicide counts disaggregated by gender and victim/offender

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relationship. Additional support for several of the hypotheses was grounded in the results of these negative binomial regression models.

Initially, results from analyses of homicide rates disaggregated by gender and victim/offender relationship appear quite similar to those of homicide rates disaggregated by gender alone. However, upon closer scrutiny, it is obvious that the relationship between structural covariates of homicide and offenses committed by females who did not have a previous relationship with their victims is quite striking. Unlike the associations between Resource Disadvantage and female-nonstranger, male-nonstranger, or male-stranger homicide counts, where the predictive strength of the independent variable either decreased between 1980 and 2000 or increased between 1980 and 1990 and then decreased in 2000, the predictive strength of the Resource Disadvantage factor increases significantly over the twenty year period for female-stranger homicide counts. Specifically, results indicate that from 1980 to 2000, there has been a 27.4% increase in the ability of measures of resource deprivation, including percent of the population black, percent of households headed by females, and percent of the population living in poverty, to explain homicides counts perpetrated by women with unknown victims. This is a substantial and critical finding because traditionally women were considerably less likely to kill strangers, as opposed to family members, significant others, or acquaintances (among others, Browne 1987; Gauthier and Bankston 1997, 2004; Peterson 1999; Haynie and Armstrong 2006). Such evidence hints at the influence of changes in gendered living that have occurred in the U.S. since 1980. As the facets of society conducive to women's homicide offending change, so too will the targets of female violence. Additionally, this finding provides some further substantiation of evidence from previous research that recognized changes in female violence directed away from the family (Block and Christakos 1995; Kruttschnitt et al.

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2002). Furthermore, as we begin to see a departure from the "typical" female offender and experience more changes in the situations and outcomes of female violence, it will become increasingly necessary for researchers to reformulate their approach to studying the structural-level covariates of homicide.

5.1.3. HOMICIDE COUNTS DISAGGREGATED BY GENDER AND RACE

As a final analysis of gender-disaggregated homicides, further examinations were constructed that looked specifically at county-level homicide counts disaggregated by both the offender's gender and race. The most significant finding of these investigations was the dramatic differences between structural covariates which best predicted gendered white and nonwhite counts of lethal offenses.

In particular, for female- and male-white homicide rates, the relationship with Resource Disadvantage and Residential Instability was not significant, except in 1980. In stark contrast, the variables were consistently significantly related to nonwhite homicide counts, regardless of gender. Always maintaining a positive relationship, the standardized percent increase in expected homicide counts due to a one standard deviation increase in Resource Disadvantage for female-nonwhite offenses grew by 39.1% from 1980 to 2000; similarly, the standardized percent change in male-nonwhite offense counts grew by 40.6% from 1980 to 2000. All else held constant, percent increases were well above 100% for expected female-nonwhite and male-nonwhite homicide offenses. The impact of the problems associated with structural strain and social disorganization are apparent for nonwhite offending rates. Although there are not significant variations by gender, social mechanisms are functioning in a way that allows nonwhite homicide rates to be better explained by sources of social disorganization and structural strain than white homicide rates.

By looking at homicide counts disaggregated by both the offender's gender and race, the severe inconsistencies between the explanatory power of structural predictors and white and nonwhite offenses have been made more visible. These findings provide even more evidence of the relentless hardships encountered by minorities (Wilson 1987; Massey and Denton 1993) and the unique place of African Americans, in particular, that is unmatched by whites (Hill and Crawford 1990; Haynie and Armstrong 2006). Future analyses of these differences are necessary to gain a better comprehension of the social mechanisms that guide racial disparities in violent crime.

5.2. CONCLUSION: FUTURE AVENUES OF RESEARCH

As can be expected, there are inherent limitations to all research, which allow for avenues of future analyses. Foremost, the present study has been somewhat limited by the use of Adam's census data that did not allow for exact replication of previous studies which analyzed changes in structural covariates of homicide over time (Land et al. 1990; McCall et al. 2010). Particularly, to allow for continuity between research projects in this area of study, future analysts may wish to incorporate measures of population density, percent of the population divorced, and median family income, which were not able to be constructed with the employed datasets.

Furthermore, the present research design does not include a measurement of changes in the level of traditionalism over time. By measuring the progression from traditionalism to nontraditionalism in gendered living, future studies could further substantiate the findings of the current project. By combining the General Social Survey with the U.S. Census and the Supplementary Homicide Reports, this issue could be rectified and provide new, more specific answers to the question concerning the relationship between attitudes toward gender norms and expectations, aggregate-level homicide covariates, and homicide rates.

In the future, the present study could also be replicated utilizing other spatial units, such as cities, metropolitan areas, or states. Although unique in its application of a county-level examination of the question of invariance in predictors of homicide, the present study does not allow for a simple comparison to previous research. It is likely that in the future, researchers could expand the current work by analyzing cities, metropolitan areas, or states, to determine whether variance in structural covariates of homicide is continually sustained for gender-disaggregated violent offenses.

Furthermore, by incorporating more cross-sections of time, including the start of World War II through the end of the 20th century, researchers will be able to grasp, with even greater clarity, the effect of changes in gender roles and expectations on gendered homicide. Arguably, dramatic changes in the traditionalism of attitudes toward gender occurred prior to 1970. As more data become available to researchers from this timeframe, new analyses may be possible that incorporate a wider range of time than the present study, which could provide a more thorough breakdown of the topic.

Finally, the present endeavor has shown that the context of changes in American gendered life has affected the ability of known covariates of homicide to predict offenses when disaggregated by the offender's sex. By not only examining the direction and significance of statistical associations, but also the standardized percent changes in expected homicides disaggregated by gender, gender and victim/offender relationship, and gender and race, the current project has been able to identify variance in the predictive strength of structural covariates of gendered lethality, such as resource deprivation and population structure. Moreover, evidence from regression results indicate that measurements of disadvantage and population structure do not equally affect men and women over time. It appears that changes

which have occurred in American social life between 1970 and 2000, related especially to the shift from traditionalism to nontraditionalism in gendered living, have influenced the varying effects of known structural predictors of homicide over time.

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APPENDIX: DATA SOURCES

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