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198659

Gender, Economic Transformation and Urban Health

By: Karen Parker

NIJ Grant: 2001-IJ-CX-0008

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EXECUTIVE SUMMARY

Race and gender disparities in economic opportunities have been well documented and evidence has recently surfaced that the economic transformation of urban areas has had an unprecedented impact on minority groups. That is, this industrial shift, which marked the removal of manufacturing jobs from urban communities during the 1970s and 1980s, was felt differently along race and gender lines. The consequence of labor market dislocation and industrial restructuring on homicide offending disaggregated by race and gender characteristics was explored in this research. Specifically, this report addressed three issues missing from the study of urban violence.

First, we attempted to empirically measure the labor market stratification and industrial restructuring in urban areas, as well as the differential levels of homicide offending for black males, black females, white males and white females in 1980 and 1990. We found that black males have the highest level of homicide offending as compared to the other groups. In fact, in 1980, the number of black male homicides was approximately twice as high as white males, six times higher than black females, and 18 times higher than white females. We also found this race and gender pattern in offending to persist into the 1990s, in that black males continued to have the highest level of offending, followed by white males, black females and then white females. Furthermore, by generating change score measures of the shift in urban conditions and disaggregated homicide over two pivotal time periods (i.e., from 1980 to 1990), we found that the offending of three out of four groups increased over time. That is, there was a slight decline in white female homicide counts over time while the homicide involvement of black males, white males, and black females increased considerably over this time period.

FINAL REPORT

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In terms of documenting race and gender disparities in the urban environment, our research revealed that blacks have higher levels of urban disadvantage (e.g., poverty and income inequality) and family diversity (e.g., female headed households, single parented households) in urban areas than whites. As for labor market dislocation specifically, we found that black males and black females experienced similar, and extreme, levels of joblessness in 1980 and 1990. For whites, joblessness was higher for white females than for white males, a group that maintained low levels of joblessness over time. We also found evidence that the economic transformation was experienced differently across race and gender lines. For example, black males were much more likely to be employed within the industrial sector (e.g., manufacturing jobs) and thus their employment stability was weakened considerably due to the economic transformation. Moreover, while black females were more likely to be employed in the service and retail sector, followed by black males, these jobs were typically characterized by part-time and low wage occupations which did little to improve the overall economic positions in inner cities. White males and females, however, were less dependent on this industrial sector.

Second, we pursued a systematic examination of race- and gender- specific homicides in U.S. cities during (1980) and after (1990) times of economic transformation, as well as model the dynamic process of change in labor market conditions on disaggregated homicides from 1980 to 1990. Based on our negative binomial Poisson-based regression analyses, we found the diversification in family types had an impact on black (male and female) homicide offending but not among whites. On the other hand, white offending was much more likely to be impacted by racial inequality and the racial composition of the urban population (specifically the size of the Latino

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population). We also found that labor market dislocation and industrial employment was more influential to black male and black female homicides than white gender-specific homicide. By taking into account the efforts of formal social control, our results suggest that an increase in police presence significantly decreases black male and black female homicides. An increase in race-specific incarceration, on the other hand, exhibits no significant effect on the homicide involvement of any of our race-and-gender specific groups in 1980 or 1990.

To capture the change in labor force, industrial opportunities and disaggregated homicides from 1980 to 1990, we utilized a random effect, negative binomial regression in a panel analysis. This technique was used so that we could account for change while estimating rare events like race and gender specific homicide. We found a number of important findings. First, the industrial shift (e.g., change from manufacturing to service jobs from 1980 to 1990) was more pronounced among blacks than whites. Previous cross-sectional studies would lead us to believe that black males alone experienced the decline in manufacturing employment as a result of the economic transformation. By modeling change, we find that while this group did face a significant decrease, black females also experienced a large decline in manufacturing employment over time. As a result, the change in joblessness and the shift into the service sector employment contribute to the homicide offending of black males and females, while these labor market measures exhibit no influence on the change in white male or white female homicides over time. In addition, our research also revealed a number of differences in the impact of racial inequality, gender inequality, family disruption and sex ratios on the change in race- and gender-specific homicides. The change in white incarceration rates

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had an impact of white gender-specific homicides, while the increase use of incarceration involving the black population did not lead to a change in homicide offending for this group. Overall, the shift or change in structural conditions from 1980 to 1990, particularly as it relates to joblessness and urban restructuring, has a unique impact on disaggregated homicide beyond what has previously been established in cross-sectional studies.

Finally, we estimated the direct and indirect relationships between gender, industrial restructuring and urban homicide in 1990 because the influence of the economic transformation on disaggregated homicides could be mediated by structural conditions (such as poverty, racial residential segregation) and family constructs. As we estimated structural equation models (SEM) of the relationships between the economic transformation, urban disadvantage, and disaggregated homicide, controlling for the mediating influences of police presence and the size of the race-specific incarcerated population, our path results revealed some unique findings. For example, we found that family diversification mediates the relationship between labor market structures, urban conditions and disaggregated homicide rates. We also revealed that incarceration serves as an important mediating factor between labor market dislocation and the homicide offending of males, while not for females. That is, we found that our race- and gender-specific measures of joblessness increased the incarceration of these groups, which then decreased the homicide rates of black males and white males in 1990. These findings suggest that researchers should give greater consideration to modeling the complex relationships between structural conditions and urban violence. Moreover researchers

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should not ignore the efforts of formal social control (via local police and state-level incarceration trends) in their investigations of disaggregated homicide.

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Gender, Economic Transformation and Urban Homicide

A Final Report to the National Institution of Justice for Grant # 2001IJCX0008

INTRODUCTION

While race and gender disparities in economic opportunities have been long documented in the social science literature, evidence is surfacing that the economic transformation of urban areas has had an unprecedented impact on minority groups. Studies show that the industrial shift, which marked the removal of manufacturing jobs from urban communities during the 1970s and 1980s, was felt differently along race and gender lines (see Glass et al. 1988; Wilson and Wu 1993; Smith and Tienda 1987). For instance, although there have been gains in service oriented jobs in many urban areas, the substantial decrease in jobs at the manufacturing level directly impacted blacks, who were among those primarily employed by this sector (Tienda et al. 1987). The consequences associated with this industrial shift for race- and gender-specific groups have yet to be explored. More specifically, studies have lacked in their attention to women and families when examining the relationship between labor market stratification and urban violence.

In an effort to fill this gap in the literature, this report addresses three issues missing from the study of urban homicide. First, we attempt to empirically measure the labor market stratification and industrial restructuring in urban areas. Doing so requires us to account for the economic transformation that began in the 1970s, accelerated in the 1980s, and led to the removal of manufacturing jobs from cities, only to plague urban

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areas today with high rates of joblessness, poverty and racial residential segregation (Massey and Eggers 1990; Wilson 1987; 1996; Kasarda 1989). This transformation created a highly polarized labor market structure, in that low-skilled workers in the manufacturing sector were not among those employed by the expanding service industry. Of central importance to this research is approximating the impact of this industrial shift on women, particularly women from racial minority groups. For example, research finds that Latino and black women faced greater declines in jobs than Asian and white women (see Smith and Tienda 1987). Hence, we develop unique measures of labor market dislocation and industrial restructuring that incorporate race and gender-specific group dynamics.

Second, we provide a systematic examination of race- and gender- specific homicides in U.S. cities during (1980) and after (1990) times of economic transformation, as well as model the dynamic process of change in labor market conditions on disaggregated homicides from 1980 to 1990. This second aim links the bifurcation of the labor market to the disparities in urban homicide for specific groups. While criminological literature indicates strong race and gender differences in rates of homicide (Balkwell 1990; Chilton and Datesman 1987), studies offering gender-specific homicide rates have been limited. In fact, the first structural level study comparing male and female homicide offending rates was published in 2000 (Steffensmeier & Haynie 2000a). Thus, we fill a gap in the current literature by incorporating both race and gender specificity into the study of urban homicide. That is, we calculate homicide measures disaggregated into the following groups: white males, white females, black males, and black females. We then estimate the impact of the economic transformation on

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disaggregated homicides cross-sectionally during key periods of transition (1980, 1990) and in a model that captures the change in labor force, industrial opportunities and disaggregated homicides from 1980 to 1990.

Finally, we attempt to estimate the direct and indirect relationships between gender, industrial restructuring and urban homicide in 1990. This objective points to the importance of estimating both direct and indirect relationships when modeling the interconnections between race and gender disparities in the labor market and urban homicide. Previous studies have produced evidence of the indirect relationship between economic dislocation, family disruption and urban violence (Almgren et al 1998; Sampson 1987; Shihadeh and Steffensmeier 1994). Thus, as we consider important race and gender differences, we suggest that labor market stratification could be mediated by structural conditions (such as poverty, racial residential segregation) and family constructs when impacting disaggregated homicides.

Our efforts above result in a systematic empirical investigation that incorporates the static and dynamic processes in gender, economic transformation and urban homicide. A product of this research is a better understanding of the disparities these groups face in urban areas, as well as the relationship between labor market stratification and urban homicide.

REVIEW OF THE LITERATURE

Our review of the literature will highlight two key research areas. First, research efforts to be more inclusive of race and gender disparities by disaggregating homicide events. As many previous studies have clearly illustrated, differences emerge when homicide events are examined within distinct types or classifications (Decker 1993, 1996;

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Rosenfeld 1997; Maltz 1994, 1998). Researchers, for example, have called for categories that reflect true groupings or patterns in behavior (Maltz 1994), particularly when studying homicide behavior (Maltz 1998). Second, we focus on literature that emphasizes the relevancy of labor market opportunities and economic restructuring to the study of urban violence. The structural conditions of urban areas—poverty, family disruption, racial isolation, joblessness, etc.—have consequences in terms of social control and crime rates (Sampson and Wilson 1995). Moreover, the levels of these conditions differ along race and gender lines.

Disaggregated Homicide Rates

Attention toward urban disadvantage and race-specific homicide increased significantly during the 1990s (Balkwell 1990; Krivo and Peterson 1996, 2000; Krivo et al. 1998; Messner and Golden 1992; Peterson and Krivo 1993; Allen and Buckner 1997; Parker and McCall 1997, 1999; Shihadeh and Flynn 1996; Ousey 1999). The cumulative result of these studies is evidence that the level of structural disadvantage differs across racial groups which, as a result, contributes to the racial disparities in homicide rates (Krivo and Peterson 2000; Peterson and Krivo 1993; Harer and Steffensmeier 1992; Messner and Golden 1992; Parker and McCall 1997; 1999; Jacobs and Wood 1999; Smith 1992). For example, in a direct test of the racial invariance thesis, Ousey (1999) finds structural dimensions varied by both magnitude and significance across black and white homicide rates for 125 cities in 1990.

To account for the racial disparities in violence, the scope of conceptual arguments has broadened to incorporate both race-relations and feminist literatures (Rosenfeld 1997; Jacobs and Wood 1999; Krivo et al. 1998). Examples include research

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on male joblessness (Sampson 1987, 1991), poverty concentration (Krivo and Peterson 1996; Peterson and Krivo 1993) and various aspects of labor market stratification and political competition (Jacobs and Wood 1999; Crutchfield and Pitchford 1997; Parker and McCall 1997; 1999) in studies of urban violence. Yet, we argue that two areas of research have been largely missing from the homicide literature--- a look at gender and family structures in the urban context.

Studies of gender at the macro-level have been few. In fact, there are only a handful of aggregate-level studies on female homicide victimization (Bailey and Peterson 1995; Brewer and Smith 1995; Gartner et al. 1990; Marvel and Moody 1999; Smith and Brewer 1992), and far fewer studies on gender specific homicide offending rates (Steffensmeier and Haynie 2000a; 2000b). Albeit limited in number, these works have concluded that structural disadvantage contributes similarly to male and female homicide offending rates, with the overall fit of the structural models being better for males than females (see Steffensmeier and Haynie 2000a; 2000b).

Importantly, the most influential predictor surfacing from previous studies is gender inequality in employment (Kruittschnitt 1993; Steffensmeier 1993). However, because most studies focus on violence against women (Bailey and Peterson 1995; Smith and Brewer 1992), our understanding of the relationship between economic or labor market conditions and women's offending has been limited, particular across different racial groups (Brewer and Smith 1995; Sommers and Baskin 1992; Baskin, Sommers, and Fagan 1993; Kruttschnitt 1993).

Second, few studies have incorporated the diversification of family structures as a response to the disadvantages in urban areas. That is, most studies estimate the impact of

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family disruption, either directly or indirectly, on violence among whites and blacks (Almgren et al 1998; Sampson 1987; Parker and McCall 1997, 1999; Peterson and Krivo 1993; Sampson and Messner 1991; Sampson 1987; Sampson and Wilson 1995), while ignoring the fact that many families remain an important dimension in urban areas.

Because much of the criminological literature focuses on family disruption and instability, the social control aspects of different types of families in urban areas are largely unknown. For example, in a study of family structure and premarital births, Wu (1996) refers to the standard practice of identifying families as either "intact" or "non-intact." Families are "intact" if both biological parents are present and "non-intact" if one biological parent is missing. As Wu states: "The terms 'intact' and 'non-intact' are misleading because families always headed by a single-mother are intact in the sense of never having been broken" (1996:387). 'Female-headed household' is commonly used as a measure of 'family disruption' in much of the criminological literature (see Steffensmeier and Haynie 2000a for a similar argument). Given that households headed by females and never-married women with children are the more common types of family in the urban landscape, the tendency to conceptualize these families as disruptive is problematic, in that it assumes family types do not differ from family disruption in investigation of urban violence.

As a result, our understanding of the family conceptually beyond family disruption has been limited. This limitation is compounded by the tendency to focus on male joblessness in most aggregate-level studies of violence. That is, while joblessness among urban black males has been found to be one of the strongest predictors of urban crime rates directly (Krivo et al. 1998; Algmren et al. 1998) and indirectly through family

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disruption (e.g., Algmren et al. 1998; Sampson 1987), little is known of how similar disadvantages faced by females may compare to their male counterparts. The current research merges gender and family types into the study of economic restructuring and rates of disaggregated homicide in urban areas.

Race, Gender and Work

While numerous studies of urban disadvantage take into account race, the impact of economic restructuring on males and females is less clear. This section of the literature review provides evidence for the interconnections between race and gender in structural conditions. For example, like males, minority females also have been significantly impacted by the poverty producing labor market dislocation and industrial restructuring which took place in urban areas. Yet most research focuses on the loss of employment and earnings of males with little attention given to the impact of joblessness on women (see Browne 1997; Ihlanfledt and Sjoquist 1989 for similar arguments).

Depicting the disadvantages and conditions facing many African Americans in urban areas, recent literature suggests that the level of economic disadvantage faced by black females and white females differ significantly (see Tienda et al. 1987). While women generally are employed in service and retail-type occupations which saw growth during the industrial shift (Tienda et al. 1987), black women work disproportionately in manufacturing sectors and other industrials which faced the most significant losses (Kletzer 1991). Hsueh and Tienda (1996) find strong evidence of labor force instability (nonparticipation and unemployment) among women as compared to men, and minorities as compared to non-minorities. In addition, other research reveals racial differences in the impact of labor market changes on young women and, more specifically, that black

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female-headed households faced the greatest job loss due to the sub-urbanization of jobs and expansion of retail trade, while white women did not (Browne 2000). Hence, these studies find that the economic restructuring of urban areas not only heightened disparities along racial lines, but also further exacerbated gender differences in employment.

This decline in economic opportunities among women impacts the family. Young black women, for example, have abandoned marriage as a viable option for escaping their poverty-stricken surroundings (South and Crowder 1999; Staples 1997). In fact, a growing percentage of women with children will never marry (Bennett et al. 1992). While this research suggests a higher proportion of African Americans remain single, others find that whites follow similar patterns (Ruggles and Goeken 1992).

Wilson (1987) argues that increasing joblessness among black males is the single greatest factor influencing the decline in marriageability. Others, however, attribute the decline in marriageability to a "marriage squeeze"-- the point at which women who wish to marry outnumber available men (see Bennett et al. 1992). High mortality rates among young black men, in addition to high rates of incarceration and military service for this group, have only exacerbated the imbalance in the pool of potential spouses (Bennett et al. 1992; South 1992; Staples 1997). Glick (1997) finds that between 1980 and 1992 the percentage of children living with never-married mothers more than doubled for blacks and whites. It is within this same time frame (i.e., 1980 to 1990) that female-headed households with children experienced the most significant job loss (Browne 2000). And these families are among the most impoverished in the urban area (South and Crowder 1999).

Based on this literature, we now find that while the economic transformation of

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urban areas had significant consequences along racial lines, minority women and families were impacted considerably. Minority women faced greater displacement/dislocation in the labor market than women of other racial groups, which directly affected the families in theses areas (Browne 1997; 2000). A test of the connections to urban violence would prove to be an important and unique contribution to the existing research.

CONCEPTUAL ARGUMENTS

Racial groups have been differential impacted by the labor market and structural conditions that exist in urban areas. Researchers find strong patterns of residential segregation of blacks from whites and document racial disparities in labor market opportunities in cities throughout the United States (Lieberson 1980; Massey and Denton 1988, 1993; Massey et al. 1994; Wilson 1987). Because of barriers to residential mobility imposed through segregation, poorly educated, low-income blacks experience a more disadvantaged residential environment, and they are often regulated to the least desirable, unstable jobs. Researchers document the exclusion of blacks from the better paying and higher status occupations (Blalock 1967, Lieberson 1980), and others provide evidence of high unemployment rates among blacks, particularly in Northeast and Midwest regions (Jaynes and Williams 1989). Lichter (1988), when examining racial differences in economic underemployment (involuntary part-time employment and poverty-level wages) from 1970-1982, found that black males experience higher levels of economic underemployment than their white counterparts, with the racial gap widening over time. Labor market marginalization and joblessness among black males has been documented in other literature as well (Ricketts and Sawhill 1998; Kasarda 1989; 1992;

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Wilson 1987; 1996).

In our conceptual model (see Figure 1), the above studies provide the backdrop for how concentration of poverty, joblessness and racial residential segregation characterize the urban environment. Furthermore, these conditions resonate through the social environment— deteriorated houses, vacant units, family disruption (Anderson 1990; Wacquant & Wilson 1989; Sampson and Wilson 1995; Wilson 1996)-- and increase exposure to crime rates (Jacobs and Wood 1999; Parker and McCall 1997; 1999; Peterson and Krivo 1993; Sampson 1987). Thus, in our conceptual model labor market conditions and urban disadvantage are linked to the social disorganization of an area, specifically in the form of family disruption.

The social disorganization approach has been fundamental to the study of homicide. Shaw and McKay (1942) argued that deteriorating structural conditions lead to *social disorganization* in communities, which, in turn, accounted for the ecological variations in crime rates. The social disorganization perspective is key to this study due the idea that structural barriers impede development of formal and informal ties that promote the community's ability to solve common problems. Structural conditions—such as low economic status, racial heterogeneity, residential mobility, and family disruption-- have been identified as central to this perspective, particularly as it relates to violence (Sampson 1987; Sampson 1991; Sampson and Groves 1989; Petee and Kowalski 1993; Smith and Jarjoura 1988; Smith and Brewer 1992).

Similar to the social disorganization perspective, we argue structural conditions in urban areas can hinder the ability to establish and maintain mechanisms of social control that serve as barriers to urban homicide. Importantly, based on existing research, we

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argue that the level of these structural dimensions differ along race and gender lines. For example, racial heterogeneity and residential mobility persist in urban areas and reflect growing racial residential segregation in today's urban city. Moreover, researchers have found higher levels of economic deprivation (poverty, joblessness, etc.) among African Americans as compared to other racial groups (Massey and Eggers 1990; Massey Gross, and Shiuya 1994), as well as among women (Browne 1997; Hsueh and Tienda 1996; McCall 2000). In addition, Wilson and others document changes in the urban economy over time in regards to labor market opportunities (see Wilson 1987). Given this, we believe that indicators of labor market and industrial restructuring may be more relevant to the study of disaggregated homicide, particularly the change in urban homicide over time. Below we outline some of our hypotheses associated with each of our three main research aims.

Documenting Labor Market Stratification and the Economic Transformation

As stated, we attempt to measure labor market stratification and the industrial restructuring of urban areas. We predict that our measures of labor market dislocation will reveal higher levels of disadvantage for blacks than whites in both 1980 and 1990. More specifically, we believe black females will experience more joblessness over white females, due to limited involvement of women in the labor force in general and the "double" disadvantage black women face as a result of their race and gender. As documented in previous studies, we also expect black male joblessness to be high in urban areas and exceed the level of joblessness among white males.

In terms of labor market opportunities and restructuring, we expect males to be employed in the industrial (manufacturing) sectors more so than women, who are more

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likely to be found in the retail/service sector. Moreover, when women are employed in the manufacturing sector, we expect a higher percentage of black females as compared to white females, given that these jobs are typically unskilled and involve low wages. Overall, we argue that blacks more so than whites will be negatively impacted by industrial restructuring because of the removal of these occupations from the urban areas from 1980 to 1990. Furthermore, as suggested in the literature, family diversity is expected to be higher among black families than whites.

In terms of the structural characteristics of cities, we predict cities are largely racial isolation (via racial residential segregation) and social disorganized (i.e., unstable residential populations, divorce, family disruption, and sex ratios).

--Figure 1 About Here—

Industrial Restructuring, Stratification and Disaggregated Homicide in 1980 & 1990

Our conceptual arguments reflect the importance of capturing both static and dynamic processes when linking the economic transformation to the homicide offending of our race and gender specific groups. We first offer some of the hypotheses of interest in the cross sectional models, followed by hypotheses that take into account the dynamic process of change in structural conditions, labor markets, and urban homicide from 1980 to 1990.

A leading hypothesis in this research is that labor market opportunities differ significantly across our race- and gender-specific groups, which contributes to disparate rates of disaggregated homicide offending. Another expectation that merges race with gender is black females face greater gender inequality, which directly impacts their

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involvement in homicide, relative to the other specific groups. In addition, while we know that the economic transformation of the 1970s and 1980s contributed to disadvantages in the urban environment for all those who reside there (i.e., all of our race- and gender-specific groups felt the consequences of the industrial shift), we predict that blacks were impacted considerably relative to whites, which result in higher rates of homicide offending. That is, we expect that our measures of economic restructuring and labor market dislocation to be stronger predictors of black gender-specific homicide than for whites. Last, our interest in the ecological structure of urban areas (via social disorganization) leads us to generate hypotheses that estimate the impact of these factors on disaggregated homicide rates, while controlling for concentrated urban disadvantage and labor market dislocation. For example, we predict that areas that become increasingly socially disorganized (via residential instability in population and family disruption) will have higher rates of offending across all groups.

In terms of our dynamic models, shifts in labor market structures and economic climates over time also contribute differently to homicide offending for our specific groups. For example, we hypothesize that the decline in manufacturing jobs from 1980 to 1990 will increase race- and –gender specific homicides. More specifically, we predict that this change in manufacturing jobs will yield the greatest direct impact on the homicide incidents of black males and black females.

In addition, we predict that an increase in joblessness among black males and females has resulted due to industrial restructuring, which translates into higher offending by these groups. Relatedly, white males and females are less likely to be impacted by the industrial shift. On the other hand, changes in the level of economic deprivation and

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family disruption experienced by the white population will result in higher homicide offending by this group. Overall, our hypotheses reflect our expectations that the economic transformation in urban areas had differential effects across race- and gender specific groups.

Exploring the Direct and Indirect Linkages in Disaggregated Homicides

Figure 1 also displays some of the potential indirect relationships between the structural dimensions of urban areas and disaggregated homicide. First, we hypothesis that urban disadvantage (poverty, income inequality, racial residential segregation) will mediate the relationship between the economic transformation and race- and gender-specific homicide rates. Yet another hypothesis is that family structure (female headed households, non-married families, etc.) will be mediated by economic disadvantage to impact race- and gender-specific homicide rates. With these testable statements in mind, we now turn to the data and methods section.

RESEARCH DESIGN

Data Sources

The unit of analysis is U.S. cities with a population of 100,000 residents or more in 1980 and 1990. The sampling leads to 168 cities in 1980 and 196 cities in 1990. There are three major sources of data for this research. For the dependent variables, the source of data is the Supplementary Homicide Report (SHR) of the Federal Bureau of Investigation's Uniform Crime Report (UCR) program (Fox 1996). This is considered to be the richest database for homicide research (Pampel and Williams 2000). The Uniform Crime Report also serves as the source of information on the number of police officers in

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each city circa 1980 and 1990. The second major data source is the 1980 and 1990 *Census of Population: Social and Economic Characteristics* (U.S. Bureau of the Census, 1983; 1994). These data sources are essential to this research because they provide comparable indictors during the time periods of interest (1980 and 1990) and because they offer the latest information available (e.g., comparable 2000 census data for this sample of cities are not yet available). Third, the Bureau of Justice Statistics' *Census of State Adult Correctional Facilities* (1979) and the *Census of State and Federal Adult Correctional Facilities* (1990) are the primary sources of information for our state-level race-specific incarceration measures.

Dependent Variables

This study limits the dependent measures to murders and non-negligent manslaughters with a single offender and single victim to avoid the ambiguity and measurement error issues associated with classifying multiple victims and offenders, particularly involving racial groups (Messner and Golden 1992; Williams and Flewelling 1987, 1988). To minimize the impact of random year-to-year fluctuations in homicide incidents, and because of the level of specificity (race and gender) offered in this study, the four race and gender specific homicide measures are averages based on five years of data surrounding decennial time periods in 1980 (1977-1981) and 1990 (1987-1991).[1] This method reduces the possibility of missing data and increases the comparability of the data across cities. Importantly we acknowledge the problem of missing data on offenders' race and the potential for measurement bias when missing information differs

[1] In 1990, Florida did not report data to the uniform crime reporting program for one or more of the five years of interest to this study. Thus, the original sample of 196 cities is reduced as a result (see Krivo and Peterson 2000 for more information).

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from nonmissing events (Pampel and Williams 2000). We are also aware that there are few homicide events among some of our groups (i.e., white females, black females), if not rare events. Thus, we deal with these concerns in two ways.

First, in those situations in which the race of the offender was unknown, the imputation algorithm developed by Williams and Flewelling (1987) was used to "extrapolate the characteristics of the known cases to those with missing information" (Williams and Flewelling 1987:426)[2]. This procedure allows for an "adjusted" count of homicide incidents by estimating the race of the unknown offender on the basis of all recorded features of the incidents and the racial patterning in the given city in homicide incidents for which the race of the offender is known.

Second, because of the level of detail in the homicide measures, the dependent variables are computed as the number or count of race- and gender-specific homicides in a given city in 1980 and 1990. Specifically, counts are more appropriate than rates due to the fact that homicide offending among some of our specific groups (e.g., white females, black females) is rare and that there is overdispersion (i.e., mean/variance inequality) in these data. That is, using counts instead of rates allows us to employ the appropriate statistical techniques when estimating rare aggregate level events (see Osgood 2000). Given this, the dependent variables are computed as the average number or count of homicides for a given race- and- gender specific group over a five-year period in 1980 (1977-1981) and 1990 (1987-1991).

Independent Variables

[2] We thank the Center for the Study and Prevention of Violence at the University of Colorado and Kirk Williams for helping us with these data.

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Key to this research is offering unique measures of **industrial restructuring** and **labor market stratification** that take into account the multiple ways that race and gender specific groups are impacted in urban areas. In doing so, we offer the following race- and gender-specific measures. First, joblessness is computed by dividing the number of persons (i.e., race and gender specific persons) not employed over the total number of those persons aged 16 and older. For example, black male joblessness is calculated by dividing the number of black males not employed by the total number of black males that are 16 years of age and older in the population and then this value is multiplied by 100. By taking into account the larger race- and gender specific population aged 16 and older instead the number of those specific persons in the civilian labor force we are better able to account for those persons not actively seeking work or who are jobless (Krivo et al. 1998; Parker and McCall 1999). Second, estimating the percentage of each group in manufacturing jobs involved dividing the number of specific persons employed in manufacturing occupations by the total number of those persons aged 16 and older. Included as a manufacturing occupation is: precision, production, crafts, repair, operators, fabricators, and laborers. Third, the measure referred to as 'service industry' is computed as the number of specific persons in service occupations by the total number of those persons aged 16 or older.

In addition to labor market stratification, we estimate the change or shift in **industrial employment** for each city. Specifically, we attempt to capture the shift from manufacturing to service sector employment from 1980 to 1990. This race-specific measures is computed by subtracting the percentage of a given racial group employed in manufacturing jobs in 1990 from the percentage of that group employed in service jobs in

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1980, which is then divided by the race-specific service industry measure in 1980. This indicator of change has not been offered in previous studies of urban homicide.

Measures of concentrated **urban disadvantage** and **economic conditions** are also incorporated in this research. Many of these measures are consistent with previous studies on disaggregated homicide (Messner and Golden 1992; Krivo and Peterson 1996; Parker and McCall 1999), which increase the comparability across studies. Furthermore, these measures tap the unique disadvantages faced by racial groups in urban areas. First, our measure of **poverty** includes the percentage of the population that lives below the poverty level for each race-specific population. This measure is widely employed in homicide research and is the central focus of Wilson's work (1987). Second, a proxy measure of **income inequality** is offered as the Gini Index of Income Concentration. The Gini coefficients are calculated by using race-specific measures of household income in 1980 and 1990. Third, **racial residential segregation** is the index of dissimilarity, which is one of the most widely used indicator of evenness in the distribution of two racial groups (in this research blacks and whites) across census tracts within a city. This measure is denoted as:

$$\mathbf{D_{bw} = [.5(\Sigma\ (|b_j/B) - (w_j/W)|)] * 100}$$

where b_j and w_j are the population totals for blacks and whites, respectively, in a census tract; j; N is the number of tracts in the city, and B and W are population totals for blacks and whites in the city. This measure of segregation is consistent with Wilson's arguments, as well as those of Massey and colleagues, as well as the measure used in much of the criminological literature (see Shihadeh and Flynn 1996; Peterson and Krivo 1993).

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Because this research is interested in examining the diversity in **family structure** separately from **family disruption,** we offer multiple measures in this research. The three measures of diversity in family structure include (1) percentage of non-married families, (2) percentage of female-headed households and (3) single parented households. The first measure, the percentage of **non-married families**, is calculated by dividing the number of persons living in households without a spouse (wife or husband) present by the total number of family households. The percentage of **female-headed households** is computed by dividing the number of households headed by females by the total number of family households. The percent of **single parented households** is operationalized by estimating the number of children ages 18 living with one parent (father or mother), divided by the total number of children 18 years old and under. All measures are then multiplied by 100 to represent the percentage of different types of black and white families in a given area.

The two measures of **family disruption** are: (1) divorce and (2) the male marriage pool index. As commonly measured in criminological studies, divorce is calculated by dividing the number of **divorced males** by the number of persons 16 years of age and older. The **male marriage pool index** is operationalized as the number of employed males aged 16 and older per 100 females. The family disruption measures are race-specific to document the amount of family disruption among both African Americans and whites.

In order to estimate the existence of race and gender relative-based inequalities in urban cities, we calculate various ratio measures. First, **racial inequality** is estimated by three ratio indicators: the ratio of white to black median family income, the ratio of white

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to black median years of schooling attained by those persons 25 years old and over, and the ratio of black unemployment rates to white unemployment rates. **Gender inequality** is based on two race- and gender specific ratio indicators: ratio of white (black) males to white (black) females employed aged 16 and older and the ratio of white (black) males to white (black) females employed in professional or managerial positions aged 16 and older.

We also include measures consistent with the social disorganization perspective. First, **residential stability** is operationalized according to the proportion of residents that reported they lived in the same residence for the previous five years. **Sex ratio** is calculated as the number of males per 100 females (see Messner and Sampson 1991).

In addition, **control measures** are offered. These measures reflect those indicators found influential in previous studies of disaggregated homicide while also taking into account the importance of, and change in, the racial composition of urban areas. We compute **percent black** by dividing the number of blacks in a given city by its total population. **Population size** and composition are employed as control measures in this study. Population size is measured by the total resident population residing in each of the largest cities for which we have complete data and is transformed using a natural logarithm to correct for skewness. Another aspect of population composition is the percentage of the **Hispanic population**. This measure is computed by dividing the number of persons of Hispanic origins by the total residential population base for that city. And a measure of southern region is employed in this study to control for regional differences in homicide offending. **South** is measured using a dummy-coded variable so that cities located in the southern region are coded as one and all other cities are coded as

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zero.

Finally, we offer two measures of formal social control efforts in urban areas. They include **police presence** and a race-specific measure of the **incarcerated population**. The police presence measure is computed as a rate based on the average number of police officers in each city in 1980 (1979-1981) and 1990 (1989-1991) per 100,000 population.[3] The race-specific incarceration measure is based on census data based on correctional facilities. Specifically, this measure involves summing the number of black (white) persons from each facility within given state, then diving that number by the total incarcerated (in custody) population in 1980 and 1990. This computation gives us the proportion of blacks (whites) in custody for each state. Because city level incarceration data are not available, the race-specific state-level measures are then assigned to each city located in within the state so to serve as a proxy measure for social control efforts.

Because we are also interested in modeling the dynamic process of how our measures of structural conditions, specifically labor market opportunities, impact disaggregated homicides over time, each measure operationalized above is also computed as a change score, with the exception of the control measures (south, population size and Hispanic population). That is, to capture the shift or change in disaggregated homicides and urban conditions from 1980 to 1990, we compute a percent change measure by subtracting a given measure in 1980 from 1990, which is then divided by the value for 1980. This computation is represented as:

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[3] Mean substitution was used for some police officer data in 1990 in situations where data were missing for one out of the three years. Mean substitution was not used in cases where data for two out of the three years were missing. No mean substitution was used in the police officer data circa 1980.

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$$C_p = ((X_{pt} - X_{p\,(t-1)}) / (X_{(t-1)})) * 100$$

where C is the percent change score for *p* number of concepts in our change model, *X* is the variable for each of the concepts, *t* is the variable measured in 1990, and *t-1* is the variable measured in 1980.

Statistical Considerations: Composite Measures and Indices

The above measures include a number of relatively highly inter-correlated variables, which is common methodological issue in aggregate level research (Fisher and Mason 1981). These inter-correlations present two methodological issues. First, as Land, McCall and Cohen (1990) argued, a high degree of collinearity between a set of independent variables relative to their correlation with the dependent variable presents a problem referred to as the *partialling fallacy* (Gordon 1967). When partialling among the regressors is not addressed, a potential result in model estimation is a significant test statistic for only one of the two regressors in question when, in fact, if it were not for this fallacy, the researcher would find that both indicators contribute to the explained variance of the dependent variable. The more substantive implication is that a regressor that is theoretically important to homicide offending is dismissed as not relevant.

Collinearity problems, the second methodological issue, also plague some of our measures (Belsley et al 1980). Collinearity is no stranger to researchers using aggregate data. A collinearity problem exists when there is a high correlation between two or more covariates included in an analysis. Evidence of collinearity among indicators is associated with (1) a change in regression coefficient estimates when a variable is either added or deleted from the model, and when an observation is altered or deleted in some way, (2) nonsignificant test statistics and algebraic signs oppose those predicted from

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theoretical arguments and previous findings, and (3) when instability occurs among the regression coefficient estimates from sample to sample (see Parker et al. 1999). When the problem of collinearity is encountered, the sampling errors in the observed correlations are magnified in the process of estimating parameters and, therefore, the estimates can be inefficient and unreliable (Heise 1975:187).

We use principal components analysis with oblique rotation to identify composite measures that combine highly correlated explanatory variables, as well as to minimize problems of partialling fallacies and collinearity among the regressors (see Land, McCall and Cohen 1990; Parker and McCall 1999; Sampson, Raudenbusch, and Earls 1997). Oblique rotation allows for correlation between factors, which is likely in social phenomena, rather than restricting the principal components estimation procedure to derive composites with uncorrelated factors (Kim and Mueller 1985a; 1985b). Based on the principal components analysis and our examination of the bivariate correlations, the following set of indices or composite measures were constructed for use in our regression analyses and structural equations.

Economic Deprivation and Urban Disadvantage/Segregation Indices

The *economic deprivation* index combines the poverty and income inequality measures in the white models, while the *urban disadvantage/segregation index* includes the two measures of economic deprivation (black poverty and black income inequality) and the racial residential segregation measure in the black gender-specific models. The labor market stratification and industrial measures do not load with these economic measures and thus are not included in this dimension. That is, the principal components analysis reveals that constructs of labor market opportunities are empirically distinct from

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other forms of race-specific economic disadvantage.

Family Diversification Index

The second composite measure, referred to as *family diversification index*, indicates that cities with high percentages of single parented households and non-married families also have higher percentages of female-headed households. Most importantly, the principal components analysis reveals that these measures load separately from the measures of family disruption, which allow us to estimate two different dimensions of the urban family in our analyses—family structure and family disruption. Also, importantly, these dimensions are identical in the white and black gender-specific models.

Joblessness Index

The index referred to as *joblessness* marks the scaling of percent black with the race- and gender-specific measures of joblessness (not employed) across our disaggregated models. That is, our principal components analysis led us to combine these two measures, suggesting that cities with an increase in the percentage of the black population are also cities with higher percentages of joblessness for our specific groups (e.g., black males, white females, etc.).

Industrial Employment Index

The *industrial employment index* combines the measure of industrial shift with our race- and gender- specific indicators of employment in the manufacturing sector. Specifically, the change or shift in manufacturing to service industries from 1980 to 1990 is correlated with the percentage of each of our race- and gender- specific groups employment in manufacturing occupations. This composite measure most closely reflects the economic transformation in urban areas. Interestingly, our measure of service

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industry did not correlate with the other labor market indicators. Thus this measure (referred to as service industry) is regressed separately in our disaggregated homicide models.

Racial Inequality Index

The dimensional composite, the *racial inequality index*, includes the three racial inequality measures: the ratio of white to black median family income, ratio of white to black median years of schooling attained for persons aged 25 and over, and ratio of black unemployment to white unemployment rates in the black models. In the white models, this index combines these three ratio measures with racial residential segregation in the white models. This differential scaling by racial group is consistent with much of the previous racially disaggregated homicide research (see Messner and Golden 1992, Parker and McCall 1997, 1999).

Gender Inequality Index

The final composite measure, *gender inequality,* combines the ratio measure of the number of white (black) males to white (black) females employed who are 16 years of age or older and the ratio of white (black) males to white (black) females employed in professional or managerial positions who are 16 years of age or older.

After the above indices were computed, we re-examined the bivariate correlation between each predictor variable for evidence of collinearity and partialling among the regressors. The above indices significantly reduced these methodological problems in our measures. Additionally, note that we performed robust diagnostics and inspected our initial regression analyses to identify other violations of the statistical assumptions, such as outliers and influential cases (Belsley et al. 1980).

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RESULTS

To take into account important data considerations (e.g., rare homicide events, overdispersion, etc.) we employed different state-of-the-art multivariate statistical techniques when addressing the research aims guiding this research. In this section, we provide the results of our analysis, as well as provide information about the statistical technique utilized when applicable.

DOCUMENTING THE ECONOMIC TRANSFORMATION FOR RACE AND GENDER SPECIFIC GROUPS

Central to this study is our argument that the study of urban homicide should be expanded to include the labor market dislocation and industrial restructuring that occurred in urban areas. Recall that the economic transformation of urban areas led to the removal of manufacturing jobs from cities over time, as well as resulted in high rates of joblessness, poverty and racial residential segregation. In this section, our intent is to document the differential levels in labor market stratification, employment opportunities, and economic and social conditions for our race and gender specific groups.

-- Table 1 About Here--

Table 1 provides descriptive information for each our detailed measures in 1980 and 1990. There are a number of notable findings here.[4] First, by incorporating both race and gender dimensions in this study, we find large differences in the homicide counts across these groups. For instance, black males have the highest number of incidents,

[4] Our description of the statistics displayed in this table will focus on observed race and gender differences, instead of comparisons of our measures over time. Any efforts to comments on changes based on a simply comparison of the means displayed in this table would be misleading. Rather, we calculate

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followed by white males, black females and then white females. Second, we find that urban disadvantage among blacks is approximately two-and-one-half times higher than the economic deprivation faced by whites (28, 10 respectively). This finding supports the research of Massey and colleagues of how poverty and racial residential segregation characterize the urban environment and how these disadvantages are more pronounced among blacks (Massey and Denton 1990; Massey et al. 1991). Third, in terms of the diversity in family types across the racial groups, this table shows that black families have higher percentages of these three family types than white families. In fact, we find family diversity is approximately three times higher for blacks than whites. For example, in 1990, approximately 41% of black families were female headed as compared to 16% of white families. The family diversity statistics also support the claim that more women with children are remaining unmarried over time (Bennett et al. 1992).

In terms of labor market stratification and industrial restructuring, race and gender differences emerge. In Table 1 we find that blacks experience higher levels of joblessness than whites. Moreover, black females experience similar levels of joblessness to black males, but black females have much higher levels of joblessness as compared to white females. White males experienced the lowest level of joblessness when compared to the other race-and gender-specific groups. These findings support the claim that black females, like black males, have been significantly impacted by the economic shifts and industrial restructuring which took place in urban areas since the 1970s (Browne 1997; Ihlanfledt and Sjoquist 1989).

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change scores to estimate the amount of change in our measures from 1980 to 1990 and report this information in another table (see Table 6).

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We also find race and gender disparities in our industrial employment and service industry measures. For example, black males have high levels of employment in manufacturing industries (approximately 39% in 1990), followed by white males (33% in 1990), black females (approximately 12% in 1990) and then white females (approximately 8%). Additionally, we find that blacks are impacted by the industrial shift from 80 to 90 at a higher level than whites (25.2, 20.5 respectively). On the other hand, black females are more likely to be found in the service industry (approximately 25% in 1990), with white males being the least likely to be employed by this industry (10% in 1990). Overall, these statistics reveal race- and gender disparities in labor market opportunities and economic restructuring constructs, in addition to racial differences in overall levels of economic and social characteristics in urban areas. Given this, we now turn to estimating the impact of these unique measures on our race and gender disaggregated homicide counts.

INDUSTRIAL RESTRUCTURING, LABOR MARKET DISLOCATION AND DISAGGREGATED HOMICIDIES IN 1980 AND 1990

We employ the use negative binomial Poisson-based regression instead of Poisson or Ordinary Least Squares (OLS) regression in this study. The use of ordinary least squares regression on count data can lead to inefficient, inconsistent, and even biased estimates, while Poisson models assume that conditional variance is equal to the conditional mean (Long, 1997), which is an assumption commonly violated when estimating rare aggregate crime data (Osgood 2000). Moreover, when there is "overdispersion" in the dependant variables, estimates using the standard Poisson regression model can be biased downward, which will lead to larger z-values and

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misleading indications of statistical significance (Long, 1997; Osgood, 2000). Last, we utilize this technique because Osgood (2000) recently confirms that the negative binomial regression is preferable to the standard Poisson regression model when analyzing rare event aggregate crime data. The statistical program STATA (version 7.0) was used to generate our models.

Race and Gender-Specific Homicides, 1980

Table 2 presents the parameter coefficients estimated from the negative binomial regression analysis for the race and gender specific homicide models in 1980.[5] Models 1 and 2 represent the results for black male and black female homicide offending, respectively. Models 3 and 4 include the white male and white female models. For comparison with more traditional linear techniques, the psuedo R-square goodness of fit has been calculated for each model and is presented at the bottom of Table 2 (McFadden 1974).

-- Table 2 About Here--

We find that the *urban disadvantage/segregation* index has a direct, statistically significant affect on black male homicides, but this structural dimension does not impact the homicide offending of black females. This suggests that heightened levels of urban disadvantage (such as high levels of black poverty and racial isolation) among black males in the urban environment increases the homicide offending of this group, which is consistent with claims made within the race-relations literature (Massey et al. 1994;

[5] The social control measures were highly correlated with some of the key measures in the models (e.g., the race-and gender-specific joblessness index). Separate models were estimated to determine if including these measures had a negative impact on the model specification. That is, one model was estimated without the social control measures (police presence and incarcerated populations) and another model was estimated with these measures included. No changes were found in terms of the stability of the estimates

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Massey and Denton 1993; Wilson 1987). Interestingly, we also find that the *economic deprivation* index (includes white poverty and income inequality) has a direct impact on white male homicide offending but exhibits no impact on white female homicides.

The diversity in family structure index (that combines the measures of non-married families, female-headed households, and single parented households) significantly increases the offending of both black males and black females. These findings suggest a breakdown in social control occurs within these family structures, in that these family types may not be able to establish means of coping and informal social control to impede urban black violence. The *family diversity* index does not contribute to the homicide offending of white males and females in 1980.

In terms of labor market dislocation, the *joblessness index* and employment in the service industry increases homicide offending of both black males and black females. The presence of joblessness among black males has been well documented in the literature (Ricketts and Sawhill 1998; Kasarda 1989; 1992; Wilson 1987; 1996) and others have found that joblessness among black males to be one of the strongest predictors of urban crime rates (Wilson 1987; Krivo et al. 1998; Algmren et al. 1998). Our findings support this research. Moreover, our research further finds that black females face similar disadvantages in terms of joblessness and low wage, service sector employment, which contributes to their homicide offending. Thus support for our hypotheses concerning the impact of the economic transformation on black females, in addition to black males, is found here. In fact, our research finds that joblessness is the strongest indicator relative to the other predictors in both black male and female

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(i.e., the magnitude and direction of all coefficients remained the same when comparing the models). Only the full models are report here.

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homicide models. Interestingly, white gender-specific joblessness has no statistically significant impact on the homicide offending of white males and females.

Race and gender differences also appear for the *industrial employment index*. Specifically, as industrial employment increases for black females, so does their homicide offending. This is also the case with white males, in that an increase in industrial employment increases their homicide offending. Conversely, our *racial inequality index* has a statistically significant, positive impact on white male and female homicides. That is, as racial disparities in education, income, and employment opportunities increase and urban areas become increasingly racially isolated, the incidents of white male and white female homicides also increase. These findings are consistent with Blau's macrostructural opportunity theory, which states that inequalities increase the probability for contact with other groups.[6]

Gender inequality, which reflects the relative gender disparities in regards to employment and access to managerial and professional occupations, has a negative impact on black male homicides only. That is, as gender inequalities increase between black males and females, the homicide offending of black males decrease.

In reference to *family disruption*, social disorganization theory posits that family disruption (via divorce) will decrease social control in a given area due to the instability and disintegration it causes in the family unit as well as in the community at large (Sampson 1987). Similarly, the decline in marriageability impacts the stability within the urban environment (Sampson 1987; Wilson 1987). For example, the lack of employed

[6] Blau's (1977) *macrostructural theory* examines the opportunity for intergroup contact that influences race-specific criminal offending (Blau and Blau 1982). In principle, intergroup contact is required for the emergence of any meaningful intergroup association and the basic structural features of communities influence the probability of intergroup contacts (Blau 1977).

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males as potential marriage partners decreases the stability within the family, contributing to the impoverished conditions of the family unit, and the overall disorganization of the community (Almgren et al. 1998; Sampson 1987; Wilson 1987). We find support for this perspective. That is, we find that as the percentage of divorced males increase, so does the homicide offending of all our race- and gender specific groups. Importantly, the impact of family disruption on urban violence does not differ for racial groups (see Sampson 1987 for similar claims).

On the other hand, the decline in marriageability (via *male marriage pool index*) is statistically significant in the black male homicide model. This finding indicates that the limited social control within the family is associated with black male homicide. The results for the sex ratio measures are also relevant to this discussion. Messner and Sampson (1991) argue that the sex ratio is linked to marriageability in that it reflects the supply or number of actual partners available in a given area. That is, when the sex ratio is imbalanced, one gender is in larger supply than the other. While inconsistencies in the impact of sex ratio on racially disaggregated homicide rates has been found in much of the homicide literature (Messner and Golden 1992; Sampson and Messner 1991; South and Messner 1987), our analyses of race- and gender-specific homicides appears to add some clarity into the influence of this measure. That is, recent literature suggests that the ratio of males to females is larger for blacks than whites due to the high mortality rates among young black men, in addition to high rates of incarceration and military service for this group (Sampson 1987; Sampson and Messner 1991; South 1992; Staples 1997; Wilson 1987). We find that an increase in the sex ratio within the black population (e.g., a higher number of black males relative to the number of black females) significantly

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decreases the homicide involvements of both black males and females, while sex ratio within the white population does not have an impact on the homicide offending of white males and females. The racial differences for the sex ratio measures are consistent with this literature.

While the control measures (population size and south) have limited impact in our race- and gender-specific homicide models, the percent Hispanic measure is consistently positive and statistically significant across each of these models. Nelsen et al. (1994) indicate that the size of the Hispanic population contributes to the explained variation in race-specific homicide studies because Hispanic homicide victims and offenders are often misclassified as white or black. Our research supports this interpretation.

Finally, in terms of our formal social control measures, the increase in police presence has an impact on the black gender-specific models but not the white models. We find that an increase in police presence significantly decreases black male and female homicide, a finding in the expected direction. An increase in race-specific incarceration, on the other hand, exhibits no significant effect on the homicide involvement of any of our race-and-gender specific groups in 1980. On a final note, the psuedo R-square values for the models reveals that our measures explain a higher amount of the variance in black homicides, specifically black female homicides, than white homicides. Thus the inclusion of labor market dislocation and economic restructuring indicators seem to contributing significantly to our understanding of black gender-specific homicides in the 1980s.

Race and Gender-Specific Homicides, 1990

Table 3 displays the results of our negative binominal Poisson-based regression

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analyses for 1990. Similarly to Table 2, Models 1 and 2 estimate the impact of various labor market, social and economic measures on black gender-based homicides, while Models 3 and 4 provide the results for our white gender-specific models of homicide.

Unlike the 1980 analyses, we do not find *urban disadvantage/segregation* or the *economic deprivation* indices to impact disaggregated homicides in 1990. On the other hand, the *family diversity index* continues to have a statistically significant, positive affect on black male and female homicides. Moreover, family diversity also has a positive impact on white male homicide, where the increase in family types (female headed households, single parented households, etc.) significantly contributes to the homicide offending of white males in 1990. These findings are not consistent with previous research that incorporates indicators of urban disadvantage/segregation in examinations of racially disaggregated homicide in 1990 (see, for example, Parker and McCall 1999).

-- Table 3 About Here--

Joblessness does not influence black male homicide offending in 1990, as was the case in the 1980 model (see model 1, Table 2). Joblessness among black females remains a contributing factor to their homicide involvement. We also find *industrial employment* among white males significantly increases their involvement in lethal violence. That is, as white males are increasingly found in low skilled manufacturing and industrial based jobs, the homicide offending of this group also increases.

In accord with Blau's (1977) work, which predicts the opportunity for contact increases with inequality, we would expect that racial inequality would significantly

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predict homicide involvement for all of our specific groups because of the vast racial inequalities found in the urban environment. We find that our racial inequality index is significant in the white male homicide model only, but in the predicted direction. Importantly, however, the lack of findings for this measure in the other race- and gender specific models is consistent with other researchers whose research reveals that racial inequality yields no influence on either white or black homicide offending (Parker and McCall 1997, 1999) or victimization rates (Peterson and Krivo 1993).

In terms of gender disparities in employment, various researchers have found a significant impact for gender inequality on female homicide victimization and violence against women (Bailey and Peterson 1995; Baron and Straus 1987; Brewer and Smith 1995; Gartner et al. 1990; Yllo 1983). In our study, we proposed that gender inequality would be higher among black females than the other specific groups because black females face "double" inequality as a result of their race and gender. In Table 3, we find that an increase in gender inequality leads to a decline in black female homicides. Our hypothesis is not supported here.

Residential stability, as an indicator of social disorganization in urban areas, has an inverse, statistically significant effect on white male homicides only. Thus greater stability in the residential population reduces homicide among white males. This is consistent with expectations. The sex ratio of black males to females continues to have a negative effect on black male homicides, which is also consistent with our expectations. Table 3 also reveals that an increase in the sex ratio between white males and females (i.e., more males to females) has a negative effect on white female homicides.

Region, measured by South, is significant in the 1990 models. Specifically, black

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male, white male and white female homicides are higher in the south than other regions of the U.S. These region findings are largely consistent with Nisbett and Cohen (1996), and others (Nelson et. al. 1994; Parker and Pruitt 2000), who previously found Southern region effects on white homicide rates but not black homicide rates.

Finally, when taking into account the increasing efforts in formal social control within urban areas, we find that an increase in the police presence in 1990 contributes to an increase in black male homicides while this measures exhibits no effect on the homicide events of the other race- and gender-specific groups. This finding is contradictory to the 1980 results in Table 2, where police presence decreased the incidents of black male and black female homicide. Incarceration continues to have a null effect on disaggregated homicide.

Overall, the results displayed in Tables 2 and 3 reveal a number of race and gender differences in the effects of structural dimensions on disaggregated homicides, as well as differences over time. For example, our measures of labor market stratification and industrial restructuring (joblessness index, industrial employment index, and service industry) are more likely to predict the homicide events within the black population as compared to whites, and in the 1980s than in the 1990s. This finding is largely consistent with our conceptual arguments. Yet another finding is that black urban disadvantage and white economic deprivation contributes to the homicide events of males in 1980, while no impact is found for homicides involving women. By the 1990s these structural conditions have no impact on male disaggregated homicides, when labor market stratification and the other predictors were controlled for in the models. Clearly, these findings suggest greater attention toward modeling the impact of the economic

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transformation on the homicide offending over time is warranted. We now attempt to capture this change in the next set of models.

DYAMANIC MODELS OF THE ECONOMIC TRANSFORMATION AND URBAN HOMICIDE

Industrial change is the catalyst for the disadvantages and violence found in urban areas. An examination of this claim, which has been emphasized by Wilson (1987) and Massey and his colleagues (1990, 1994), requires a dynamic model or analysis over time. Yet most aggregate-level studies that incorporate this literature are cross sectional (examples include Krivo and Peterson 2000; Parker and McCall 1999; Peterson and Krivo 1993). In this section, we focus on two research areas. First, we assess the amount of change that occurred in disaggregated homicides and structural predictors from 1980 to 1990. Second, we estimate the impact of our structural predictors on disaggregated homicide over time. To achieve this end, we utilize a methodological approach– random effect, negative binomial regression in a panel analysis– that can account for change while allowing us to estimate rare events like race and gender specific homicide.

Assessing Change

A quick comparison of the findings reported in Tables 2 and 3 document that change occurred in urban areas from 1980 to 1990 specifically. In order to address this change more directly, Table 4 provides descriptive information for the change in our measures from 1980 to 1990 using change scores. We highlight some of the findings here. First, on average for our sample of cities, there was an increase in the homicide offending over time for three of our four groups: white males, black males, and black females. Of these groups, homicide events involving black males increased the most.

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While levels of poverty and income inequality increased for both blacks and whites over time, we find that the decrease in racial residential segregation in these cities translated into a significant decrease in the black *urban disadvantage/segregation index* between 1980 and 1990. White *economic deprivation* also decreased over time, but to a lesser degree given that the racial residential segregation measure was not included in this composite measure. In terms of the diversification of black and white families in urban areas, there have been notably increases in all three family forms. However, the shift toward more diverse family structure was slightly larger in the black population.

-- Table 4 About Here--

Joblessness (via *joblessness index*) has also increased over time for three of our four groups (white males, white females, and black males). Moreover, black females experienced the largest decline in employment relative to the other groups. On the other hand, industrial employment has declined for all groups. Given the inclusion of the race- and gender specific manufacturing measure in this index, this finding provides empirical evidence of the economic transformation (or the shift away from manufacturing jobs) in urban areas. Previous literature also suggests that because blacks worked disproportionately in manufacturing sectors they faced the most significant job loss during urban restructuring (Kletzer 1991). We find that the decline in manufacturing employment over time was higher among women than men, and highest for black females (a decline of 25.6%) as compared to any other group. Thus, our statistics are consistent with this literature. Furthermore, it has been argued that women were more likely to be employed in service and retail-type occupations-- occupations that saw

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growth during the industrial shift (Tienda et al. 1987). While we found that women are more likely to be employed in the service sector as compared to males (see Table 1), our change measures suggest that there have been declines in service sector employment among white females (-2.8) and black females (-5.5), while males have gained employment in this industry over time, especially black males (14.9%). Because researchers claim that the increase in service jobs were typically within low level service/retail occupations that require little skill and offer little job security (see McCall 2000; Goldin 1990), the change (increase) in service sector employment for males may be particularly relevant to our investigation of racially disaggregate homicides. We now turn to our multivariate change models.

Dynamic Multivariate Models Of Change

To capture the impact of change in the economic transformation on disaggregated homicide from 1980 to 1990, a pooled cross-sectional, time series equation was estimated. Specifically, we utilize a random-effects, negative binomial regression estimation procedure (STATA, version 7.0). This procedure allows us to estimate the impact of change in an explanatory variable on the change in the dependent variable (Hausman, Hall, and Griliches 1984; Maddala 1983), while the random effects model allows the us to determine the influence of time stable and time variable regressors on the change in disaggregated homicides over time and across each city (Hausman et al. 1984).[7] Relevant to this research aim, the procedure estimates parameter coefficients and statistical tests for the change occurring in our measures between 1980 and 1990.

[7] A control variable for time was added to the model to fix the effects across the decennial points. This control measure is called "period effect for 1990" in the models. In addition, a correction term for population size also is included in the model to adjust for heteroskedasticity which is common in city-level analyses.

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Table 5 provides the results of our pooled, cross sectional, negative binomial regression analysis. Models 1 and 2 displays the parameter estimates for the change in black male and black female homicides, while Models 3 and 4 present the impact of the coefficients on the white male and white female homicide equations.

-- Table 5 About Here--

Support is found for the impact of black male and black female joblessness (via the *joblessness index*) on the change in black gender-specific homicides. Specifically, the increase in joblessness over time for black males and black females translates into an increase in lethal violence for these groups. The impact of joblessness is greater for black females than black males, whereby we find the *joblessness* index is the strongest predictor in the black female change model. This finding supports our claim that the deleterious impact of joblessness is not limited to black males; rather black females have also been negatively impacted by the changing economic climate in urban areas over time.

Support is also found for the impact of *industrial employment* and *service* sector employment in these equations, but not in all of our disaggregated models. Change in industrial employment (e.g., the shift from manufacturing to service employment and changes in the availability of manufacturing jobs over time) significantly influences the homicide involvements of black males and white males but not females. Thus the industrial shift, which led to the removal of manufacturing jobs from cities, had a significant impact of the homicide events of males who were predominantly employed by this sector, especially black males (see Table 3). A shift to service sector employment, on

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the other hand, contributes to the change in black male and black female homicides. This finding suggests that while the economic transformation was characterized by an increase in the service industry, minorities were employed in the part time, poorly paid service jobs within the urban area, which are the types of jobs that characterized much of the growth in the service industry (Kuhn and Bluestone 1987). This employment, however, did little to advance their economic situation and, as a result, contributed to the homicide involvements of these groups rather than reducing it. Homicides among white males and white females were not influenced by the shift to the service industry from 1980 to 1990. Also note that the coefficients for change *urban disadvantage/segregation*, *economic deprivation* and *family diversity* are not significant in any of the disaggregated homicide models. These results suggest that changes in labor market dislocation and industrial restructuring are more pivotal to understanding disaggregated homicide over time than shifts in the overall economic conditions.

In Table 5, we also find that shifts in race and gender inequalities are significant to our study of disaggregated homicide over time. For example, the change in racial inequalities (i.e., shift in white to black disparities in educational attainment, income, and employment rates) has a statistically significant effect on the change in black male and female homicides from 1980 to 1990. Moreover, shifting racial inequalities contributes to the change in white female homicides as well. Gender inequality, which documents the shift in white male to female employment and access to professional and managerial occupations, is a significant predictor of white male homicides. Hence we find that measures of race and gender inequalities have differential effects across our disaggregated models.

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For our family disruption indicators, we find that the change in the percentage of divorced males has a statistically significant affect on white male and white female homicides over time, while the change in the male marriage pool index does not exhibit any effect in the disaggregate homicide models. A shift in the sex ratio of black males to black females, on the other hand, inversely impacts black male and black female homicides. Theses findings are largely consistent with our expectations. For the control measures, the change in the Hispanic population and Southern regional have a statistically significant effect on white gender-specific homicide offending, while these measures have no influence on the black population.

Interestingly, the shift in the presence of police from 1980 to 1990 has opposite effects on the homicide events of black males and white females. That is, the increase in police presence over time contributes to the increase in homicide offending of black males, while decreases the involvements of white females in lethal violence. And the shift in the white incarcerated population influences the change in homicide offending for whites (both males and females), while incarceration has a null effect on the change in black gender-specific homicides from 1980 to 1990.

Overall, our dynamic models display the importance of estimating change in structural disadvantage and urban homicide, in addition to static modeling. In addition, the change indicators of labor market dislocation and economic restructuring are the most influential measures in many of the disaggregated homicide models, particularly for the black population.

DIRECT AND INDIRECT LINKS TO DISAGGREGATED HOMICIDES, 1990

In order to test the indirect and direct linkages proposed in our hypotheses, we

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follow other social ecological literature (Rosenfeld et al. 2001) and estimate structural equation models (SEM) of the relationships between labor market dislocation, urban disadvantage, and disaggregated homicide[8], controlling for the mediating influences of police presence and the size of the race-specific incarcerated population. Specifically, we employ the use of SEM so that we can simultaneously test the various direct and indirect linkages displayed in our conceptual model (see Figure 1). A chi-square test, adjusted goodness of fit test, and an inspection of the standardized residuals are conducted in order to assess the fit of each model. We use AMOS (version 4.0) to estimate each of the four SEM recursive models.

Black Gender-Specific Homicide Models, 1990

Figures 2 and 3 present the results of the simultaneous maximum likelihood regression models for homicides involving black males and black females. More specifically, figure 2 shows the results from the recursive model that examines the indirect effects of labor market dislocation and industrial employment on the black male homicide rate through the influence of urban disadvantage/segregation and our constructs of family disruption (divorce and male marriage pool) and family diversity. Figure 3 displays the identical model estimated for the black female homicide rates in 1990. Only the statistically significant path coefficients are displayed in the models. In addition, the chi-square test, adjusted goodness of fit test and other test statistics are reported at the top of each diagram.

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[8] In the SEM models the dependent variables are the race-and gender specific homicide rates in 1990 rather than the number or counts. Specifically, each homicide rate was calculated by dividing the number of homicides involving an offender of a specific race and gender by the total number of persons from that racial group in the population. All homicide measures were then computed as a rate per 100,000 persons. As noted the dependent variables were highly skewed so they also have undergone natural logarithmic transformations

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The findings from the models are largely consistent with previous literature and our hypotheses. For example, much of the urban disadvantage literature suggests that the economic transformation (e.g., industrial shift and removal of manufacturing jobs) resulted in heightened levels of black disadvantage (e.g., high rates of black poverty and racial isolation) in urban areas (Wilson 1978; Massey and Denton 1993; Massey et al 1994). Criminological scholars have argued that these disadvantages resonate into the environment causing a breakdown in social control that results in violence directly (Almgren et al 1998; Peterson et al. 1998s) and indirectly through family disruption (Sampson 1987). As displayed in the figures, *urban disadvantage/segregation* mediates the impact of black labor market dislocation (i.e., joblessness index) and black *industrial employment* on family structures and family disruption. For example, as shown in Figure 2, the economic transformation increases the disadvantages faced by blacks, which in turn increases the diversification of black family types (B= 2.51) and decreases the number of marriageable males (B= -.238) in urban cities. A similar path is displayed in Figure 3.

In terms of the indirect linkages to black male homicide, we find that *joblessness* and *industrial employment* are significantly related to increases in black urban disadvantages in cities. The increase in urban disadvantage results in family diversification (B= 2.51), which in turn positively influences black male homicides (B= .007). However, we do not find *family disruption* or *family structures* to mediate the influence of urban disadvantage on black female homicides (see Figure 2). Rather, urban disadvantage mediates the effects of labor market indicators on black female homicides (B= .029).

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Interestingly, we also find statistically significant linkages between our labor market indicators and those of formal social control. In both models, black *industrial employment* and *joblessness* increases the proportion of black among the state's incarcerated population. However, only in the black male homicide model do we find that the incarcerated population mediates the influence of the economic transformation on black homicide. Specifically, black male joblessness (B= .004) and industrial employment (B = .003) increase the proportion of blacks incarcerated, which in turn decreases black male homicide rates (B = -1.052). This finding is in the predicted direction. In addition, an increase in police presence significantly influences the black male homicide rate (B = .002) while has no impact of the homicide rates of black females (see Figure 3). Overall, the path results suggest a good fit to these data.

White Gender-Specific Homicide Models, 1990

The structural equation coefficients for the effects of the various labor market, economic deprivation and family constructs on white male homicides (Figure 4) and white female homicides (Figure 5) are examined next. First, similar to the black gender-specific models, we find that labor market dislocation (*joblessness index*) and industrial employment increase the level of *economic deprivation* faced by this population in urban areas. Moreover, white *economic deprivation* mediates the effects of the economic transformation on the diversification of white families. However, the family disruption constructs (e.g., percentage of divorced white males and white male marriage pool index) are not indirectly related to either labor market dynamics or the economic deprivation in urban areas. Rather, as shown in Figure 4, we find that the percentage of white divorced males has a direct effect on white male homicide rates only (B = .022).

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-- Figures 4 and 5 About Here --

Looking at the indirect linkages to white male homicide rates (see Figure 4), it seems that *economic deprivation* mediates the influence of both white male *joblessness* and *industrial employment* on white male homicides (B = .050). We also find that the proportion of whites incarcerated is significantly reduced by joblessness (B = -.001), which translates into a decrease in the rates of white male homicide (B = -994).

For white females, joblessness directly increases their homicide rates (B = .006). Moreover, as displayed in Figure 5, white female *joblessness* and *industrial employment* also increases the level of *economic deprivation* faced by the white population, which further contributes to the homicide offending of this group (B = .074). The proportion of whites incarcerated and the presence of police do not impact white female homicides. These path model results fit well with the data.

DISCUSSION AND CONCLUSIONS

Primarily, our goal was to examine how race and gender intersect within the labor market structures and changing economic opportunities of urban areas to explain the disparities in race- and gender-specific homicide offending. That is, we have argued that the study of urban homicide could be enhanced by a more detailed look at the economic transformation of urban areas, an investigation that incorporates measures of labor market stratification and homicides disaggregated by race and gender. This study provided a systematic test of the effectiveness of structural arguments on the homicide offending of white males, white females, black males, and black females. Considering this lofty goal,

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our study reveals some important findings.

First, when we disaggregated the homicide counts by race and gender we revealed the vast differences in offending behavior for these groups. For example, black males have the highest level of homicide offending as compared to white males, white females and black females. In fact, in 1980, the number of black male homicides was approximately twice as high as white males, six times higher than black females, and 18 times higher than white females. We also found that this race and gender pattern of offending persisted into the 1990s, in that black males continued to have the highest level of offending, followed by white males, black females and then white females. These findings are consistent with previous works (e.g., Chilton and Datesman 1987). Furthermore, by investigating the change in disaggregated homicide over two pivotal time periods (i.e., 1980 and 1990), we found that the offending of three out of four of our groups increased over time. That is, there was a slight decline in white female homicide counts over time while the homicide involvement of black males, white males, and black females increased considerably during this time period. These findings, specifically the vast race and gender disparities in offending, provided the avenue for a more thorough investigation into the structural conditions of urban areas.

Second, we documented that inequalities, labor market dislocation, and measures of economic transformation differed along race and gender lines. For example, blacks have higher levels of urban disadvantage (e.g., poverty and income inequality) and family diversity (e.g., female headed households, single parented households) in urban areas than whites. The differential levels of urban disadvantage among racial groups have been found by others (Krivo and Peterson 1996, 2000; Parker and McCall 1999; Ousey 1999).

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In terms of labor market dislocation, we found that black males and black females experienced similar, and extreme, levels of joblessness in 1980 and 1990. This finding was an important one, not only because it reveals race and gender interconnections, but also because it documents that black females have faced significant disadvantages in the urban areas, comparable to black males, and thus this group should not be ignored in the study of urban violence. For whites, we found that joblessness was higher for white females than for white males, a group that continues to maintain low levels of joblessness over time.

The importance of assessing labor market opportunities and industrial change was documented in this study as well. We found that black males were much more likely to be employed within the industrial sector (e.g., manufacturing jobs) and thus their employment stability was weakened greatly due to the economic transformation, which removed manufacturing jobs from the urban environment. Moreover, while black females were more likely to be employed in the service and retail sector, followed by black males, these jobs were typically characterized by part-time and low wage occupations which did little to improve the overall economic positions of blacks in inner cities. White males and females, however, were less dependent on this industrial sector. Clearly, the labor market is stratified along both race and gender lines as indicated by much of the labor market literature (Browne 1997; Hsueh and Tienda 1996; Wilson and Wu 1993).

Third, because of the differing degrees of labor market dislocation and structural disadvantage faced by whites and blacks, the impact of these indictors on disaggregated homicides varied across these groups. For example, we found the diversification in

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family types had an impact on black (male and female) homicide offending but not among whites. On the other hand, white offending was much more likely to be impacted by racial inequality and the racial composition of the urban population (specifically the size of the Latino population). We also found that labor market dislocation and industrial employment indicators were more influential in the black male and female models than our models of white gender-specific homicide. Some similarities were also revealed, however. One such example is the findings for family disruption, in that these two constructs (divorce and male marriage pool) had similar impacts on disaggregated homicide offending. This finding was consistent with previous studies.

Forth, while the vast majority of the previous research examining the relationship between urban disadvantage and violence is cross-sectional, we were able to measure the impact of the shift or change in economic conditions on disaggregated homicide. Doing so revealed some important findings. First, the industrial shift (e.g., change from manufacturing to service jobs from 1980 to 1990) was more pronounced among blacks than whites. Cross-sectional studies would lead us to believe that black males experienced the greatest decline in manufacturing employment as a result of the economic transformation. By modeling change, we find that while this group did face a significant decrease, black females also experienced a large decline in manufacturing employment over time. As a result, the change in joblessness and the shift into the service sector employment contribute to the homicide offending of black males and females, while these labor market measures exhibit no influence on the change in white male or white female homicides (see Table 5). In addition, our research also revealed a number of differences in the impact of racial inequality, gender inequality, family

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disruption and sex ratios on the change in race- and gender-specific homicides. Thus, the shift or change in structural conditions from 1980 to 1990 have a unique impact on disaggregated homicide beyond what was previously suggested in cross-sectional studies.

Finally, as previous studies have claimed, the relationship between structural conditions and urban violence is complex, revealing both direct and indirect linkages. Previous scholars have argued that family disruption mediates structural disadvantage and urban violence. Our study supports for this claim and further reports that family diversification also mediates the relationship between labor market structures, urban conditions and disaggregated homicide rates.

We also reveal some unique indirect relationships that deserve further attention. For example, urban disadvantage mediates the influence of labor market conditions on disaggregated homicide. That is, the structural characteristics of cities were impacted by the economic transformation, which translated into differential rates of homicide found there. Yet another example is that incarcerate serves as an important mediating factor between labor market dislocation and the homicide offending of males. That is, we found that our race- and gender-specific measures of joblessness increase the incarceration of these groups, which then decreases the homicide rates of black males and white males in 1990 (see Figures 2 and 4). Overall, these findings ask that researchers consider modeling the complex relationships between structural conditions and urban violence. Moreover that researchers not ignore the efforts of formal social control (via local police and state-level incarceration trends) in their investigations.

Our study is not without its limitations. While these limitations are largely related to the measures and data utilized in this study, other weaknesses surface as a result of the

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lack of attention toward policy-relevant indicators. We describe some of these limitations here.

First, while this study allows for the interconnections between race and gender by offering various labor market and structural indictors that disaggregated by race and gender specific groups, not all measures incorporated into this study provide this level of specificity. For example, there is clear evidence of gender disparities in poverty levels in urban areas, but data that account for race and gender specific poverty levels were not available for this sample of cities.

Second, because this study employs the SHR as one of its primary data sources, all of the limitations associated with its use are applicable here (see Riedel 1999 for the most recent critique). Specifically, incomplete and inconsistent reporting of SHR data continues to be an area of concern (Maltz, 1999; Reidel, 1989). And variability in the priority agencies give to reporting SHR information as well as variability in coding procedures across police departments contribute to our validity concerns (Maltz, 1999; Maxfield, 1989). Additionally, approximately one-fourth of the recorded homicides report the race of the offender as unknown. While the imputation method used in this study improved our ability to account for this missing information, it does not correct the larger data issues and problems associated with the UCR handling of race. Another example is the significant influence of the percent Hispanic measure on homicides involving whites in many of our multivariate models. This finding reveals some possible classification problems pertaining to the categorization of persons with Latino origins separate from whites of non-Latino origins in police records (see Parker and McCall 1999; Nelsen et al. 1994).

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Third, because this study focuses on multiple U.S. cities in order to provide a more systematic study of urban homicide using aggregated data, this study was not able to include important policy efforts in the local area. For example, it is clear that criminal justice policies and procedures (via police presence and deployment) have considerable influence on the incidents of violence within different neighborhoods and areas of a given city. In addition, local areas are engaging in policy-driven actions to build the economic base of their areas (Wilson 1996) and these efforts are likely to echo into other areas, such as drugs and crime. An estimation of how policy efforts by criminal justice officials and local groups contribute to the changing (i.e., declining) nature of crime and violence within a given area is beyond this current study.

Finally, our research provides empirical support for the intersections between race and gender in the macro-level study of labor market dislocation, economic transformation and urban homicide. However, homicides are declining in urban areas (see Blumstein and Wallman 2000) and it is not clear how the industrial shifts and economic climate in urban areas account for this change. It is possible that as urban areas continue to shift away from industrial/manufacturing sectors and more toward retail/sales trade in the 21st century, black males and black females could be impacted considerably relative to other racial groups. However, the consequence this growing economic sector has on this minority group is an open question. In addition, until 2000 census data are available, how the current decline in homicides might differ by race and gender remains unknown.

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Figure 1: Conceptual Model of the Direct and Indirect Linkages between Labor Market Stratification, Concentrated Disadvantages, Family Structure and Urban Violence.

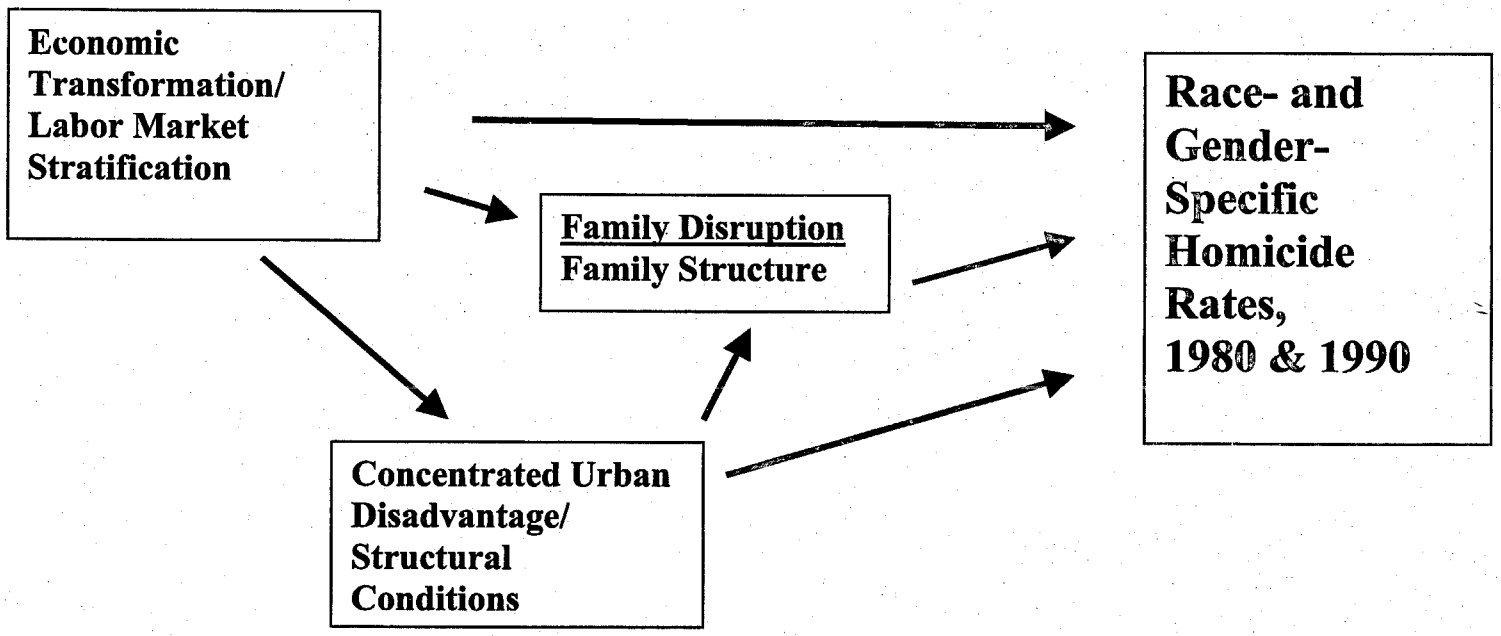

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Table 2. Negative Binomial Poisson Regression Model of Unstandardized (and Z-Scores) Coefficients for Race- and Gender Disaggregated Homicides, 1980.

	Black Male Homicide Model 1	Black Female Homicide Model 2	White Male Homicide Model 3	White Female Homicide Model 4
Urb. Disadv. & Seg /Econ. Depr. Indices	.016**	.007	.038*	.007
	(4.10)	(1.52)	(1.95)	(.19)
Family Diversification Index	.000**	.000*	.005	-.009
	(4.36)	(2.14)	(.71)	(-.59)
Joblessness Index[a]	.087**	.060**	-.002	-.002
	(12.75)	(16.66)	(-1.46)	(.50)
Industrial Employment Index[a]	.003	.010*	.003*	-.003
	(.69)	(1.51)	(1.79)	(-.72)
Service Industry[a]	.024*	.015*	-.009	-.011
	(1.94)	(1.74)	(-.46)	(-.74)
Racial Inequality Index	.058	.051	.014**	.018**
	(.89)	(.85)	(3.00)	(2.85)
Gender Inequality Index[a]	-.020**	-.017	-.007	.072
	(-3.16)	(-1.33)	(-.40)	(.82)
Divorced Males[a]	.038*	.126**	.121**	.104**
	(1.84)	(6.10)	(4.76)	(2.94)
Male Marriage Pool Index[a]	.019**	.007	-.001	-.011
	(2.39)	(1.45)	(-.11)	(-.78)
Residential Stability	.002	.000	.002	-.001
	(.89)	(.03)	(1.38)	(-.44)
Ratio of Males to Females[a]	-.025**	-.031**	.006	.003
	(-4.62)	(-4.11)	(1.13)	(.42)
Population Size (log)	.067	.109*	.061	-.029
	(1.50)	(1.92)	(1.22)	(-.54)
Percent Hispanic (log)	.199**	.137**	.262**	.197**
	(4.87)	(3.96)	(7.36)	(3.94)
South	-.086	.187	.143*	.223
	(-.86)	(.96)	(1.50)	(1.49)
Police Presence	-.001**	-.001*	-.001	-.001
	(-3.22)	(-1.66)	(-.64)	(-.52)
Incarcerated Population	-.006	.494	-.189	.309
	(-.02)	(1.30)	(-.66)	(.79)
Constant	-21.61	-19.95	-14.18	-13.31
Psuedo R^2	.255	.293	.164	.098
N	148	148	148	148

* $p < .05$ ** $p < .01$

[a] denotes that measure is race- and gender-specific; all other measures are race-specific with the exception of two control measures (Population Size and South)

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Table 3. Negative Binomial Poisson Regression Model of Unstandardized (and Z-Scores) Coefficients for Race- and Gender- Disaggregated Homicides, 1990.

	Black Male Homicide Model 1	Black Female Homicide Model 2	White Male Homicide Model 3	White Female Homicide Model 4
Urb. Disadv. & Seg./ Econ. Depr. Indices	.009	.012	.008	.038
	(.74)	(.84)	(.39)	(1.30)
Family Diversification Index	.014**	.009**	.013*	-.001
	(3.90)	(2.37)	(2.08)	(-.07)
Joblessness Index [a]	.028	.035**	.000	-.001
	(1.20)	(3.85)	(.03)	(.00)
Industrial Employment Index [a]	.002	.002	.008**	-.008
	(.43)	(.30)	(2.30)	(-.84)
Service Industry [a]	-.020	-.006	.017	.037
	(-1.44)	(-.32)	(.57)	(1.42)
Racial Inequality Index	-.007	.017	.080*	-.065
	(-.10)	(.27)	(1.74)	(-.87)
Gender Inequality Index [a]	-.033	-1.30*	.167	.016
	(-.62)	(-1.94)	(1.06)	(.10)
Divorced Males [a]	.002	.003	.005	.008
	(.55)	(1.37)	(.75)	(1.40)
Male Marriage Pool Index [a]	.002	.004	.000	-.006
	(.41)	(.91)	(.05)	(-.52)
Residential Stability	-.012	-.017	-.027**	-.020
	(-.75)	(-1.65)	(-2.60)	(-.95)
Ratio of Males to Females [a]	-.029**	-.012	-.006	-.024*
	(-4.09)	(-.81)	(-.76)	(-1.51)
Population Size (log)	.118*	-.080	.224**	.101
	(1.88)	(-1.27)	(4.91)	(1.30)
Percent Hispanic (log)	-.012	-.002	.236**	.084
	(-.24)	(-.04)	(5.73)	(1.36)
South	.373**	.256	.309**	.385**
	(2.24)	(1.51)	(3.21)	(2.81)
Police Presence	.003**	.001	.000	-.000
	(2.96)	(1.24)	(.24)	(-.48)
Incarcerated Population	-.593	-.665	.459	.579
	(-.92)	(-1.17)	(1.19)	(.45)
Constant	-13.86	-12.45	-14.22	-10.83
Psuedo R^2	.158	.269	.124	.087
N	129	129	133	133

* $p < .05$ ** $p < .01$

[a] denotes that measure is race- and gender-specific; all other measures are race-specific with the exception of two control measures (Population Size and South)

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Table 4. Change Score (in Percentage) for Key Indicators Included in the Race- and Gender- Disaggregated Homicides from 1980 to 1990.

	WHITE	BLACK
Homicide Count[a]		
Males	2.1	37.3
Females	-1.0	15.4
Econ Dep. /Urban Disad. Index	-13.2	-70.6
Income Inequality	.18	.10
Poverty	7.1	8.4
Racial Resid. Segregation		-27.3
Family Diversification Index	14.8	19.1
Female Headed Households	11.6	19.6
Single Parent Households	15.0	19.8
Non-married Households	17.1	21.3
Joblessness Index[a]		
Males	12.9	1.5
Females	.65	-.32
Percent Black	25.0	25.0
Males Not Employed/Jobless	12.3	-.29
Females Not Employed/Jobless	-1.9	-2.6
Industrial Employment Index[a]		
Males	-9.4	-10.8
Females	-8.5	-10.7
Industrial Shift 80 to 90	20.5	25.2
Males in Manufacturing Job	-13.9	-5.8
Females in Manufacturing Job	-23.1	-25.6
Service Industry[a]		
Males	5.0	14.9
Females	-2.8	-5.5
Racial Inequality Index	5.2	9.5
Gender Inequality Index[a]	-18.7	7.2
Divorced Male[a]	45.2	37.1
Male Marriage Pool Index[a]	1.9	7.4
Ratio of Males to Female[a]	1.7	.40
Residential Stability	40.3	40.3
Police Presence	4.7	4.7
Incarcerated Population	-11.5	3.4

[a] indicates that measure is race- and gender-specific

NOTE: Racial Resid. Segregation measures includes in racial inequality index in white models, urban disadvantage/segregation index in black models

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Table 5. Random Effects, Pooled, Cross-Sectional, Negative Binomial Poisson Regression Coefficients (and Z-Scores) for Race and Gender Disaggregated Homicides, 1980 to 1990, N=278.

	Black Male Homicide Model 1	Black Female Homicide Model 2	White Male Homicide Model 3	White Female Homicide Model 4
Urban Disadvantage/Segregation Index	.003	.000	.011	.017
	(.92)	(.01)	(.90)	(.72)
Family Diversification Index	-.000	-.000	.006	.002
	(-.54)	(-.16)	(1.328)	(.29)
Joblessness Index [a]	.014**	.057**	.001	.001
	(3.35)	(10.23)	(.48)	(.25)
Industrial Employment Index [a]	.013**	.004	.004**	-.007
	(3.16)	(.79)	(2.12)	(-1.10)
Service Industry [a]	.026**	.017**	.013	.018
	(2.60)	(2.30)	(.90)	(1.04)
Racial Inequality Index	.109**	.112**	.000	.015*
	(2.53)	(2.18)	(.14)	(2.01)
Gender Inequality Index [a]	.005	-.032	.023**	-.080
	(.29)	(-.87)	(2.62)	(-.79)
Divorced Males [a]	-.000	.002	.009**	.012*
	(-.40)	(1.08)	(3.72)	(1.79)
Male Marriage Pool Index [a]	-.001	.000	-.001	.004
	(-.04)	(.17)	(-.30)	(.41)
Residential Stability	-.000	-.001	-.000	-.004
	(-.12)	(-.21)	(-.13)	(-1.02)
Ratio of Males to Females [a]	-.033**	-.035**	.005	-.007
	(-5.52)	(-4.64)	(.88)	(-.69)
Population Size (log)	.189**	.090	.153**	.038
	(2.99)	(1.54)	(3.34)	(.61)
Percent Hispanic (log)	.043	.062	.256**	.166**
	(1.07)	(1.68)	(8.52)	(3.09)
South	.149	.044	.328**	.407**
	(1.39)	(.43)	(3.842)	(3.03)
Police Presence	.003**	-.000	-.000	-.001*
	(5.97)	(-.88)	(-.25)	(-1.80)
Incarcerated Population	.480	-.174	.425*	.683*
	(1.20)	(-.42)	(1.58)	(1.59)
Period Effect for 1990	.294	-.248	-.158	.589
	(1.17)	(-.70)	(-.71)	(1.09)
Constant	-13.83	-14.57	-10.89	-3.94
Log-Likelihood	-925.92**	-507.33**	-814.84**	-367.55**

* $p < .05$ ** $p < .01$

[a] denotes that measure is race- and gender-specific; all other measures are race-specific with the exception of two control measures (Population Size and South)

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Figure 2: Structural Equation Model of the Relationship between Labor Market Stratification, Urban Disadvantage, Family Structure, and Black-Male Homicide Rate, N=196. (Standardized Coefficients in Parentheses.)

X^2 = 12.862 p = .169, TLI = .996, CFI = .999, RMSEA = .047

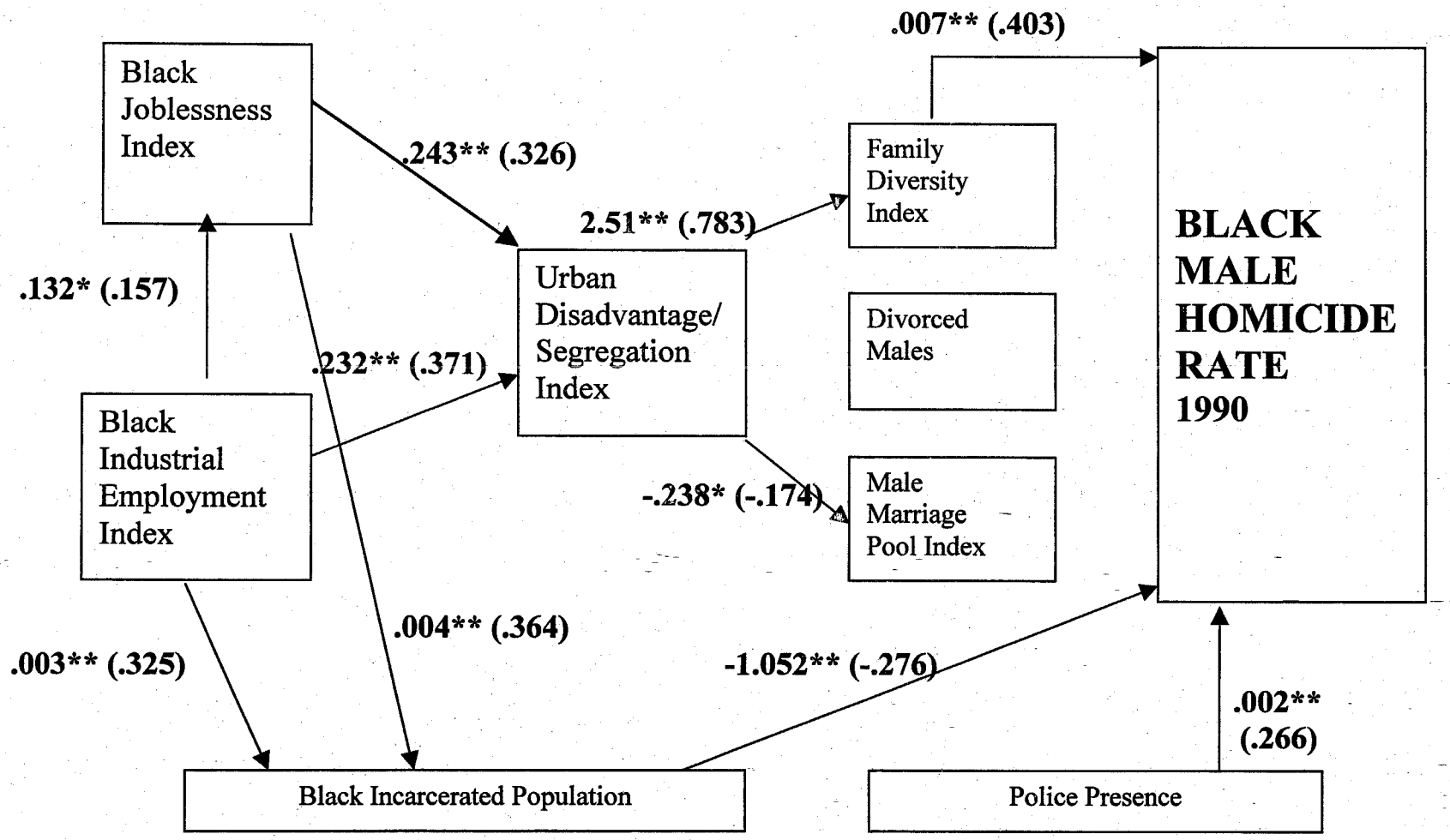

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Figure 3: Structural Equation Model of the Relationship between Labor Market Stratification, Urban Disadvantage, Family Structure, and Black-Female Homicide Rate, N=196. (Standardized Coefficients in Parentheses.)

X^2 = 11.545 p = .317, TLI = .998, CFI = 1.00, RMSEA = .028

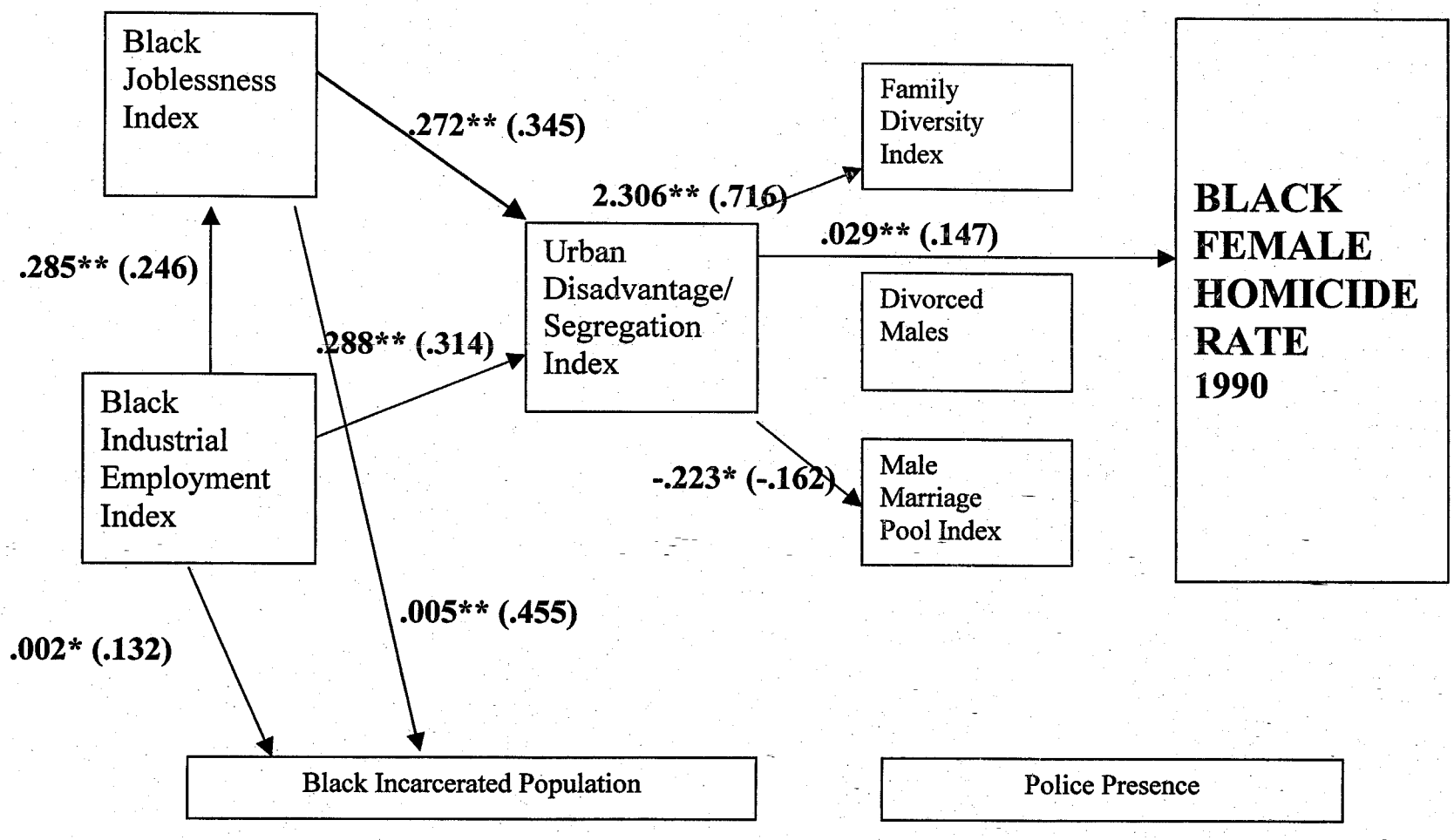

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Figure 4: Structural Equation Model of the Relationship between Labor Market Stratification, Urban Disadvantage, Family Structure, and White-Male Homicide Rate, N=196. (Standardized Coefficients in Parentheses.)

X^2 = 11.912 p = .291, TLI = .998, CFI = 1.00, RMSEA = .031

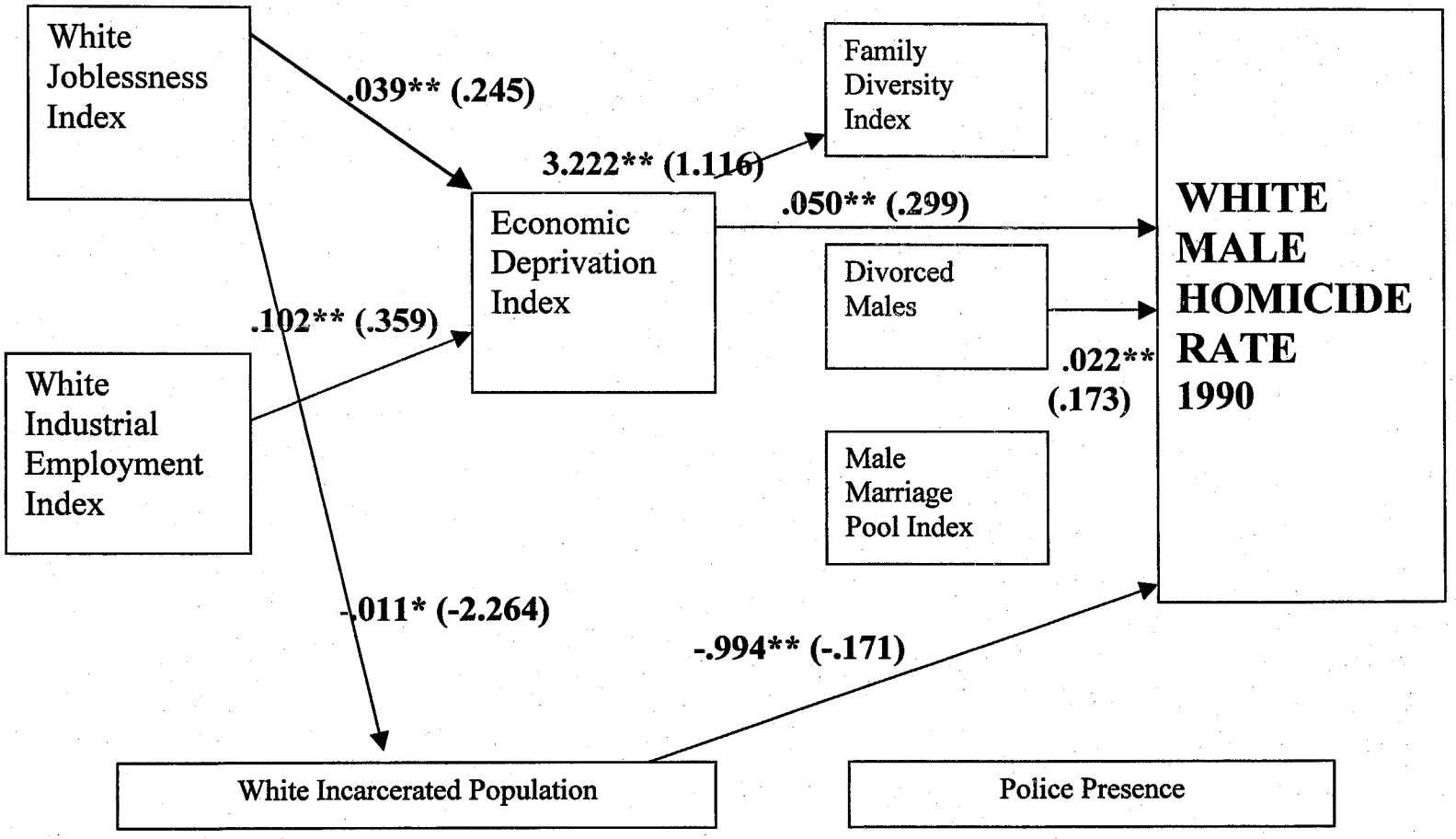

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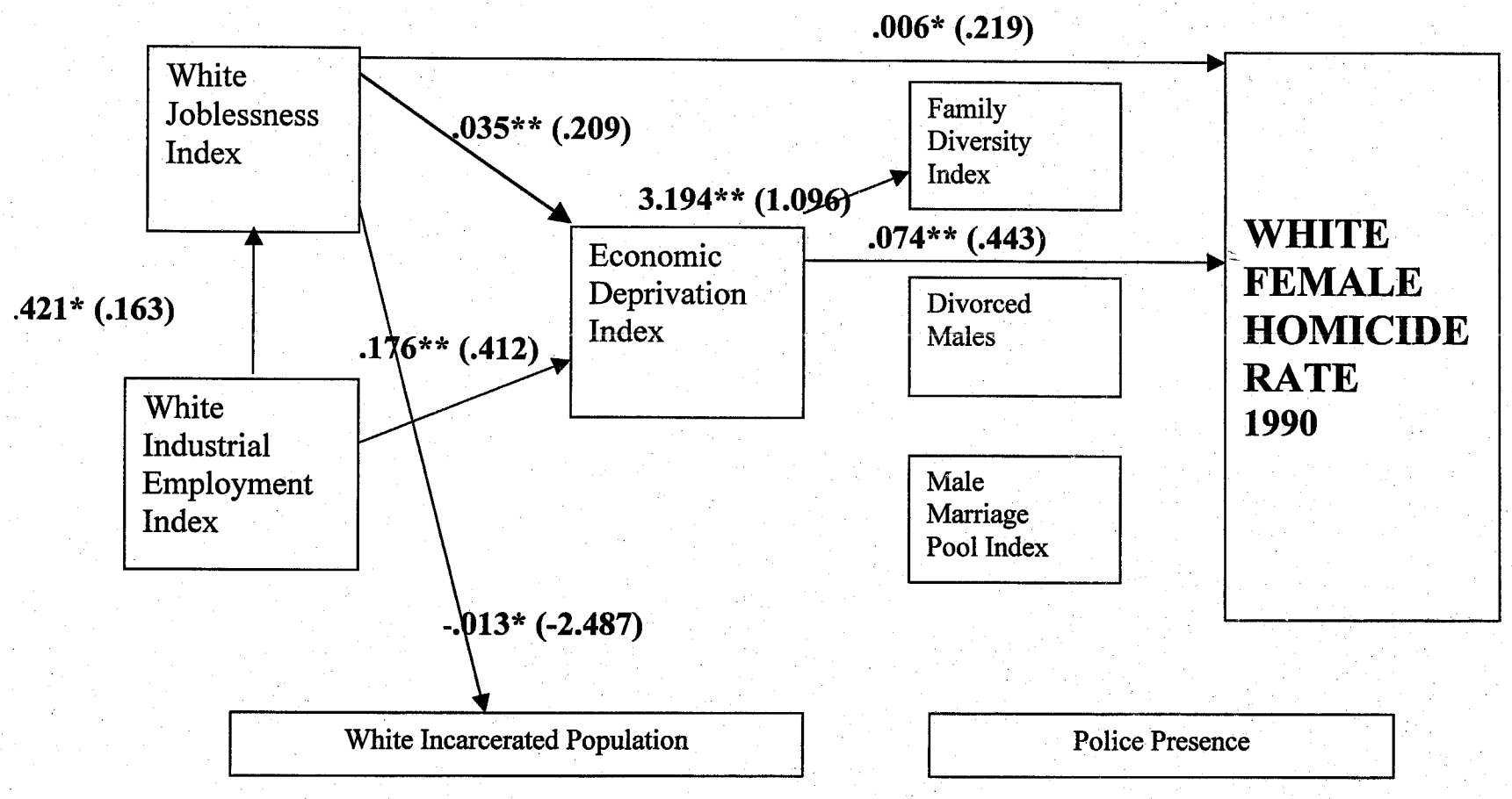
Figure 5. Structural Equation Model of the Relationship between Labor Market Stratification, Urban Disadvantage, Family Structure, and White-Female Homicide Rate, N=196. (Standardized Coefficients in Parentheses.)

$X^2 = 11.696$ p = .306, TLI = .998, CFI = 1.00, RMSEA = .029



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