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A TALE OF TWO CRIME TYPES:
AN EXAMINATION OF THE WELFARE-CRIME RELATIONSHIP

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ABSTRACT

Studies that examine the effects of welfare, specifically, Aid to Families of Dependent Children (AFDC), have primarily examined the relationship between public assistance and serious offenses. These studies have found that as levels of welfare relief increase, there are decreases in serious offense rates. These findings are important to take into consideration due to the recent reforms of the welfare system that limit lifetime relief benefits to eligible recipients Because past studies have found a negative relationship between welfare spending and serious crime rates, it is possible that crime rates, at least serious crime rates, could increase as a result of decreases in welfare spending.

To date, however, no study has examined the effects of welfare relief on the less serious or part two offenses. Part two offenses are actually more numerous than the more serious offenses. The purpose of this research was to examine the effects of public assistance, namely AFDC, on part one **and** part two offenses. It was the goal of this study to gain a better understanding of the processes by which welfare relief can influence behavior by examining data from the state of Kentucky for the years 1980 and 1990. In particular, this study was interested in trends or changes in crime from time periods 1980 and 1990 as affected by welfare by using residual-change score measures of key variables under study. Residual-change scores allowed for the observation of the effects of fluctuations in welfare spending in relation to part one and two crimes over the ten-year time period. Thus, the current study expanded upon the existing body of literature examining the welfare-crime relationship by analyzing not only cross-sectional data using the multiple regression procedure, but also multiple regression analyses with residual-change score measures. Overall, the findings observed in the present examination were inconsistent with past findings, not only in regards to part two offenses, but also the commonly

studied part one crime rates. Welfare spending measured as AFDC yearly spending per recipient, when significant, was generally found to positively contribute to the prediction of the crime categories under study during the 1980s and 1990.

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CHAPTER ONE

THE IMPORTANCE OF STUDYING PART TWO OFFENSES AND THEIR RELATIONSHIP TO WELFARE SPENDING

INTRODUCTION

Studies that examine the effects of welfare, specifically, Aid to Families of Dependent Children (AFDC), have primarily examined the relationship between public assistance and serious offenses. These studies have found that as levels of welfare relief increase, there are decreases in serious offense rates (DeFronzo 1983, 1992, 1996a, 1996b, 1997; DeFronzo and Hannon 1998a, 1998b; Devine, Sheley, and Smith 1988; Fiala and LaFree 1988; Grant and Martinez 1997; Hannon 1997; Messner 1986; Rosenfeld 1986; and Zhang 1997). These findings are important to take into consideration due to the recent reforms of the welfare system. Briefly, the 1996-97 reforms limit lifetime relief benefits to eligible recipients (Ways and Means Committee 1996, 1998). Because past studies have found a negative relationship between welfare spending and serious crime rates, it is possible that crime rates, at least serious crime rates, could increase as a result of decreases in welfare spending.

To date, however, no study has examined the effects of welfare relief on the less serious or part two offenses.[1] Part two offenses are actually more numerous than the more serious offenses (Felson 1994). For example, out of the nine million arrests for all crimes

[1] The Uniform Crime Report compiled by the Federal Bureau of Investigation divides crime rates into two categories. Part one offenses, also known as index offenses, are the more serious offenses such as murder, robbery and burglary. Part two offenses are considered the less serious offenses such as prostitution, drug offenses, vandalism, and simple assault. Appendix A lists the reported part one and part two crimes in the Uniform Crime Report.

in 1990, 80 percent were arrests that were not included among the eight major index offense categories (Felson 1994). Probably more than 80 percent of the crime effort of law enforcement officers entails arresting persons accused of relatively minor offenses such as drunkenness, vagrancy, prostitution, shoplifting, and the like (Chambliss 1969). Thus, most of the arrests in this country are for crimes that are not very dramatic, not very exciting, nonviolent, and not very serious. In fact, the majority of crimes are the ordinary, run of the mill, common offenses such as shoplifting, vandalizing property, public drunkenness, drug crimes, and the like (Felson 1994). Arrest data from 1990 also indicated that the United States had 705,500 arrests for serious, violent crimes but there were 1,089,500, or 54 percent more, arrests for violations of drug abuse (Davey 1995).

Based upon the above evidence, it can be observed that the crimes much of the population is engaging in, witnessing, or becoming victimized by, are the less serious offenses. More important than percentages and numbers, is the contention that the increased prevalence of the less serious offenses in a community has consequences for the quality of life in that area (Reiss 1986). For example, crimes of vandalism can render damaged property useless (Reiss 1986). In addition, crimes such as littering, loitering, drug markets, and prostitution can ruin the appearance of a neighborhood (Reiss 1986). Neighborhoods victimized by the lesser offenses become more vulnerable to the occurrence of more serious crimes (Wilson and Kelling 1982). Perhaps James Q. Wilson (1983: 78-9) describes the nexus between part two and part one crimes best:

> A stable neighborhood of families who care for their homes, mind each other's children, and confidently frown on unwanted intruders can change in a few years, or even a few months, to an inhospitable and frightening jungle. A piece of property is abandoned, weeds grow up, a window is smashed. Adults stop scolding rowdy children; the children, emboldened, become more rowdy. Families move out, unmarried adults move in. Teenagers gather in front of the corner store. The merchant asks them to move; they refuse. Fights occur. Litter accumulates. People start drinking in front of the grocery; in time, an inebriate slumps to the sidewalk and is allowed to sleep it off.

> Pedestrians are approached by panhandlers. At this point it is not inevitable that serious crime will flourish or violent attacks on strangers will occur.

It is phenomena like this that discourage resident stability and encourage offenders and would be offenders to make their homes in these communities (Reiss 1986; Wilson and Kelling 1982). Indeed, it may be the lesser offenses that threaten the economic and social institutions that support neighborhood organization and encourage more serious crime (McGahey 1986; Sherman nd; Wilson and Kelling 1982). Research should examine part two offenses more often, especially when examining factors such as welfare assistance, which has been found to have a significant inverse relationship with the more serious offenses.

PURPOSE OF PRESENT STUDY

The purpose of this research is to examine the effects of public assistance, namely AFDC, on part one **and** part two offenses. It is the goal of this study to gain a better understanding of the processes by which welfare relief can influence behavior. Part one offenses will be examined to establish a baseline comparison to part two offenses and to see if the same negative relationship found in past studies is also replicated with the present study's data set. As stated previously, many past studies have found a negative relationship between AFDC payments and serious crime. Does the same hold true, however, for part two offenses? This question will be addressed in this work by examining data from the state of Kentucky for the years 1980 and 1990.

In particular, this study is interested in trends or changes in the crime rates from time periods 1980 and 1990 as affected by welfare. The measure that will be used to observe these changes will be the residual-change score suggested by Bohrnstedt (1969). The residual-change score will present a measure that will allow us to predict the level of crime in 1990 for each unit

under study based on its levels in 1980 in relation to a number of factors. In other words, this type of empirical analysis will allow us to observe the effects of fluctuations in welfare spending and crime rates over the ten year time period. The results of this analysis may be able to provide a model in which adequate welfare dollars can be allocated to mitigate both part one and part two crime rates. This model would be especially insightful in light of the recent reform limitations of welfare spending.

To this end, a number of objectives will be accomplished in this manuscript. First, the history of AFDC and its reform will be discussed. This is important due to the previous findings concerning the relationship between welfare and crime and recent changes on welfare policy. Second, a discussion of the literature concerning welfare, in general, and as it relates to crime, in particular, will be presented. Third, this manuscript will then discuss how criminologists would explain why welfare and crime are related negatively. Fourth, the research strategy and methodology employed to analyze the relationship between AFDC and part one **and** part two offenses will be discussed. Fifth, the results of the analysis will be presented. Finally, the implications of these findings to present and future policy-making in the public assistance area will be examined.

CHAPTER TWO

THE HISTORY OF THE WELFARE MOVEMENT: ITS REFORMS, PROPONENTS, AND OPPONENTS

INTRODUCTION

As outlined in chapter one, this study will examine the influences of welfare assistance on part one and part two offenses. This chapter will provide an overview of a number of issues theoretically and practically relevant to this study's purpose. First, this chapter details the foundation of the welfare movement in order to demonstrate its importance to eligible recipients. This is especially crucial due to recent reforms in the welfare system. These reforms limit the availability of public assistance to previously eligible recipients (Ways and Means Committee 1996, 1998). Since past studies have found a negative relationship between welfare relief and serious crime rates, limiting welfare could potentially increase both serious and less serious crime rates.

Second, this chapter will examine the findings, perspectives, and views of the liberals and conservatives to present a more complete understanding of the welfare movement. This will provide a more thorough examination of the literature related to the social and political issues regarding welfare and the relationship between welfare and crime. The liberal and conservative positions are important because of the impact such positions have on policy making and legislation (Walker 1994).

Policies concerning transfer programs to aid the disadvantaged and crime control strategies are affected by both liberal and conservative agendas. As a general rule, the conservative approach to government assistance programs like AFDC is to limit their availability (Felson 1994). With regards to crime control strategies, however, the conservatives call for

policies that control crime at whatever it costs and without any limitations (Messner and Rosenfeld 1997). As such, policies to reduce crime via cutting welfare assistance would be in line with a conservative agenda (Felson 1994).

On the contrary, the liberal approach toward welfare programs is to increase spending (Felson 1994). In general, liberals advocate policies that "promote social mobility and extend the reach of the American dream to persons and groups who have historically been excluded from its benefits" (Messner and Rosenfeld 1997: 94). Programs like AFDC can arguably fit the above description. The liberal agenda for crime control strategies emphasizes broad social reforms and rehabilitative correctional policies (Felson 1994; Messner and Rosenfeld 1997).

It should be observed that both liberal and conservative agendas can impact crime control and welfare programming. For example, increasing AFDC spending (i.e., a liberal approach) can decrease crime rates as was found in past studies examining the welfare-crime relationship. Thus, a conservative approach that calls for cutting welfare benefits could potentially increase crime rates. This would be an unforeseen consequence of their agenda. Conservatives generally believe that welfare assistance leads to criminal acts and as such, cutting welfare should decrease crime (Felson 1994; Murray 1984). Thus, the recent reform of the welfare system, which will be discussed in detail in the following section, may lead to consequences in which crime rates are affected in unwanted directions.

These undesirable consequences may occur because policymakers have not taken into consideration findings of past studies which indicated that increases welfare spending led to decreases in serous crime rates (DeFronzo 1983a, 1983b, 1992, 1996a, 1996b, 1997; DeFronzo and Hannon 1998a, 1998b; Devine, Sheley,and Smith 1988; Fiala and LaFree 1988; Grant and Martinez 1997; Hannon 1997; Messner 1986; Rosenfeld 1986; and Zhang 1997). What is not

known, however, is how reductions in welfare spending influences the part two crime rates. Part two crime rates are important to take into consideration because these are the offenses that take place more often (Felson 1994). Part two offenses such as prostitution, drug offenses, vandalism, and gambling can negatively impact the quality of life in communities that experience high rates of these offenses (McGahey 1986; Reiss 1986). Thus, depending upon whose approach (i.e., liberal or conservative) to crime control and government aid programs is taken, part two crime rates may be affected. How each of these approaches will affect part two crime rates has yet to be determined. Therefore, an in-depth discussion of the liberal and conservative positions is necessary because both agendas can inform and influence future behavior. In particular, these positions can provide insight regarding behavior that falls into the less serious crime category, which has, until now, been overlooked in the welfare-crime research.

WELFARE IN THE UNITED STATES

Welfare relief programs have had a long history in the United States, Great Britain, and other Western European nations (Patterson 1981; Piven and Cloward 1987). The most popular public assistance program is Aid to Families with Dependent Children (AFDC), originally termed Aid to Dependent Children (Gilder 1981; Moffitt 1992; Murray 1984; Piven and Cloward 1993). AFDC comprises the majority of relief expenditures in the United States (Stein 1971). AFDC began in 1935 during the Great Depression and was designed to give federal grant money to states in order to aid indigent children who were fatherless (Patterson 1981; Ways and Means Committee 1996, 1998). The original goal of AFDC was to assist single mothers and their children in the development of a strong, independent family home (Murray 1984; Piven and

Cloward 1987; Ways and Means Committee 1998). The cash benefit payments of AFDC were to provide needy families with shelter, clothing, food, and personal and household necessities (Wilson 1997).

During 1950s and early 1960s, Congress modified the eligibility requirement of the widowed mother to needy mother or other caretaker or relative. Subsequent changes were implemented that allowed any child of an unemployed or incapacitated parent to be AFDC eligible (Ways and Means Committee 1998). In October, 1990, states were required to offer AFDC assistance to two-parent families in which one of their parents were unemployed (Ways and Means Committee 1998).

Almost a half a century after its inception, many poor persons, not exclusively widowed or unwed mothers, with children could be considered eligible for assistance under the AFDC program. The result of these changes was that by 1975, 11 million people (42 percent) out of the 25.9 million citizens living below the poverty line received AFDC assistance (Ways and Means Committee 1996, 1998). By 1990, 11.4 million (33 percent) out of the 34 million below the line of poverty were on the AFDC rolls (Ways and Means Committee 1998). An examination of the historical trends in AFDC enrollments, as observed in the Green Book by the Ways and Means Committee (1998), reveals that the average new monthly family enrollments in the AFDC program remained relatively stable, ranging from 3642 new families for 1980 to 4869 new families for 1995.

It is interesting to note that despite the fact that new enrollments did not increase appreciably, considering the growth in the population over the past fifteen to twenty years, the United States government approved a number of changes in the welfare system on July 1, 1997 (Ways and Means Committee 1998). These reforms ended the federal cash assistance program

to needy children, as it was known under the AFDC program. The current program provides funds for states in the form of grants to develop and implement their own, individual welfare and work assistance programs (Ways and Means Committee 1996, 1998).

The new law, known as The Personal Responsibility and Work Opportunity Reconciliation Act, also limits lifetime relief assistance benefits to five years and up to a twenty four months maximum limit before mandatory work regulations go into effect and welfare benefits cease (Ways and Means Committee 1996, 1998). Further, unwed mothers under the age of eighteen who do not live at home and who do not stay in school are refused assistance[2]. These limits on welfare programming, when viewed in relation to the negative association between welfare and crime, can be seen as a potential factor in creating an upward spiral in crime rates.

The AFDC program now functions as a temporary and provisional program to which families can turn to as a safety net when financial problems arise (Ellwood 1986). The original intent was for welfare assistance programs like AFDC to be a temporary benefit program to help those in grave need such as the widowed with children, the aged, the blind, and the disabled, not the able-bodied citizen (Ellwood 1986; Gilder 1981; Gronbjerg 1977; Murray 1984; Patterson 1981).

THE LIBERALS AND CONSERVATIVES

The second issue to be discussed in this chapter is the positions, views, and findings of the liberals and conservatives. As stated in the introductory paragraphs of this chapter, the perspectives of these two camps are important factors that have the ability to influence welfare legislation and crime policy in directions that could affect crime rates.

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[2] For a more detailed discussion see the Green Book (Ways and Means Committee 1996, 1998).

Liberal Perspectives, Findings, and Views.

The liberal position holds the following views:

(1) welfare can reduce poverty and inequality; (2) welfare does not break down the family structure; (3) welfare payments can reduce crime and other deviant or undesired behaviors; and (4) welfare programs like AFDC can lead to unsubstantiated stereotypes of those persons who receive such assistance (Currie 1985; DeFronzo 1983, 1996a, 1996b, 1997; Ellwood and Summers 1986; Greenstein 1985; Moffitt 1992; Piven and Cloward 1987; Stein 1971; and Wilson 1987, 1997).

The first of the liberal tenets, that welfare can reduce poverty and inequality in the United States, is derived mainly from the work of Piven and Cloward (1987). They argue that welfare can reduce poverty and inequality by distributing income to those in need and by strengthening the bargaining position of workers in the labor market. The advantage relief provides for workers come from the income protections provided by programs like AFDC. This is of special importance when the labor the workers are involved in is of little value in the market (Piven and Cloward 1987).

The second tenet states that the AFDC program has also not been found to disrupt family relationships. The economist Robert Moffitt (1992) found that family structure is affected very little by the availability of AFDC benefits. In all likelihood, the increased numbers of female-headed households would have been the norm with or without relief provisions (Moffitt 1992).

Further, liberals believe that welfare assistance can decrease crime and other deviant behaviors. Studies by DeFronzo (1983, 1996a, 1996b, 1997), DeFronzo and Hannon (1998a, 1998b), Hannon (1997), and Zhang (1997) directly tested the relationship between welfare assistance and crime rates. These studies supported the liberal position. They consistently found

a negative relationship between AFDC and serious crime. One clear illustration of this relationship was noted by Currie (1985) who points out that Texas, with an average welfare payment of $109 per month in 1980, experienced six times the homicide rate than Wisconsin where AFDC payments averaged $366 a month.

Liberals also contend that welfare assistance can placate other deviant behaviors. Examples of these behaviors are the uprisings of the rebellious underclasses such as the workers in the 1930s and the blacks in the 1960s (Durman 1973; Piven and Cloward 1971; Schram and Turbett 1983). This contention was first proposed and examined by Piven and Cloward (1971) in their work Regulating the Poor. Piven and Cloward argued that welfare assistance will increase when disorder among the poor emerges. They also contended that restrictions on welfare eligibility requirements serves to enforce work norms and to meet demands for labor (Piven and Cloward 1971; Schram and Turbett 1983).

Support for Piven and Cloward's (1971) position can be found by an examination of AFDC caseloads across counties, states, and regions from the 1940s through the 1960s. Piven and Cloward (1971) observed that during periods of civil, political unrest, AFDC caseloads increased. Further, they found that during more stable periods, eligibility requirements for recipients became more stringent.

Since Piven and Cloward's (1971) work, three other studies have been conducted to test the effect of using welfare assistance to placate the rebellious underclasses. The first study was conducted by Eugene Durman (1973) who re-examined the AFDC rolls utilized by Piven and Cloward(1971). Durman (1973) found partial support for Piven and Cloward's (1993) thesis. He also found that other factors such as an increase in changing social mores, increases in the migration of Spanish-speaking people, and the increased stresses experienced by a large number

of female-headed households, also positively influenced AFDC rolls (Durman 1973).

Schram and Turbett (1983) also tested Piven and Cloward's (1971) thesis. They hypothesized that the welfare process in the 1960s was a part of a two step-process in which welfare eligibility rules were lowered, which then allowed more states to provide for more recipients. State welfare rolls increased considerably because "civil disorder impelled the national government to enact liberalizations of welfare policy which in turn were most actively implemented by those states most wracked by rioting" (1983:408). Schram and Turbett (1983) examined the growth in state AFDC rolls between 1965 and 1968 controlling for median income, black migration, percent unemployed, percentage of poor female-headed households, and percent living in central city. The period between 1965 and 1968 was chosen as the primary years of analysis because this was when most of the intense rioting occurred (Schram and Turbett 1983). They found significant support for their two-step process hypothesis stated previously.

Finally, David Dodenhoff (1998) conducted a more recent analysis of Piven and Cloward's (1971) thesis. He examined program spending between 1929 and 1992 for a number of different federal antipoverty programs such as AFDC, Medicaid, Food Stamps, Public Housing, and employment or vocational training services. Dodenhoff (1998) found that antipoverty programs' spending increased in the early 1930s and then again in the 1960s when civil disorder was also on the rise. Spending in antipoverty programs also increased in the 1970s, 1980, 1983, and 1990 when mass civil disorder was not occurring (Dodenhoff 1998). Dodenhoff (1998) notes, however, that economic recessions and increases in rates of poverty may have created the same attention-getting effects in the 1970s, 1980, 1983, and 1990 when welfare spending increased as was received by civil disorder in the 1930s and 1960s. These findings are consistent with the liberal perspective in that increases in welfare may be able to

placate a variety of phenomena.

Welfare has also been found to ameliorate suicide rates. A study by Zimmerman (1987) examined the relationship between state per capita expenditures for welfare and suicide rates in 1982. The control variables in this study were state divorce rates, population change and state migration rates, state income distribution, state unemployment rates, age structure, gender composition, and racial composition of states. Zimmerman (1987) found positive relationships between state suicide rates and divorce rates, population change rates, and percentage of persons with annual incomes between $10,000 and $19,999. Increases in state per capita spending on AFDC, however, was found to decrease state suicide rates indirectly by decreasing divorce rates, population change rates, and the percentage of persons with annual incomes between $10,000 and $19,999 (Zimmerman 1987). The results of Zimmerman's (1987) study are similar to those discussed previously and are in line with the liberal perspective. This perspective contends that increases in welfare can negatively influence deviant or undesired behaviors such as civil disorders, divorces, and suicides. Welfare has also been shown to have a negative impact on serious offenses (DeFronzo 1983a, 1983b, 1992, 1996a, 1996b, 1997; DeFronzo and Hannon 1998a, 1998b; Devine, Sheley,and Smith 1988; Fiala and LaFree 1988; Grant and Martinez 1997; Hannon 1997; Messner 1986; Rosenfeld 1986; and Zhang 1997). This issue will be explored in more detail in the next chapter.

Although increases in welfare have been found to decrease some deviant and undesired behaviors, liberal writers and researchers also observe that welfare relief can lead to negative outcomes, particularly when it relates to stereotypes based on race and the poor. When attacks begin to surface against the AFDC program, it ends up becoming a criticism of minorities (Piven and Cloward 1971, 1987, 1993; Wilson 1987, 1997). One of the most popular stereotypes was

(is) that single black females were having more than three or four children to collect a larger amount of AFDC money (Murray 1984). Another stereotype waged against blacks was that the availability of AFDC payments leads to increases in black unemployment and increases in more black, single, female-headed households (Ellwood and Summers 1986; Greenstein 1985; Piven and Cloward 1987).

Other attacks waged against the poor came in the form of data that indicated that when a large population of families became eligible for assistance, it was only in the ghetto, where the very poor resided, that couples separated and/or quit their jobs to get AFDC cash benefits (Gilder 1981). In essence, welfare's mere existence led to poverty and all of its accompanying problems such as the breakdown of the family, unemployment, and illegitimacy.

It is important to note, however, that none of these stereotypes have ever been scientifically supported (Piven and Cloward 1987; Wilson 1997). In fact, when the trends from the 1960s and 1970s are examined, the following observations emerge: (1) AFDC benefits increased in the 1960s whereas work was a better alternative than welfare in the 1970s; (2) it was the 1970s, not the 1960s, that saw a surge in family breakdowns and unemployment among blacks (Greenstein 1985). If AFDC causes black unemployment and black family dissolution, these phenomena would have been more prevalent in the 1960s when there were more welfare dollars distributed (Greenstein 1985).

In sum, the liberals contend that welfare can reduce poverty, inequality, and deviant behaviors. Further, they posit that welfare does not encourage the promotion of female-headed households. The conservatives, however, argue the opposite contentions. The following section discusses the conservative positions.

Conservative Perspectives, Findings, and Viewpoints

The conservative positions on welfare are the following: (1) economic assistance programs, including AFDC, cause families to breakdown; (2) AFDC encourages laziness and a lack of a work ethic; (3) poor relief increases crime and delinquency; (4) the availability of AFDC gives rise to a large number of illegitimate births; (5) AFDC promotes a dependency on the government for survival; and (6) welfare increases and makes a large permanent class of citizens living in poverty (Ellwood 1988; Gilder 1981; Mead 1986; Murray 1984; Rector 1992).

Conservatives further argue that welfare makes it easier for men to have children without being responsible for them, for youth to not stay in school, for people to commit crimes without remorse (Murray 1984). Welfare also allows addicts to support a drug habit because it is easier to disregard the importance of maintaining stable employment (Murray 1984). Similarly, Gilder (1981) states that welfare programs with income maintenance benefits function to make relief subsidies attractive and less demeaning than they should be.

From these perspectives, programs such as AFDC encourage self-destructive patterns of behavior among those in need (Ellwood 1988; Gilder 1981; Murray 1984; Rector 1992). To illustrate, the single mother can receive benefits provided that "she does not work and she does not marry an employed male" (Rector 1992: 40). Situations like these, it is further argued, give rise to a class of citizens dependent upon government assistance mainly because relief programs may not be capable of rewarding, reinforcing, or encouraging the values of hard work and parental responsibility that this country supports (Ellwood 1988; Rector 1992).

It is important to note, however, with regard to the statements made by the conservatives, that most of what they contend has not been substantiated in the literature (Piven and Cloward 1987; Wilson 1997). For instance, the conservatives argue that there is a profound tendency for

recipients to become dependent on AFDC. Studies have found, however, that most (over 50 percent) recipients receive benefits for a short period of time (Gans 1995). For example, approximately 85 percent voluntarily cease collecting benefits within eight years, and only 7 percent remain on the rolls past the eight year mark (Ellwood and Summers 1986; Gans 1995).

As to the allegation that AFDC encourages the promotion of single female-headed households, studies have found (1) a rise of single-headed households in black families but not in white families during the period studied; (2) an increase in illegitimate births in states that included families with both parents present for AFDC relief; and (3) an increase in single-parent households during the 1970s, a decade in which relief benefits were declining (Wilson 1985). Further, Piven and Cloward (1987) also point out that increases in female-headed households during the 1960s[3] were most likely a result of large numbers of single mothers in need of assistance who did not previously enroll for AFDC benefits until they came to believe that receiving welfare was a right. Thus, evidence from the 1960s and 1970s indicates that regardless of fluctuations in AFDC availability, female-headed households were already in existence and were likely to be in existence in the future in great numbers (Piven and Cloward 1987).

As to the contention that welfare reliance leads to unemployment, especially among blacks, studies have found that this has not occurred. Ellwood and Summers (1986) found that unemployment differentials among black and white youth crossed all family types, all income categories, and all geographical areas. Taken together, past studies suggest that factors other than dependence on AFDC assistance encouraged unemployment and family disruptions.

[3] During the 1960s, AFDC enrollments were at an unprecedented high (Piven and Cloward 1987).

CONCLUSION

This chapter presented an overview of the welfare movements in the United States and its recent reform. The reform's limits on public relief is relevant to a study on the effects of AFDC on part one and part two offense rates. A number of findings, which will be discussed in the next chapter, indicate that as welfare assistance increases, crime rates decrease; thus, the reverse could also occur with limits on AFDC.

This chapter also presented the findings, perspectives, and views of the liberals and conservatives. The positions of both camps are important, especially when it comes to developing crime and welfare policies. Thus, because both liberals and conservatives believe that changes in welfare can alter crime rates, the recent reform of the welfare system, as was previously illustrated, with its limitations on lifetime benefits, could pose problematic for the overall crime rate.

Findings from past studies, which will be examined in Chapter 3, indicate that increases on welfare are highly correlated with decreases in crime, at least serious crime. If this is the case with serious crimes, the same may hold for the lesser offenses, which are committed more often than the more serious crimes (Felson 1994). Thus, the recent reform policy to curb eligibility of welfare benefits put into law by legislators, both conservative and liberal, may create a situation where both part one and part two crime rates could be affected in an undesirable direction. In other words, both types of offense rates could actually increase with a reduction in welfare relief.

Results of past studies indicate that as welfare spending increased, crime rates decreased. If these studies are methodologically sound, then the welfare reform's limitation on benefits may lead to increases in part one offense rates. What needs to be examined, however, is the influence welfare has on the more prevalent part two offenses. This is the aim of the current study. The

next chapter will examine the theoretical basis of the welfare-crime relationship and the past research.

CHAPTER THREE

AN EXAMINATION OF THE WELFARE-CRIME RELATIONSHIP IN THEORY AND IN PREVIOUS ANALYSES

INTRODUCTION

This chapter will examine the theoretical basis which may explain why welfare as an exogenous variable may behave the way it does in relation to crime rates. The theories presented in this chapter are being used to demonstrate how criminologists would explain why welfare and crime are negatively related. These theories will not be systematically tested in the analyses. Past studies on welfare and crime will also be discussed in order to present a coherent framework to support the importance of this study: namely, to determine the effects of AFDC on less serious offenses.

WELFARE AND CRIME: THE THEORIES

As noted previously, three theories will be presented to explain why increases in welfare might be correlated with decreases in crime according to criminologists. These theories are social disorganization, anomie, and social support. Each of these perspectives' contentions will be detailed. Hypotheses will be generated from these perspectives to explain the welfare-crime relationship. Within these contexts, the importance of studying part two offenses will also be discussed.

Social Disorganization

The work of Shaw and McKay from the Chicago School in the 1930s is one of the most popular structural explanations of crime and delinquency. Building on the work of Burgess's

concentric zone theory, Shaw and McKay (1942, 1969) came to the conclusion that it was the organization of the community that either promotes or discourages delinquent careers.

According to Burgess, a city is composed of five areas or zones: the inner city or business district, the zone in transition, the working man's home zone, the middle-class zone, and the suburbs. It was believed, and later empirically verified, that delinquency decreased as one moved outward from the inner city to the suburbs (Shaw and McKay 1942, 1969). In particular, turmoil characterized the zone in transition. High rates of illegitimate births, physical decay, sub-standard housing, broken families, and a heterogeneous population that was unstable marked this zone (Shaw and McKay 1942, 1969). The residents in this zone were of low socioeconomic status, mostly immigrants and migrants, with little or no education (Shaw and McKay 1942, 1969). The social patterns that occurred in the transition zone led to the social disorganization of the community (Bursik 1988; Shaw and McKay 1942, 1969). Thus, social disorganization describes "the inability of a neighborhood to manage its boundaries, ward off invasion, and prevent delinquency and crime" (Messner and Rosenfeld 1997:48).

Shaw and McKay's theory of social disorganization has a number of major points. First, behavior is a product of the social environment. One's social environment will determine the cultural value and definitions that, in turn, dictate the behavior of its residents (Elliott, Wilson, Huizinga, Sampson, Elliott, and Rankin 1996; Sampson and Groves 1989). Second, because of industrialization and urbanization, communities are made up of a number of competing cultures that break down more cohesive values and the consensus of a community (Bursik 1988; Elliott et al. 1996; Sampson and Groves 1989). Third, this breakdown or lack of consensus leads to impersonal groupings of family, institutions, and friendships which generate definitions that may conflict with the dominant culture and weaken social controls (Sampson and Groves 1989).

Thus, criminal or delinquent behavior occurs as a community becomes more fragmented and disorganized.

Shaw and McKay proposed that crime and delinquency increases when neighborhoods or communities are marked by low socioeconomic status, ethnic/racial heterogeneity, and residential mobility (Bursik 1988; Elliott et al. 1996; Sampson and Groves 1989). These are just a few of the structural factors that lead to neighborhoods that are socially disorganized (Sampson and Groves 1989). Delinquency rates vary from community to community across time and space. Those communities that experience rapid change and disorganization have the highest rates of delinquency due to a breakdown of social control over youths (Sampson and Groves 1989; Shaw and McKay 1942, 1969). Those communities not facing rapid change and disorganization are more able to possess a culture in which its residents can better isolate themselves from the criminal values that promote crime. Consensus of values and cultures and familiarity with neighbors allows a community to readily control its populace (Bursik 1988; Sampson and Groves 1989). Thus, the more racially and ethnically heterogeneous a neighborhood, the more likely consensus among residents will not be achieved. This lack of consensus directly increases the rates of crime and delinquency due to a lack of informal social control and a lack of communication (Sampson and Groves 1989).

Welfare assistance within the context of social disorganization theory could affect crime in a number of different ways. First, because residents receiving welfare would more likely remain in the neighborhood throughout the day, as opposed to going to a job, residents could supervise the happenings in their neighborhood and could initiate tactics such as informal social controls (e.g., verbally reprimanding a youth they see engaging in a delinquent act) or formal social controls (e.g., calling the police when the act is beyond informal means) when they

witness malevolent behaviors. Thus, the causal ordering would appear like this:

Welfare → Residential Stability → Informal Social Control →Rates of Illegal Behavior.

In addition, welfare assistance may also be able to mediate the effects of economic deprivation which may lead to (1) the inability of adults to effectively supervise children; (2) to marital discord and/or divorce[4]; and (3) to disregard the dominant cultural values due to the economic hardships (Sampson and Wilson 1995). Each of these factors, which can be grouped as social indicators of disorder[5], can interfere with the informal control mechanisms a community or neighborhood has over its residents (Elliott et al. 1996; Sampson 1986; Sampson and Groves 1989; Sampson and Wilson 1995; and Shaw and McKay 1942, 1969). Thus,

Welfare → Economic Deprivation → Social Indicators of Disorder →
Informal Social Controls → Rates of Illegal Behavior.

Welfare may also work to increase crime and delinquency under the social disorganization framework. Increases in welfare may influence the breakdown of family controls and labor market constraints (Rosenfeld 1986; Sampson and Wilson 1995). This viewpoint contends that the family and the job market elicit certain controls over residents in an area but when programs like AFDC are brought in, families breakdown with fathers leaving the home since traditionally, a mother could not be married to collect welfare (Hannon and

[4] Because males predominantly commit criminal offenses, divorce may influence the crime rate through a large pool of unmarried males who are freed from the informal controls provided by marriage (Sampson 1986).
[5] Social indicators of disorder are those factors that have been found to correlate with higher levels of crime across communities such as joblessness, poor education, family conflict, social alienation, economic hardships, and poverty (Lab 1997).

DeFronzo 1998a; Rosenfeld 1986)[6]. Welfare assistance, because eligibility rules require that the parent be unemployed, may also encourage parents to not seek gainful employment in the job market (Gilder 1981; Murray 1984; Rosenfeld 1986). Both the family and employment have the ability to exert control over community behavior and to direct its residents, especially children, into culturally approved paths, but if disrupted, crime and delinquency are likely to occur (Rosenfeld 1986).

Causal chain is as follows:

Welfare → Family and Job Structures → Informal Social Controls →Rates of Illegal Behavior.

Social disorganization theory is important to take into consideration when studying part two offenses. Prostitution, gambling, petty theft, drug offenses, and buying and receiving stolen property may be the types of offenses that could be decreased by some degree of informal social control in a community. To illustrate, according to Sampson and Wilson's (1995) explanation of social disorganization theory, increasing welfare assistance may be one avenue by which economic deprivation (i.e., one of the structural indicators leading to social disorganization) is lessened. In turn, by decreasing the effects of economic deprivation, the inability of adults to supervise children, increases in divorce rates, increases in instances of marital discord, and the disregard of the dominant values of the culture may be lessened (Elliott et al. 1996; Sampson 1986; Sampson and Groves 1989; Sampson and Wilson 1995; and Shaw and McKay 1942,

[6] Note, however, that AFDC eligibility requirements in 1990 changed to include two-parent families in which one parent was unemployed could collect AFDC payments (Ways and Means Committee 1998). This change occurred late in 1990. Therefore, its effects on the present study are minimal at best.

1969). Decreases in these social indicators of disorder should lead to more effective social controls whereby it becomes easier to observe and regulate the less serious behaviors.

Further, unlike most of the part two offenses, many of the index offenses may not be as amenable to effective informal social controls. This is due to the fact that crimes such as murder, rape, arson, and aggravated assault are more expressive in nature. Expressive crimes are committed because engaging in the offense "is an end in and of itself and not because it is a route to some other goal" (Chambliss 1969: 364). For example, murder, rape, and aggravated assault are often committed to resolve issues of anger, the desire for control, frustration, and/or despair. As such, expressive crimes may not be as amenable to deterrents such as the informal social controls or threats of punishment (Chambliss 1969). From the perspective of this manuscript, it is unlikely that increases in transfer payments to lessen economic hardships, nor the related increases in informal social controls, would decrease their prevalence (Devine, Sheley, and Smith 1988).

Instrumental crimes, however, focus on the achievement of a goal (Chambliss 1969). For example, drinking may be considered an expressive behavior, but driving while intoxicated (a part two offense) would be categorized as an instrumental offense, for the goal would be to get home or to another desired location (Chambliss 1969). Instrumental crimes are often committed for material or monetary gain. Drug abusers may commit crimes that make money like prostitution or theft in order to support their habits (Chambliss 1969). Thus, because many of the part two crimes are instrumental in nature, social disorganization theory may be better suited to explaining these lesser offenses as compared to the more serious, expressive offenses, which have been the primary focus of research in the welfare-crime literature.

Anomie

Anomie theory has its roots in the work of Emile Durkheim. Durkheim (1951) used the term anomie to define a situation of helplessness or normlessness in society that attenuates society's ability to control the behavior of its populace. Robert Merton (1938) expanded upon Durkheim's concept of anomie to include properties of social structures (Bernard 1987; Menard 1995). According to Merton, the social structure will create situations or circumstances that will produce pressure to achieve the culturally prescribed goal of material success (Merton 1938; Messner and Rosenfeld 1997; Bernard 1987). This pressure will influence people to choose actions that will best able them to achieve this goal of material success (Bernard 1987; Cullen 1983; Merton 1938). Illegitimate means (i.e., crime, and deviance) are chosen when access to the legitimate means (i.e., vocational and educational opportunities) are unavailable (Bernard 1987; Cullen 1983; Merton 1938). Crime results when access to the legitimate means to the valued goals are blocked due to the lack of fit between the social structure in which people are enmeshed and the culture which holds what persons should attain (Merton 1938; Messner and Rosenfeld 1997).

According to the anomie perspective, high levels of welfare assistance should act as legitimate means through which persons can meet the culturally prescribed goal orientation (at least they can meet basic needs, without resorting to crime). This causal chain is as follows:

Welfare → Greater Congruence between Means and Goals → Anomie → Crime Rates

Another hypothesis that can be used to explain the relationship between welfare and crime is drawn from the contentions of institutional anomie theory developed by Messner and Rosenfeld (1997). The basic thesis of institutional anomie is that anomic tendencies, produced

by the desire of everyone in society to achieve the American Dream of material success, are affected by an institutional imbalance of power dominated by the economy (Messner and Rosenfeld 1997). In other words, the intense pressure to achieve monetary success leads to the inability of other institutions such as the school, the family, and/or the government to control behavior in society. This is due to the fact that these institutions are subservient to the economic institution (Messner and Rosenfeld 1997).

The economic institution holds most of the behavior controlling power because the American Dream of monetary success can only be achieved through the means available in the economic system. High levels of crime result when people are unable to satisfy their strong desires to achieve the American Dream through the legitimate channels of the economic system (Messner and Rosenfeld 1997). Thus, people are able to substitute illegitimate means to pursue the American Dream because using the legitimate means are de-emphasized relative to the attaining the culturally desired goal of material success (Messner and Rosenfeld 1997).

According to institutional anomie theory, increasing public assistance may increase the pressure to attain material success goals so much that persons will resort to criminal means to acquire them because welfare could not lessen the anomic condition (Chamlin and Cochran 1995). In other words, welfare may be unable to lessen the intense pressures or the anomic conditions of attaining the American Dream because programs like AFDC can never provide enough monetary assistance for it is always possible to possess more money according to the American Dream (Messner and Rosenfeld 1997).

Welfare programs, although providing monetary relief, come from the institution of the government, which according to Messner and Rosenfeld (1997), is subservient to the economic institution. Therefore, providing welfare assistance may increase the crime rate because other

behaviors such as burglary, robbery, drug dealing, prostitution, gambling, shoplifting, embezzlement, and the like offer monetary rewards that can exceed the value of a monthly welfare check. Relatedly, these illegal activities can further aid in the continuous pursuit of attaining the American Dream. Thus,

Welfare → Anomie → Rates of Illegal Behavior.

As was clearly illustrated in the explanation of anomie theory, anomie theories pertain mostly to instrumental crimes (Messner and Rosenfeld 1997). Examples of instrumental crimes are burglary, robbery, auto theft, arson in some cases, larceny, prostitution, gambling, drug offenses, fraud, embezzlement, forgery and counterfeiting, and buying and receiving stolen property. It should be noted that many of the crimes that could be explained using the anomie perspective in relation to welfare are in fact, part two offenses, which have, until now, been overlooked in the past research examining the welfare-crime relationship.

Social Support

Social support is more of a sensitizing concept rather than a theory per se, but, it is an important concept, especially when it comes to explaining the influences of welfare relief and crime rates. Social support can be defined as " a property of social networks of communities and larger ecological units in which individuals are enmeshed" (Cullen 1994: 531). Support can be delivered by formal (e.g., schools, government assistance programs, the criminal justice system) or informal (e.g., peers, parents, neighbors) agents and can deliver instrumental assistance or expressive assistance (Cullen 1994). Instrumental assistance can be monetary, protective, educational, vocational, and the like. Examples of expressive assistance would be love,

guidance, and understanding.

Cullen (1994) hypothesizes that communities with low levels of social support will experience high rates of crime. Under this perspective, increasing AFDC relief should buffer against the forces, such as unemployment, family dissolution, or poverty that lead to criminal acts by providing instrumental assistance. (Cullen 1994; Currie 1985). In other words, AFDC payments, from the formal agent of the government, are a monetary support mechanism by which communities can rely upon to aid those faced with economic or familial hardships. This increased level of social support (i.e., welfare relief) should attenuate the likelihood of increasing crime because of increases in community cohesion[7]. These increases in community cohesion may then weaken the influences brought on by such factors as poverty and divorce thereby decreasing offense rates. Causal ordering is as follows:

Welfare → Levels of Social Support → Community Cohesion →
Social Indicators of Disorder → Rates of Illegal Behavior.

This perspective should be able to explain both part one and part two offenses, primarily because it takes into consideration the idea that support can come from a number of different agents (Cullen, Wright, and Chamlin 1999). For example, increasing levels of social support through a welfare program may attenuate the stress that comes from financial instability, which has been found to influence child homicide (see Fiala and LaFree 1988). In the same vein, welfare assistance may be enough social support to discourage communities from having to deal with prostitution rings or drug markets to provide unmet needs.

Part two offenses, however, are overlooked when studying the effects of welfare on rates

[7] Community cohesion should be regarded as the degree to which a community provides instrumental or expressive assistance (Cullen 1994).

of illegal behavior in the past literature. Offenses such as prostitution, drug crimes, and fraudulent offenses such as bad check writing or forgery may decrease when increases in transfer payments occur according to the contentions of social support theory. That is, increases in welfare dollars (i.e., an instrumental form of assistance from the formal agent of the government) may lead to increases in levels of social support, thus, increasing community cohesion. Increases in community cohesion can buffer a community from the effects of poverty and unemployment, thereby decreasing crime rates; particularly part two offense rates for these are the offenses that occur most often (Chambliss 1969; Felson 1994).

For example, offenses such as prostitution, drug sales, shoplifting, and the like may be easier to control through increases in social support via public assistance payments. This is because part two offenses, unlike murder, rape, and aggravated assault (i.e., part one offenses), are used primarily for instrumental gain and are typically not committed to resolve issues of anger, the desire to control, jealousy, despair, or frustration. Further, because most of the part one offenses are expressive in nature, they may "necessitate a far greater and presumably more complex motivational commitment, one not necessarily responsive to macro-level explanation" (Devine et al. 1988:418). Thus, because most of the arrests in this country are made for part two offenses and may not be as emotionally motivated, research should not overlook the significance social support theory may play in reducing the occurrences of the lesser offenses. Therefore, the aim of this study is to overcome the limitations of past studies, which ignore the influences macro-level predictors, such as welfare, have on part two crime rates.

SUMMARY

This section provided a thorough discussion of three perspectives that could be used to explain the effects of welfare on crime in general and on part two offenses in particular. In brief, social disorganization posits that increases in welfare can either increase or decrease crime rates due to its potential influence on a community's ability to exert informal social control over its residents. Anomie theory contends that high levels of welfare relief can act as a legitimate mean through which persons can meet the culturally prescribed goals which, in turn, reduces rates of crime. (It should again be noted that crime can be considered an illegitimate medium for meeting culturally prescribed goals.) Institutional anomie, on the other hand, may contend that as welfare spending is increased, crime rates will increase or remain unaffected. This is because welfare may not provide enough monetary assistance to achieve the American Dream. Finally, the concept of social support offers the explanation that welfare assistance payments can increase community cohesion. This increase in community cohesion has the ability to decrease crime through the operation of lessening the influences of economic and familial hardships.

These three theories, however, have not been tested in relation to their contentions regarding the relationship between welfare and part two offense rates. As has been stated previously, many of the part two offenses are instrumental in form and are not a result of intense emotions. Many of the violent offenses, which have been the focus of many studies examining the welfare-crime relationship, however, are often the result of strong feelings and thus may not be as amenable to study at the aggregate level when utilizing welfare as a predictor variable (Devine et al. 1988). Further, part two offenses occur at a greater prevalence then part one offenses. As such, any study concerning the influences of macro-level factors such as welfare should concern itself with explaining phenomena that occur more often and may be more

amenable to (1) informal social controls; (2) increases in levels of social support and community cohesion; and (3) the pursuit of legitimate options to achieve culturally prescribed goals. Part two offenses are more likely to meet these conditions than the index offenses, which as will be observed in the next section, have been the focus of much research in the welfare-crime literature.

LITERATURE REVIEW

This section will discuss the empirical literature that examines the relationship between welfare assistance and crime in light of the three theoretical approaches, namely, social disorganization, anomie, and social support. The studies will be organized according to the unit of analysis under study. Specifically, the studies will be organized into those examining the relationship between welfare and crime in large metropolitan counties, Standard Metropolitan Statistical Areas (SMSAs), cities, labor market areas, states, cross-nationally, and across time. Major findings regarding welfare and crime will be discussed. The effects of the control variables on welfare and/or crime will follow the discussion of the empirical studies.

Large Metropolitan Counties

James DeFronzo and Lance Hannon have conducted numerous studies on the effects of welfare at the large metropolitan county level[8]. Each of these studies was published in 1998, each concentrated exclusively on part one, or serious offenses, and each was cross-sectional in design.

The first study by DeFronzo and Hannon (1998) that will be discussed examined the

relationship between welfare and homicide rates. The variable of welfare was measured both as dollar payments and participation. Welfare dollar payments were the average AFDC and General Assistance Payment per recipient divided by the average payment per family in order to control for family size (DeFronzo and Hannon 1998). Welfare participation was measured as the percentage of all persons below the poverty line receiving aid.[9] Homicide rates were obtained from the 1989 and 1990 Uniform Crime Reports. The welfare index was found to have a significant negative relationship with homicide rates. In other words, as welfare aid and participation rates increased, homicide rates decreased.

Hannon and DeFronzo (1998a) also examined the effects of welfare on property crimes using large metropolitan counties. In this study, welfare participation was measured as the percentage of poor families on public assistance, which was the same measurement as in the aforementioned homicide study. Welfare aid was measured as the average amount of AFDC payments per person in 1990 adjusted for the cost-of-living across the counties. The dependent variable of property crimes was measured as rates of burglary, larceny, and motor vehicle theft in the 1990 Uniform Crime Reports.

Welfare payments were found to reduce the divorce rate and the percentage of female-headed households living below the poverty line. In addition, increased welfare aid and participation rates were found to negatively impact all three property crime rates under study. These findings are consistent with the DeFronzo and Hannon (1998) study on homicide.

One final study by Hannon and DeFronzo (1998b) examined the influences of welfare on crime in large metropolitan counties. This study also analyzed the effects of welfare assistance

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[8] Large standard metropolitan counties are those areas that have a population of over 100,000 and a Census designation of a metropolitan.

and participation on property crime rates but added measures of violent crime rates from the 1990 Uniform Crime Reports. In addition to the property crimes of larceny, burglary and auto theft, the violent crimes of homicide, aggravated assault, rape, and robbery were also examined in relation to welfare. Welfare aid and participation were measured in the same manner as the preceding study. They found that increases in welfare assistance levels were found to mediate the effects of resource deprivation and decrease crime rates.

Standard Metropolitan Statistical Areas (SMSAs)

SMSAs were studied by Rosenfeld (1986), Messner (1986), and DeFronzo (1983, 1992) to examine the relationship between welfare assistance and crime. All of the studies were cross-sectional analyses. DeFronzo's (1983) study examined 39 SMSAs in 1970. The variables under study were rates of homicide, aggravated assault, forcible rape, auto theft, burglary, larceny, and robbery (i.e., the original index crimes; arson was not included until 1979) from the 1970 Uniform Crime Reports. Welfare was measured as the cost-of-living adjusted monthly AFDC assistance per family. DeFronzo (1983) found that AFDC assistance was negatively associated with homicide, rape, and burglary rates controlling for the other variables.

Another study done by DeFronzo (1992) also analyzed SMSAs. The only type of crime examined in this study was sexual assault. The dependent variable of sexual assault was measured by using the rates from the 1970 Uniform Crime Reports. Welfare was measured as the average monthly AFDC payment per family member. DeFronzo (1992) found, much as in his

[9] Not all those eligible for welfare relief participate in government assistance programs; DeFronzo and Hannon (1998) note that welfare participation rates ranged from 12% to 60% of all those living below the poverty rate.poverty line in 1990.

1983 study discussed above, that as AFDC payments increased, sexual assault decreased.

Rosenfeld (1986), like DeFronzo in 1983, used SMSAs to study the relationship welfare and index crimes from the 1970 Uniform Crime Reports. Rosenfeld (1986) hypothesized that welfare assistance weakens the control functions of the family that then leads to increases in crime. His main premise was that welfare encouraged unemployment because in order to receive aid, recipients could not have a job. Rosenfeld (1986) also believed that welfare encouraged the breakdown of the traditional family because prior to 1990, only single mothers were able to collect welfare payments. He measured welfare as the percentage of the population receiving relief and welfare eligibility. Welfare eligibility is determined by the individual state's guidelines for eligible recipients in which the SMSA resides.

The results from Rosenfeld's (1986) analysis indicated that welfare dependency has a significant negative effect on murder and motor vehicle theft rates. Regarding welfare eligibility, it was found that SMSAs with lenient eligibility rules for public relief had lower murder and assault rates. This finding is in direct contrast with the hypothesis that welfare assistance weakens the control functions of the family and labor markets.

The final researcher to utilize SMSAs to study the effects of governmental assistance on index crimes was Messner (1986). Unlike the other researchers utilizing SMSAs, Messner examined 1980 data. Governmental aid was measured as the average monthly AFDC payment. Messner (1986) found that as public assistance from the government increases, homicide rates decrease. This, however, was not found to be true for other crimes such as rape and burglary. Unlike the other studies, a positive relationship between larceny and welfare was found. In his earlier work, DeFronzo (1983) addressed this issue by stating that low levels of AFDC assistance may leave potential offenders with a large number of unmet needs for which larceny can

effectively supplement.

Cities

Three studies examining the effects of welfare on crime used cities as the unit of analysis. Two studies were conducted by DeFronzo (1996, 1997) and one by Sampson (1987). Sampson's (1987) study, which will be discussed first, however, did not directly test the effect of welfare on crime. Welfare was used as a control variable to examine the mediated effect of black male joblessness through family disruption as it relates to black robbery and homicide rates for the year 1980 (Sampson 1987). Welfare, as a control variable, was measured as the average public assistance payment to black households (Sampson 1987). The dependent variables of homicide and robbery rates were obtained from an unpublished arrest count by police jurisdiction collected under the direction of the Federal Bureau of Investigation. Sampson (1987) found that adult homicide rates were negatively correlated with low welfare assistance payments. In other words, when welfare spending was low, homicide rates increased.

DeFronzo (1996) conducted another study that examined the relationship between welfare relief and crime rates using cities as the unit of analysis. DeFronzo (1996) examined the effects of welfare on burglary rates for 141 cities. Welfare assistance was measured as the mean AFDC payment per recipient in 1990 adjusted for cost-of-living. DeFronzo (1996) found that AFDC payments had a significant negative relationship with rates of burglary.

The final study to be discussed in this sub-section was also conducted by DeFronzo (1997). This study analyzed the relationship between welfare assistance and homicide rates. Welfare assistance was measured as the average AFDC payment per recipient (DeFronzo 1997). Increases in AFDC payments were correlated with a decrease in homicide rates.

Labor Market Areas

Hannon (1997) examined the effects of welfare and crime, specifically, murder, in labor market areas. Labor market areas are those areas where most people work and live (Hannon 1997). In this study, welfare assistance was measured as the mean monthly AFDC payment per recipient in 1990, adjusted for cost-of-living. Homicide rates were taken from the 1989-1990 Uniform Crime Reports. Consistent with previous studies, results of Hannon's (1997) analysis indicated a negative association between AFDC payments and homicide rates.

States

Junsen Zhang (1997), an economist, studied the effects of welfare on criminal behavior utilizing states in a cross-sectional analysis. Zhang's (1997) study differs from the others previously examined because he considers a number of welfare programs, not just AFDC assistance, including Medicaid, School Lunch, and Public Housing programs. In this study, crime was measured as state property crime rates (i.e., burglary, larceny-theft, and motor-vehicle theft) for 1987. Results of Zhang's (1997) analysis indicated that the more generous, in terms of dollars allocated, the welfare program, the lower the property crime rates.

Cross-National

Robert Fiala and Gary LaFree (1988) are the only researchers to examine the effects of welfare on cross-national, in particular, developing countries', crime rates. Crime rates in this study were measured as homicide rates where the victim was a child. Welfare is measured as government-revenue for the impoverished, social security allocations, and family allowance measures for each country.

Fiala and LaFree (1988) found that increases in all three welfare measures led to lower child-homicide rates.

Time

Only two studies examining the welfare-crime relationship were longitudinal in design. Devine, Sheley, and Smith (1988) conducted the first study that will be discussed. Grant and Martinez (1997) conducted the second study.

Devine et al. (1988) examined the correlates of burglary, robbery, and homicide rates for the years 1948-1985 from the Uniform Crime Reports. Welfare was measured as the sum of public assistance spending through AFDC, Aid to the Indigent, Blind, and Disabled, and the food stamp programs. They found that increases in relief programs were found to only decrease burglary rates. Thus, homicide and robbery rates were unaffected by increases in public assistance dollars.

In a similar effort, Grant and Martinez (1997) examined macro-structural factors in relation to violent and property crime rates from the Uniform Crime Reports for the 48 contiguous states in America over the years 1970-1985. Violent crime rates included homicide, rape, and assault. Robbery[10], larceny, burglary, and auto theft fell under the category of property crimes. Welfare was measured as average AFDC payments. Grant and Martinez (1997) found that increases in AFDC payments led to decreases in both violent and property crime rates controlling for other factors.

[10] Grant and Martinez (1997) include robbery in the property crime category based on Sutherland and Schuessler's (1973) demonstration that the goal of robbery is to acquire property rather than to harm others.

EFFECTS OF CONTROL VARIABLES

In the above-noted studies, a number of control variables were found to have significant associations with welfare and/or crime. These findings need to be considered because these are the variables that must be controlled for in the complete model used to explain the welfare-crime relationship. Table 3.1 summarizes these findings.

It can be observed from the table that the following macro-level predictors exhibited significant positive relationships with the violent crimes falling under the part one offense category:

1. Unemployment Rate
2. Percent of Female Participation in the Labor Force
3. Percent Urban Population
4. Percent Divorced
5. Size of Population
6. Percent of the Population that is Nonwhite
7. Poverty Rate
8. Percent of Female-Headed Households
9. Dropout Rate
10. Percentage of Males Aged 16-24
11. Male Unemployment Rate.

Specifically, most of the studies found that increases in any of the above factors resulted in an increase in homicide, rape, aggravated assault, and robbery[11] rates.

[11] Most researchers categorize robbery as a violent crime. Grant and Martinez (1997), however, as noted in an earlier footnote, conclude that the purpose of robbery is to acquire property rather than to harm others. Thus, it must be noted that Grant and Martinez's (1997) findings in relation to property crimes should include robbery among this offense type.

TABLE 3.1.

STRUCTURAL COVARIATES OF INDEX CRIME RATES—RESULTS FROM PREVIOUS STUDIES

	STRUCTURAL COVARIATES			
PREVIOUS STUDIES	INCOME INEQUALITY	PERCENTAGE FAMIIES IN POVERTY	PERCENTAGE UNEMPLOYED	PERCENTAGE NONWHITE
DeFronzo (1983)	0	0	+rape +larceny +burglary	+homicide +robbery +aggravated assault
Rosenfeld (1986)	*	*	*	*
Messner (1986)	0	*	0	+all index but auto theft
Sampson (1987)	*	*	0	*
Devine et al. (1988)	*	*	*	*
Fiala and LeFree (1988)	*	*	+child homicide	*
DeFonzo (1992)	0	*	+sexual assault	+sexual assault
DeFonzo (1996)	*	+burglary	0	*
DeFonzo (1997)	*	*	+homicide	*
Grant and Martinez (1997)	*	*	+all index crimes	0
Hannon (1997)	*	*	+homicide	*
Zhang (1997)	+property crimes	*	+property crimes	0
DeFronzo and Hannon (1998)	+homicide	*	*	0
Hannon and DeFronzo (1998a)	*	*	*	*
Hannon and DeFronzo 1998b)	*	0	+property crimes	0

TABLE 3.1. (Continued)

STRUCTURAL COVARIATES OF INDEX CRIME RATES—RESULTS FROM PREVIOUS STUDIES

	STRUCTURAL COVARIATES			
PREVIOUS STUDIES	REGION	POPULATION SIZE	FAMILY INCOME	PERCENTAGE DIVORCED
DeFronzo (1983)	0	+auto theft +homicide +robbery +rape	+burglary +larceny	*
Rosenfeld (1986)	0	0	*	*
Messner (1986)	0	+all index crimes	0	*
Sampson (1987)	+adult homicide	+juvenile homicide	*	*
Devine et al. (1988)	*	*	*	*
Fiala and LeFree (1988)	*	*	*	*
DeFonzo (1992)	0	0	*	0
DeFonzo (1996)	*	+burglary	*	*
DeFonzo (1997)	*	0	*	*
Grant and Martinez (1997)	*	0	*	*
Hannon (1997)	*	*	*	*
Zhang (1997)	+property crimes	*	*	*
DeFronzo and Hannon (1998)	*	+homicide	*	*
Hannon and DeFronzo (1998a)	*	0	0	+burglary +larceny
Hannon and DeFronzo 1998b)	*	+all index crimes	*	0

TABLE 3.1. (Continued)

STRUCTURAL COVARIATES OF INDEX CRIME RATES—RESULTS FROM PREVIOUS STUDIES

	STRUCTURAL COVARIATES		
PREVIOUS STUDIES	AGE STRUCURE OF POPULATION (15 – 29 YRS.)	PERCENTAGE FEMALE-HEADED HOUSEHOLDS	PERCENTAGE BELOW POVERTY
DeFronzo (1983)	*	*	*
Rosenfeld (1986)	*	*	*
Messner (1986)	0	*	0
Sampson (1987)	*	+Juvenile homicide	*
Devine et al. (1988)	*	*	*
Fiala and LeFree (1988)	*	*	*
DeFonzo (1992)	0	*	*
DeFonzo (1996)	*	+burglary	0
DeFonzo (1997)	*	+homicide	0
Grant and Martinez (1997)	0	+violent crimes	+violent crimes
Hannon (1997)	0	+homicide	+homicide
Zhang (1997)	0	*	*
DeFronzo and Hannon (1998)	*	+homicide	*
Hannon and DeFronzo (1998a)	+larceny	+property crimes	*
Hannon and DeFronzo 1998b)	0	*	*

TABLE 3.1. (Continued)

STRUCTURAL COVARIATES OF INDEX CRIME RATES—RESULTS FROM PREVIOUS STUDIES

	STRUCTURAL COVARIATES			
PREVIOUS STUDIES	PERCENTAGE MALES AGED (16 – 24 YRS)	MEDIAN INCOME	CRIMINAL OPPORTUNITY	RESIDENTIAL MOBILITY
DeFronzo (1983)	*	*	*	*
Rosenfeld (1986)	*	*	*	*
Messner (1986)	*	*	*	+all index crimes
Sampson (1987)	*	*	*	*
Devine et al. (1988)	+homicide +robbery	*	+homicide +robbery	*
Fiala and LeFree (1988)	*	*	*	*
DeFonzo (1992)	*	*	*	*
DeFonzo (1996)	0	*	*	*
DeFonzo (1997)	0	0	*	*
Grant and Martinez (1997)	*	*	*	*
Hannon (1997)	*	*	*	*
Zhang (1997)	*	+property crimes	*	*
DeFronzo and Hannon (1998)	*	*	*	*
Hannon and DeFronzo (1998a)	*	*	*	*
Hannon and DeFronzo 1998b)	*	*	*	*all index crimes

TABLE 3.1. (Continued)

STRUCTURAL COVARIATES OF INDEX CRIME RATES—RESULTS FROM PREVIOUS STUDIES

	STRUCTURAL COVARIATES			
PREVIOUS STUDIES	POPULATION DENSITY	MALE UNEMPLOYMENT RATE	PERCENTAGE FEMALES IN LABOR FORCE	PERCENTAGE URBAN POPULATION
DeFronzo (1983)	*	*	*	*
Rosenfeld (1986)	*	*	*	*
Messner (1986)	*	*	*	*
Sampson (1987)	*	0	*	*
Devine et al. (1988)	*	+burglary +robbery +homicide	*	*
Fiala and LeFree (1988)	*	*	+child homicide	0
DeFonzo (1992)	*	*	*	*
DeFonzo (1996)	*	*	*	*
DeFonzo (1997)	*	*	*	*
Grant and Martinez (1997)	*	*	*	*
Hannon (1997)	*	*	*	+homicide
Zhang (1997)	*	*	*	+property crimes
DeFronzo and Hannon (1998)	+homicide	*	*	*
Hannon and DeFronzo (1998a)	*	+auto theft	*	*
Hannon and DeFronzo 1998b)	+all index crimes	*	+property crimes	*all index crimes

TABLE 3.1. (Continued)

STRUCTURAL COVARIATES OF INDEX CRIME RATES—RESULTS FROM PREVIOUS STUDIES

	STRUCTURAL COVARIATES		
PREVIOUS STUDIES	PER CAPITA INCOME	HIGH SCHOOL DROPOUT RATES	WELFARE
DeFronzo (1983)	*	*	-rape -homicide -burglary
Rosenfeld (1986)	*	*	-homicide -auto theft
Messner (1986)	*	0	+larceny -all other index crimes
Sampson (1987)	*	*	+family disruption -adult homicide
Devine et al. (1988)	*	*	-burglary
Fiala and LeFree (1988)	*	*	-child homicide
DeFonzo (1992)	*	*	-sexual assault
DeFonzo (1996)	0	*	-female-headed households -burglary
DeFonzo (1997)	0	*	-female-headed households -homicide
Grant and Martinez (1997)	*	*	-all index crimes
Hannon (1997)	*	+homicide	-dropout rate -homicide
Zhang (1997)	+property crimes	*	-property crimes
DeFronzo and Hannon (1998)	*	*	-homicide
Hannon and DeFronzo (1998a)	-larceny -burglary +auto theft	*	-divorce rate -female headed households -property crimes

TABLE 3.1. (Continued)

STRUCTURAL COVARIATES OF INDEX CRIME RATES—RESULTS FROM PREVIOUS STUDIES

	STRUCTURAL COVARIATES PREVIOUS STUDIES		
PREVIOUS STUDIES	PER CAPITA INCOME	HIGH SCHOOL DROPOUT RATES	WELFARE
Hannon and DeFronzo 1998b)	*	*	-resource deprivation -all index crimes

- NOTES. A+ sign indicates a significant positive relationship between the variables indicated; - sign indicates a significant negative relationship between the variables indicated; 0 indicates a non-significant or null effect; * indicates that the researches did not include this variable in their study.

It can also be observed in the table that one study found that increases in the percentage of the population aged 16-29 and increases in criminal opportunity led to an increase in the homicide and robbery rates (Devine et al. 1985). Child homicide rates in particular were found to increase when participation in the labor force by females increased (Fiala and LaFree 1988). When women had more occupations falling into the professional employment status, however, child homicide rates decreased (Fiala and LaFree 1988).

A number of control variables also affected the measures of property crime. Table 3.1 illustrates that the following variables were all found to be positively associated with burglary, larceny, and auto theft rates:

1. Median Family Income
2. Unemployment Rate
3. Male Unemployment Rate
4. Percentage of Females Participating in the Labor Force
5. Percent Divorced
6. Residential Mobility
7. Percent Urban Population
8. Percentage of Female-Headed Households
9. City Population Size
10. Age Structure of Population (15-29 years old)
11. Income Inequality
12. Poverty Rate.

In addition to findings of significant associations between the control variables and crime rates, the welfare variable was also found to significantly influence a number of the control variables. For example, in DeFronzo's (1997) study on homicide rates, AFDC expenditures were found to indirectly decrease homicide rates by limiting the number of female headed-households. DeFronzo's (1996) study on burglary also found that increases in welfare decreased the percentage of female-headed households.

Hannon and DeFronzo's (1998a) study on the relationship between welfare and property

crime rates found that increases in welfare payments reduced divorce rates and female-headed households. Further, another study on the relationship between welfare and all of the index crimes found that increases in welfare assistance payments reduced the divorce rate and the percentage of female-headed households (Hannon and DeFronzo 1998b). Hannon's (1997) study on welfare and homicide rates indicated that increases in AFDC payments also correlated with decreases in the high school dropout rate.

DISCUSSION

An analysis of the empirical literature revealed a common pattern. Specifically, there was the consistent significant finding of a negative relationship between welfare assistance and part one offense rates. Collectively, all three theoretical perspectives, as well as the institutional anomie extension of anomie theory, presented at the beginning of this chapter may explain these findings.

Social Disorganization

Social disorganization theory may explain the negative relationship between welfare payments and serious crime. An increase in welfare assistance may lessen the effects of economic deprivation; this may lead to the promotion and acceptance of pro-cultural values and an effective informal social control network. In addition, because some residents are staying in the neighborhood (versus going to a job or other responsibility) due to receiving government aid, their presence would increase the ability of the neighborhood to adequately supervise and respond to any deviant behavior. This process may be one explanation as to why the researchers observed a decrease in crime rates.

As was previously noted, however, the kind of informal social controls available when a neighborhood becomes more socially organized may be better suited to regulate the less serious behaviors such as petty theft, drug offenses, and vandalism rather than the more serious crimes like murder or rape. This is because these crimes are more expressive in nature and as such, may not be as amenable to the positive changes generous welfare payments can bring. For example, increases in welfare payments were found to decrease the percentage of female-headed households, divorce rates, and high school dropout rates (DeFronzo 1996, 1997; Hannon and DeFronzo 1998a, 1998b). These are the same factors that have consistently been positively associated with serious crime rates across the studies examining the welfare-crime relationship.

If increases in welfare payments are able to decrease the occurrences of factors characteristic of a disorganized neighborhood and many of the part one crimes, research should determine whether the same results hold true for the more prevalent part two offenses. Part two offenses may also be easier to regulate because they are more amenable to deterrence (Chambliss 1969). Generous welfare payments, as opposed to punishments, may be able to reduce the quantity of many part two offenses because it may be able to influence increased levels of informal social controls in a community through decreases in economic deprivation and other social indicators of disorder. One of the aims of this study is to test for this possibility.

Anomie

The anomie theoretical framework may best explain the negative relationship between welfare and the property offense rates found in the empirical literature. Anomie theory states that rates of illegal behavior will be less when there is congruence between the means and the culturally prescribed goals. Thus, increases in welfare payments may provide a legitimate mean

to achieve basic needs and other accepted goals without having to resort to illegitimate channels such as burglary, auto theft, or larceny for assistance.

Anomie theory, as was discussed previously, is best suited in explaining instrumental offenses, or those offenses that result in material or monetary gain [or the attainment of some other goal (Chambliss 1969)], for these are the culturally prescribed indicators of success (Messner and Rosenfeld 1997). Thus, anomie theory, in the context of the welfare-crime relationship, should be tested using part two crimes as the dependent variable under study. Studying part two offenses is necessary because a good number of part two crimes can be considered instrumental offenses such as forgery or counterfeiting, embezzlement, shoplifting, petty theft, drug sales, prostitution, and commercialized vice. Further, the increased prevalence of part two crimes in certain areas can lead to a concomitant increase in the more serious, part one crimes (Wilson 1983).

Therefore, if increases in welfare payments can decrease property crime rates under the part one offense category, research should determine whether the same decreases can be found for the more prevalent part two crimes using the contentions of anomie theory. In other words, can increases in welfare payments provide an adequate enough legitimate mean to meet the culturally prescribed success goals without having to resort to illegitimate means such as drug sales, prostitution, or shoplifting? Or, according to the institutional anomie perspective, do crimes such as gambling, drug dealing, and prostitution offer monetary rewards that exceed the value of a monthly welfare check such that generous government aid allocations are inefficient at regulating these crime occurrences? Answers to these questions can only be provided in an analysis in which part two crimes are the dependent variables under study. This will be accomplished in the present examination of the welfare-crime relationship.

Social Support

Finally, the social support perspective can also offer an explanation to the findings of a negative relationship between welfare and part one offense rates. As was found in the past research, increases in AFDC payments, which represents an example of instrumental assistance to the disadvantaged, served to weaken the influences that poverty, divorce, and female-headed households had on crime rates due to increases in community cohesion. A case in point where social support theory provides clear evidence of its importance in the welfare-crime relationship can be observed in the results of as study by Sampson (1987) on black male joblessness, family disruption, and homicide and robbery rates. Sampson (1987) found that welfare payments were inversely related to adult homicide rates.

Social support may best explain this finding by noting that a community's unwillingness or inability to provide assistance (i.e., support) may lead to negative outcomes, such as increased crime rates. This situation is exacerbated by problems associated with family disruption, poverty, and large populations. These three factors were the same factors, along with low welfare payments, that were found to positively influence homicide rates in Sampson's (1987) study. Thus, under a social support paradigm, generous welfare payments may be able to mitigate the debilitating influence poverty, divorce, family disruption, unemployment, and population density have on communities and thereby, reduce crime.

Since all of the studies in the past literature examined serious offenses, it is unknown whether the tenets of social support theory are influential in explaining the frequency of the more prevalent part two crimes. Part two crimes may actually be more amenable to the influences increases in social support via increases in welfare assistance have on deviant behavior because crimes such as prostitution, fraud, and drug offenses often result in monetary gains that could be

provided legally with government aid.

Thus, programs like AFDC may lessen the influences that economic and familial hardships have on crime rates simply by providing support to those in need in the community. It should be remembered that areas marked by high degrees of social support, experience low rates of crime (Cullen 1994; Cullen et al. 1999). Therefore, because the occurrences of part two crimes are more numerous, communities supported with high welfare payments should see a reduction in overall crime rates, especially part two crime rates. Past research, however, has only focused on the rare part one offenses. The goal of this study is to overcome this limitation and examine the effects of welfare as social support on part two offenses.

SUMMARY

The preceding literature review provided evidence of the importance of a number of macro-structural factors as they influence crime rates. Namely, the effects of such factors as poverty, unemployment, income inequality, family disruption, and welfare assistance all have the ability to affect crime, at least serious crime. Only increases in public assistance, however, were able to reduce serious crime rates. What is not known, however, is how these macro-structural predictors, in particular, welfare, impact the less serious, or part two, offenses such as prostitution, simple assault, disorderly conduct, petty theft, shoplifting, drug offenses, and the like. The reason for this lack of knowledge is because no study has been conducted to examine part two offenses in these contexts.

The rates of occurrences of part two offenses may be more amenable to increases in welfare payments because many of them are used for instrumental gain rather than as an impulsive route to some other goal like resolving issues of anger, frustration, or despair. Crimes

such as murder, aggravated assaults, and rapes are considered to be expressive in nature and what triggers their occurrence varies across individuals (Chambliss 1969). As such, many serious crimes may not be adequately explained using aggregate level predictors like welfare assistance, unemployment, and poverty rates (Devine et al., 1988). The present study overcomes the limitations of the past research that only considered the import increases in welfare relief had on part one offenses by examining both part one and part two crime rates.

CONCLUSION

This chapter provided a discussion on the theoretical approaches of social disorganization, anomie, and social support as they can be used to explain the possible relationships between welfare and crime rates according to criminologists. This chapter also reviewed the past studies in the literature regarding welfare as a predictor variable and crime rates as the variable of influence. The majority of the studies found that as welfare assistance increased, crime rates, both property and violent crime rates as measured in the Uniform Crime Report, decreased. The major findings of each study were also discussed in light of the three theories. Finally, the importance of studying the effects of welfare on part two offenses was explored. The next chapter discusses the methodology employed in the present study to examine the influences welfare relief has on both part one and part two offenses. More specifically, the methodology employed will enable the study to determine whether or not increases in welfare lead to decreases in offense rates similar to past examinations and to determine changes in the levels of crime over time in relation to welfare spending.

CHAPTER FOUR

METHODOLOGY THAT WILL BE USED TO EXAMINE THE RELATIONSHIP BETWEEN WELFARE AND PART ONE AND PART TWO OFFENSES

INTRODUCTION

The present chapter describes the methodology that will be used to examine the relationship between welfare and part one and part two offense rates. More specifically, this chapter will discuss the research design of the study, the sample, the variables addressed, and the methods of statistical analyses that will be conducted.

Research Design

The present study is driven by the three theoretical approaches discussed in the preceding chapter. These theories are social disorganization theory, anomie theory, and the social support perspective. With the exception of social support, which can be either micro or macro in explanation, the assumptions of social disorganization and anomie theories dictate analysis at the macro or aggregate level. As such, this study will examine the welfare-crime relationship using counties in the commonwealth of Kentucky as the unit of analysis. Thus, this study will not be able to make predictions regarding the behavior of individuals. Counties were also chosen because welfare dollars allocated by the federal government to the states are typically distributed at the county level (Ways and Means Committee, 1996, 1998).

Sample

The sample for the present study includes all 120 counties in the commonwealth of Kentucky. All 120 counties will be included for analysis because this allows for a more careful examination of the influences of the predictor variables in relation to each county within one geographical location (i.e., the commonwealth of Kentucky)(Reiss 1986). Reiss (1986) contends that this approach will enable a study to tap into the variability among counties in relation to one another that may be more valuable than examining a large national sample of units. As such, counties sharing similar characteristics in other states can be believed to exhibit similar reactions to fluctuations in welfare spending with regards to the welfare-crime relationship.

Kentucky was also chosen because of its diverse geographic setting. Namely, the commonwealth is comprised of varying levels of urban, suburban, and rural populations that can be seen as similar to other locales throughout the country. In addition to sharing similar divisions of geographical populations with other states, Kentucky is also not significantly different from the rest of the country across a number of factors.

T-tests were conducted to determine how typical Kentucky is to the other forty-nine states in the country. The t-value indicates how many standard errors separate Kentucky's total from the mean of the other forty-nine states on the listed variables. Table 4.1 displays the total value for Kentucky across a number of key dimensions as well as the mean value for the other forty-nine states on these same variables. As can be observed from table 4.1, seven variables were found to differ significantly between the total value for Kentucky and the mean value for the other forty-nine states. These variables were serious crimes per 100,000 in population for 1980 and 1990, urban population in 1980 and 1990, black population in 1980 and 1990, and the population of single males in 1990. Most of these variables can be categorized as population

structure indicators.

The remaining variables, including resident population, persons below poverty level, number of female-headed households, unemployed persons, and the total number of AFDC recipients, were found to be similar across Kentucky and the mean total value for the other forty-nine states. These variables can be categorized as population structure, family structure, and economic indicators. Thus, on a variety of structural factors, Kentucky is fairly typical to the rest of the country.

Table 4.1. Comparison of Kentucky to the United States on Key Variables

Variables	Kentucky	49 Other States	t-value
Serious Crimes per 100,000 in Population, 1980	3432	5745	-9.307*
Serious Crimes per 100,000 in Population, 1990	3286	5362	-9.845*
Resident Population, 1980	3,660,324	4,457,638	-1.188
Resident Population, 1990	3,686,891	4,900,628	-1.563
Persons Below Poverty Level, 1979	626,240	535,327	1.128
Persons Below Poverty Level, 1989	681,827	621,221	0.592
Female-Headed Households, 1980	125,875	161,588	-1.354
Female-Headed Households, 1990	153,766	204,558	-1.536
AFDC Total Recipients, 1980	166,628	203,999	-0.966
AFDC Total Recipients, 1990	174,190	220,355	-1.027
Number of Persons Unemployed, 1980	133,000	149,880	-0.706
Number of Persons Unemployed, 1990	103,000	136,300	-1.476
Urban Population, 1980	1,862,183	3,303,776	-2.485*
Urban Population, 1990	1,910,028	3,702,803	-2.615*
Single Males in Population 15 and older, 1980	358,353	495,475	-1.724
Single Males in Population 15 and older, 1990	361,278	568,867	-2.080*
Black Population, 1980	259,477	524,711	-3.014*
Black Population, 1990	262,907	594,463	-3.277*

* significant within a .05 critical region

Kentucky was also chosen because it has collected data on both part one and part two offenses and welfare program spending at the county level since the early to mid-1970s. The Kentucky Uniform Crime Reporting Program has been a solid and consistent effort with every police agency in Kentucky reporting (Commonwealth of Kentucky Crime Report 1980; 1990). Thus, data from Kentucky provides a valid and
reliable base from which to answer the research question regarding the effects of welfare on rates of crime both serious and non-serious in nature.

VARIABLES UNDER STUDY

Dependent Variables

The variables under study in the present examination are the number of part one offenses and part two arrests in Kentucky counties for the years 1980 and 1990. The numbers of part one offenses are considered because prior research measured crime in this way. Measuring the part one crimes in the above-noted way allows for a valid comparison of the results from the present study to past examinations. Arrests were selected for the part two offenses because many of them are victimless crimes. For example, unlike robberies, burglaries, and rapes (e.g., part one offenses), prostitution and drug crimes (e.g., part two crimes) do not have an identifiable victim. Thus, the only time there is a measurable occurrence of such crimes is when arrests by law enforcement officials are made. Therefore, the only possible measure of part two crime rates is the use of arrest statistics. Appendix A displays a complete listing of the part one and part two crime types used in Kentucky.

Independent Variables

The exogenous variable used to examine the welfare-crime relationship will be the total AFDC dollars spent in 1980 and 1990 per county per recipient. AFDC is selected as the welfare program of interest because its payments support the potentially employable "who are most likely to pose a threat to the social order and most susceptible to discretionary actions of federal and state governments" (Chamlin 1992: 155).

In addition, many of the past studies have used the AFDC program as well because it is the most popular of all government assistance programs for the impoverished (Gilder 1982; Moffitt 1992; Murray 1984; Piven and Cloward 1993). Further, AFDC expenditures were selected because it is the AFDC program that has undergone strict limitations and changes in eligibility requirements in recent years. As such, if results from the present analysis are consistent with the results from past studies that found a negative relationship between AFDC spending per recipient and crime rates, then it is necessary to examine the same welfare program herein.

Control Variables

A number of variables were found to have significant associations with the number of part one offenses in the past research. As such, it is necessary that the present study include these variables in the complete model in order to make valid comparisons to past examinations testing the welfare-crime relationship and in the examination of the relationship between welfare and part two arrests. The control variables will be divided into the categories of economic variables, population structure variables, and family structure variables. The following paragraphs will describe these control variables and indicate why they are necessary for

inclusion in the present analyses.

Economic Structure Indicators

Unemployment. In general, unemployment has been found to have both a negative and a positive effect on crime (Crutchfield 1989; Devine et al. 1988). The negative association between crime and unemployment can be explained by opportunity theory which holds that when there are more people at home, this enables better supervision and protection of their property, thereby reducing certain crimes, particularly, property crimes (Crutchfield 1989; Felson 1990). The positive association between unemployment and crime is explained by motivational theories, which contend that economic deprivation motivates people to commit crimes to meet their material needs (Devine et al. 1988). Because the present study concerns itself with the examination of part two offenses, many of which are crimes that can yield monetary and material gains that may outweigh both paychecks from labor and AFDC benefits, it is necessary to control for the unemployment rate.

In the past literature, the unemployment rate variable was found to be positively associated with both violent and property offense rates in the past literature (DeFronzo 1983, 1992; Fiala and LaFree 1988; Grant and Martinez 1997; Hannon 1997; Hannon and DeFronzo 1998b; Zhang 1997). The unemployment rate will be measured as the ratio of the total number of civilians unemployed for each county in Kentucky in 1980 and 1990 to county population size.

Median Family Income. The present study will include the median family income variable in the analyses to determine whether there may be a significant correlation between median family

incomes and part two crime rates. The reason to include this variable in the analysis is because many of the offenses in the part two crime category such as gambling, prostitution, fraud, and embezzlement are crimes that can be committed to supplement low family incomes or AFDC benefits. One past study found that median family income had a positive relationship with property crimes, which, like many part two crimes, can provide material or monetary gains (Zhang 1997). The median family income variable will be measured as the family yearly income level in dollars above which half of the observations for families in each county lie for 1979 and 1989.

Economic Deprivation. There is an ongoing debate on what is the best measure of economic deprivation in a populace (Chamlin and Cochran 1992). For this reason, the present study will consider both a measure of absolute and relative deprivation. Absolute deprivation will be measured as the poverty rate and relative deprivation will be measured as income inequality.

A measure of absolute deprivation, in this case, the poverty rate, attempts to gauge the influences that pressure a population to acquire material gains within the social structure of available opportunities (Chamlin and Cochran 1992; Messner 1982). If there are limits to the access of legitimate opportunities, people will turn to illegitimate means (i.e., crime) to obtain monetary or material successes (Bursik 1987; Cullen 1983; Merton 1938). Illegitimate means can consist of both part one and part two instrumental crimes such as burglary, robbery, larceny, gambling, prostitution, fraud, embezzlement, and drug dealing.

Increased welfare spending, however, may mitigate the need to turn toward illegitimate means because it provides economic assistance. This contention has been substantiated in past examinations of the welfare-crime relationship for both property and violent offense rates

(DeFronzo and Hannon 1998; Grant and Martinez 1997; Hannon 1997). On the other hand, it is also possible that increased welfare spending may increase the occurrence of these offenses if it cannot provide enough gains to achieve the monetary and material success goals of society. Thus, an omission of the poverty rate from the present analyses may bias estimates of its effect on both the number of part one offenses and part two arrest rates in relation to welfare.

It is also important to consider the poverty rate in the present analyses because it is generally believed that it is the impoverished that are most at risk for involvement in crime and the population mostly receiving welfare assistance (DeFronzo 1983; Messner 1986). The poverty rate will be measured as the percentage of the population living below the poverty line for each Kentucky county during the years under study.

Unlike absolute deprivation, relative deprivation taps into the "level of inequality within a collectivity" (Chamlin and Cochran 1992). Similarly to absolute deprivation, relative deprivation produces pressures to deviate from the law when there is a strong cultural emphasis on monetary or material success (Rosenfeld 1986). This statement follows anomie theory, which best explains instrumental offenses (Messner and Rosenfeld 1994).

Income inequality was found to positively influence homicide and property crime rates in two past studies examining the welfare-crime relationship (DeFronzo and Hannon 1998; Zhang 1997, respectively). The findings of these studies are in support of the economic conflict theory in which it is hypothesized that as economic inequality increases so will arrest rates (Chamlin and Liska 1992).

Thus, since a number of part two crimes are instrumental offenses which yield gains in money or other indicators of material success, and because high levels of economic deprivation influence high arrest rates, particularly for property offenses (i.e., instrumental crimes), it is

important to control for income inequality in the present study. Income inequality is most commonly measured by the computation of the Gini index. The Gini index will be used in the present study.

Population Structure Indicators

Females in the Labor Force. Although part two crimes consist mostly of instrumental offenses, some offenses such as simple assaults, family offenses, and sex offenses (except forcible rape and prostitution) can be considered to be similar to violent offenses in that they are typically more expressive in nature than instrumental offenses. The inclusion of the variable of the percentage of females in the labor force in the complete model is important because having a larger proportion of females out in the workforce instead of at home, may lead to decreases in the supervision necessary to informally control crime (Rosenfeld 1986).

In a past examination, Fiala and LaFree (1988) found a significant positive relationship between the percentage of females in the labor force and child homicide. Hannon and DeFronzo (1998b) also found a positive relationship between the percentage of females in the labor force and property crime rates. Thus, this variable is also important to consider in light of the observation that the percentage of females in the labor force has been found to influence both violent and property offense rates both of which are represented in part one and part two crime categories. This variable will be measured as the total number of females working in the labor force for each county in Kentucky in 1980 and 1990.

Percent Urban. Crime may be more pervasive in urban populations because of (1) the proximity of people living and working together; (2)there may be more opportunities to engage in criminal

acts; and (3) informal social control mechanisms may become more difficult to implement where different ethnic and racial cultures congregate (Sampson and Groves 1989). Only one study examining the welfare-crime relationship found that increases in the percentage residing in urban populations led to increases in homicide rates and only one other study examining the effects of welfare on crime included the variable in its complete model (Hannon 1997; Fiala and LaFree 1988, respectively). Therefore, we are unsure of its effects on the association between welfare and crime because it has not been adequately tested in the past research. As such, it is necessary to include the percentage of those living in urban populations in the present analyses. This variable will be measured as the percentage of persons living in urban populations per the United States Census for counties in Kentucky in 1980 and 1990.

Population Size. Larger populations are thought to consist of a variety of cultures and value systems. As such, there are difficulties inherent in attempting to achieve consensus among large numbers of persons (Sampson and Groves 1989). When this situation occurs, crime rates increase because the lack of value consensus leads to impersonal groupings of family, institutions, and friendships which generate definitions that may conflict with the dominant culture and weaken social controls (Bursik 1988; Elliott et al. 1996; Sampson and Groves 1989).

Larger populations also demand more services and job opportunities. Thus, when there are not enough opportunities or services available for everyone, an anomic condition may occur in which a society cannot regulate its populace (Messner and Rosenfeld 1994). Crime results when access to legitimate means (i.e., services and job opportunities) to material success are unavailable (Bernard 1987; Cullen 1983; Merton 1938). Instrumental crimes, or those that more readily supply material and monetary gains, are the behaviors that would be engaged in to meet

material needs (Messner and Rosenfeld 1994).

A number of past studies found that an increase in population size led to a significant increase in both violent and property part one crime rates (DeFronzo 1983, 1996, 1997; Defronzo and Hannon 1998; Hannon and DeFronzo 1998b; Messner 1986; Sampson 1987). Many of the part two offenses, like property crimes, are instrumental crimes and as such, since population size has been found to positively influence the more serious, part one instrumental offenses, it is necessary to include population size in the present examination. The measure for population size will be the number of people residing in each county of Kentucky as counted by the United States Census.

Racial Composition. Racial composition will be examined because race, particularly the percentage of African-Americans, has been found to have one of the strongest influences on crime in the United States (Sampson 1987, Walker, Spohn, and Delone 1996). The racial composition in the population will also be taken into consideration in the present examination because it was a significant predictor in past studies examining the welfare-crime relationship. Increases in the percentage of blacks were found to increase homicide, robbery, aggravated assault, sexual assault, burglary, and larceny rates (Defronzo 1983, 1992; Messner 1986). Thus, any study of crime should include a measure of the racial composition in a population. The present study will use a measure of the percentage of blacks in the population as an indicator of the racial composition for each Kentucky county for the years 1980 and 1990.

High School Dropout Rates. The inclusion of the high school dropout rate in the present analyses is necessary for two reasons. One reason is because increases in AFDC spending was

correlated with decreases in the high school dropout rate and any omission of the dropout rate from the complete model would confound the results. Second, a number of studies have found that less than one-half of adult arrestees have less than a twelfth grade education or more (National Institute of Justice 1995). Out of the two past studies examining the welfare-crime relationship that considered the effects of the high school dropout rate on serious crimes, only one of these found a significant positive relationship with crime rates (Hannon 1997; Messner 1986). Because the present study is concerned with arrests, it is necessary to control for the dropout rates because of its potential influence on crime and its relationship with increased AFDC spending. The dropout rate will be measured as the percentage of high school dropouts in the population for each county in Kentucky.

Residential Mobility. Residential mobility has been found to consistently have a positive association with a variety of offenses (Crutchfield, Geerken, and Gove 1982; Messner 1986). This relationship is hypothesized to occur because "mobility creates difficulties in maintaining social contexts across geographical distance, and that these difficulties undermine social integration" (Messner 1986, 2). Residential mobility has also been found to positively influence crime rates for all part one offenses in two of the past studies examining the welfare-crime relationship (Messner 1986; Hannon and DeFronzo 1998b). Residential mobility will be measured as the percentage of residents age five and older living in a county in 1980 and 1990 who did not live in the same county in 1975 and 1985.

Age Structure of Population. There is an extensive literature base that finds a strong connection between crime rates and the proportion of the population between 16 and 29 years of age, also

known as the crime-prone age population (Cohen and Land 1987; Steffensmeier and Harer 1987). Thus, it is necessary to include a variable that taps into the variation in crime rates explained by the age structure of the population.

Only two of the past examinations in the welfare-crime literature found a significant positive correlation between age structure of population and part one crime rates. Hannon and DeFronzo (1998a) found a positive relationship between larceny rates and the structure of the population aged 15-29. Devine et al. (1988) found a positive relationship between homicide rates and robbery rates and the percentage of males' aged 16-24. Because males are disproportionately involved in crime (Messner and Rosenfeld 1994; Sampson 1986), the measure used in the present study will be the percentage of males in the population for each county in Kentucky aged 15-29 for the years 1980 and 1990.

Family Structure Indicators

Percentage of Female-Headed Households. Theoretically, areas with higher percentages of female-headed households are hypothesized to attenuate informal social controls whereby it is more difficult to monitor and report criminal and/or delinquent activity (Sampson 1986). In addition, a number of studies have found a significant overrepresentation of female-headed homes in the background of youthful offenders (Currie 1985). Further, there have also been a number of studies that found that increases in welfare spending led to decreases in the number of female-headed households (see DeFronzo 1996, 1997; Hannon and DeFronzo 1998a, 1998b). The percentage of female-headed households has been consistently and positively associated with serious crime rates in past examinations (DeFronzo 1996, 1997; DeFronzo and Hannon 1998; Grant and Martinez 1997; Hannon 1997; Hannon and DeFronzo 1998a; Sampson 1987).

As such, due to the findings of strong positive correlations between female-headed households and crime, and the significant negative associations between welfare and female-headed households indicates that any analysis omitting the percentage of female-headed households variable would yield biased results. The percentage of female-headed households will be measured as the number of female-headed households per county in 1980 and 1990.

Divorce Rate. Theoretically, increases in the percent divorced may lead to decreases in informal social controls and subsequent increases in crime rates because the effects of economic deprivation have not been mediated (Sampson and Groves 1989). Divorce also frees people from the controls inherent in the married lifestyle and as such, could influence an increase in criminal behavior when there are higher percentages of divorced couples in the population (Sampson 1986).

Increases in the divorce rate in the population were found to increase burglary and larceny crime rates in past studies examining the welfare-crime relationship (Hannon and DeFronzo 1998a). Because these two crimes fall under the category of instrumental crimes, and because many of the part two offenses are instrumental, it is necessary to control for the divorce rate in the present examination as well. The divorce rate will be represented as the percentage of divorced persons residing in each Kentucky county for the years under study.

SOURCES

The number of part one offenses and part two arrests are derived from the Commonwealth of Kentucky Crime Report for the years 1980 and 1990. Total yearly spending of AFDC dollars per county is ascertained from State Date for Public Assistance in Kentucky

compiled by the Department of Human Resource Bureau for Social Insurance Center for Program Development. All of the economic, population, and family structure indicators as noted above were collected from the United States Census for 1980 and 1990 for counties in Kentucky.

STATISTICAL PROCEDURES

The purpose of this study is to determine whether or not increases in welfare lead to decreases in offense rates as was found in past examinations, and to determine changes in the levels of crime over time in relation to welfare spending. Ordinary least squares regression (OLS) will be used to analyze the cross-sectional examination for comparison with results from past examinations. OLS and residual-change score analysis will be conducted to determine the changes in levels of crime over time.

OLS will be employed because it is designed for testing relationships between variables that are measured at the interval or ratio level as are all of the variables in the present examination. Bivariate relationships will be examined first in order to control for multicollinearity and to identify significant correlates of the number of part one offenses and part two arrests. Multivariate regression will then be conducted in order to analyze the relative significance of each exogenous variable, controlling for all others in the complete model. The findings from the multivariate analysis will allow us to determine whether the present study's results are similar to past examinations on the relationship between AFDC and part one offenses. The results of multiple regressions will also explain the importance of those variables displaying a significant relationship to the less frequently examined, yet more prevalent, part two crime arrests.

Because this study is also interested in changes in the part one and part two crime rates

over time as affected by total AFDC spending per county, the residual-change score suggested by Bohrnstedt (1969) will also be calculated. Residual-change scores have been computed by Elliott and Voss (1974) in their delinquency research, by Bursik and Webb (1982) in their study of social disorganization, and by Chamlin (1992) in his study of intergroup threat and social control in regards to welfare expansion among states.

Although it would have been preferable to examine three time periods rather than two, the years 1980 and 1990 will be examined because they are Census years. Census years provide a more accurate description of key demographic characteristics whereas non-Census years only provide estimations of these characteristics. More faith can be put into studies that use measures that have more accurate values rather than estimations of key variables.

It should be noted that the time period of 1970, a Census year, could not be considered because reliable and valid indicators for part one and part two offense rates in Kentucky counties were not available for that year. As such, the Census years 1980 and 1990 were the only workable time periods to examine. Because of the unavailable third wave of data, reciprocal feedback associations, an essential element to establishing causation, cannot be predicted. This is a limitation to the present study.

Having two waves, however, does allow us to observe changes in the level of crime rates from one time period to the next through the calculation of residual-change scores. The residual-change score measure provides an opportunity to examine the dynamic nature of relationships, which is superior over the cross-sectional model that will be examined first using OLS alone. The reason for this advantage is because two waves (i.e., data from the years 1980 and 1990), taking the same counties in two time periods, are used. This analysis provides a more rigorous examination of the welfare-crime relationship as opposed to the examination of only one time

period. Thus, by analyzing two time periods, we can readily observe changes in the levels of crime from one point in time to another as related to changes in AFDC spending.

Residual-change scores are often better measures of level of change over the traditional methods such as gain scores. The reason for this is because measures of proportional change like gain scores can become artificially inflated when there is a small denominator and remain undefined when the initial time period is zero for an indicator (Bohrnstedt 1969; Bursik and Webb 1982). Because these problems often occur when studying crime rates, the residual-change score was chosen over the more traditional gain score approach (Bursik and Webb 1982).

Residual-change scores also have the advantage of remaining statistically independent of the original levels of a variable (Bohrnstedt 1969; Chamlin 1992). In other words, residual-change scores provide a measure of change in the variable under study that is not based on the original value of the variable level alone (Bohrnstedt 1969; Chamlin 1992). Gain scores, on the other hand, are unable to remove the effects of the original level of a variable from the equation which then can only result in a negative correlation with the initial level of the variable under study (Bohrnstedt 1969; Chamlin 1992). This is because the effects of the variable at time one was not removed from the variable at time two and "when a variable is less than perfectly correlated with itself across time, one can expect to observe a negative relationship between initial measurement and change" (Bohrnstedt 1969: 117).

Another advantage of using residual-change scores is that they automatically adjust for changes the other units under study, in this case, counties, have experienced during the same period of time (Chamlin 1992). This adjustment allows for a score that is able to depict the level of unanticipated changes in the dependent variable over time (Chamlin 1992).

To derive the residual-change score measure, the level of a variable at time *t* is regressed

on its level at its preceding time *t-10*. The equation is then used to predict the level for each county at time *t*. The resultant score is then subtracted from the observed level at time *t*; thus, the result is the residual-change score (Bohrnstedt 1969; Bursik and Webb 1982; Chamlin 1992). This procedure will be used to calculate the level of change for each of the variables in the analysis.

CONCLUSION

This chapter described the data and methodology that will be used to examine the relationship between the numbers of part one offenses and part two arrests in Kentucky counties for the years 1980 and 1990. The results of the cross-sectional analyses using OLS alone and the calculation of the residual-change score measures on the two waves of data will be discussed in the next chapter. The results of the bivariate regression as well as sample characteristics will also be presented in chapter 5.

CHAPTER FIVE

TRANSFORMATIONS, ADJUSTMENTS, AND FINDINGS

INTRODUCTION

The purpose of this chapter is to present the results of the statistical analyses examining the welfare-crime relationship. In order to accomplish this task, this chapter will provide the reader with a description of the sample and the results of the bivariate analyses between part one and two offenses and the exogenous variables. Results of the multivariate analyses and the multivariate analyses of the residual-change score measures will also be described. Residual-change scores provide a measure that allows for the observation of the changes in the level of crime rates and arrests from 1980 to 1990 as affected by changes in the levels of predictor variables.

In past examinations of the welfare-crime relationship, part one crime rates were categorized based on types of crime. In the present study, part one offenses are similarly divided into personal crime and property crime categories. Following this same typology, part two arrests are also divided into personal and property crime categories. Since part two offenses include more than just personal and property crime types, the remaining offenses are categorized as either public order offenses or substance-related offenses. Table 5.1 details which specific offenses fall under each category for both part one and part two offenses.

Table 5.1. Part One and Part Two Crime Categories

Personal Crime, Part One	**Property Crime, Part One**
Murder and Non-negligent Manslaughter	Burglary
Rape	Larceny
Aggravated Assault	Auto Theft
	Robbery
Personal Crime, Part Two	**Property Crime, Part Two**
Manslaughter by negligence	Stolen Property
Other Assaults	Vandalism
Offenses Against Family	Fraud
	Forgery
	Embezzlement
Public Order Offenses	**Substance-Related Offenses**
Prostitution	Driving Under the Influence
Sex Offenses (except Rape and prostitution)	Drunkenness
Gambling	Liquor Law Violations
Disorderly Conduct	Drug Law Violations
Curfew and Loitering	
Runaways	
Weapons -- carrying, possession	
All Other Offenses (except traffic)	

This categorization of offenses enables an easier comparison of significant relationships between the findings from past research to the present. In addition, categorizing both part one and part two offenses is a more parsimonious way to approach studying the welfare-crime relationship.

SAMPLE DESCRIPTIVES

Table 5.2 presents the means and standard deviations for the categories of part one crime rates and part two arrests for the years under study. In addition, means and standard deviations

are provided for the exogenous variables included in the examination. From table 5.2, it is observed that the average personal and property part one crime rates decreased from 1980 to 1990. A decrease in mean arrests was also observed for the substance-related offenses category over the ten-year period. The remaining part two arrests categories (i.e., personal, property, and public order offenses), exhibited an increase in mean values from 1980 to 1990.

An examination of the exogenous variables reveals that between 1980 and 1990 the following variables, on average, experienced an increase in value: percentage of female headed-households, the divorce rate, percentage of females in the labor force, median family income, and yearly county AFDC spending. Residential mobility, the age structure of the population as measured by the percentage of males aged 15-29, percent urban, racial composition of the population as measured by percent black, the poverty rate, the unemployment rate, income inequality, and the high school dropout rate decreased in mean value over the ten-year study period. Ordinary least squares (OLS) analyses will more accurately predict the influential nature and direction of the relationship between welfare and crime beyond that observed in the descriptive analyses.

Table 5.2. Mean and Standard Deviation Values of Study Variables (N = 120)

Variables	1980		1990	
	Mean	**SD**	**Mean**	**SD**
Crime Categories				
Part One Personal Crimes	162.967	98.934	122.483	350.486
Part Two Personal Crimes	55.458	119.389	138.217	324.031
Part One Property Crimes	1800.767	1243.579	897.583	3360.039
Part Two Property Crimes	149.833	260.811	337.217	768.591
Public Order Offenses	352.175	905.903	494.558	952.509
Substance-Related Offenses	1025.267	1875.607	986.000	1871.119
Welfare Indicator				
AFDC Spending per Recipient	$459.20	$79.75	$933.87	$67.34
Economic Indicators				
Median Family Income	$14,434.75	$3,266.54	$23,604.72	$5,968.83
Poverty Rate	.213	.085	.228	.0916
Unemployment Rate	.037	.090	.036	.010
Income Inequality (Gini)	.223	.054	.132	.037
Population Indicators				
Percent Female Labor Force	.143	.085	.172	.038
Percent Urban	.242	.249	.062	.208
Racial Composition	.039	.045	.037	.044
High School Dropout Rate	.359	.068	.313	.074
Residential Mobility Rate	.163	.064	.146	.058
Age Structure of Population	.049	.006	.114	.019
Population Size	30506.47	65833.51	30710.80	64800.35
Family Structure Indicators				
Percent Female-Headed Households	.034	.007	.037	.007
Divorce Rate	.078	.016	.183	.056

ASSUMPTIONS FOR REGRESSION

There are certain assumptions that must be met in order to analyze data with ordinary least squares regression. These are: (1) linear relationship between the independent and dependent variables in the population; (2) inclusion of one case in the sample cannot influence the inclusion of another case, i.e., the observations must be independent; (3) the dependent variable is normally distributed for each value of the independent variable(s); and (4) there must be constant variance across the distribution of the dependent variable for all values of the independent variable(s), i.e., homoscedasticity is assumed (Blalock 1979; Draper and Smith 1998; Norusis 1998; Tabachnick and Fidell 1996).

Linearity Assumption.

The assumption of linearity is tested through the use of the F-test in a multiple regression analysis. The F-statistic tests the null hypothesis that there is no linear relationship in the population between the dependent and the independent variables (Norusis 1998). The value of the *F* statistic "is based on the ratio of the regression mean square to the residual mean square" (Norusis 1998:461). If the *F* statistic is significant, then the null hypothesis of no linear relationship can be rejected. In other words, if *F* is significant, then a linear relationship does exist between the independent and dependent variables. All *F* statistics were found to be significant in the present study.

Independence Assumption.

The Durbin-Watson test was conducted to determine whether the assumption of independence of observations has been met. The Durbin-Watson statistic ranges from 0 to 4 in

value. A value close to 0 indicates that positive autocorrelation (or a pattern of dependency among adjacent observations) may be a problem. Durbin-Watson tests yielding values close to 4 yields negative autocorrelation. Ideally, values between 1.5 and 2.5 indicate that the independent assumption of regression has been met (Norusis 1998). Appendix B displays the Durbin-Watson values for the present study. All Durbin-Watson values are between 1.5 and 2.5 in the present examination.

Normality Assumption.

Descriptive statistics were examined next to determine whether any of the variables in the present study violated the assumption of normality for regression. Distributions were first observed using a histogram to assess normality across the predictor variables. Four variables in 1980 and five variables in 1990 were observed to be skewed and/or too peaked or not peaked enough based on a view of the histograms alone. Specifically, population size, median family income, poverty rate, and income inequality were observed to have distributions that were not normal. In addition, the high school dropout variable for 1990 also appeared to be not normally distributed. These observations led to the need for transformations of a number of variables to improve normality.

Subsequent analyses of the skewness and kurtosis values confirmed that normality would be problematic in the regression analyses if corrections were not made for these variables[12]. Skewness refers to the symmetrical shape of the distribution of a variable and kurtosis refers to the peakedness of the distribution (Tabachnick and Fidell 1996). It is generally agreed that values for skewness and kurtosis close to zero approximate normal distributions (Tabachnick and

Fidell 1996).

There are a number of options to remedy problems associated with data that are not normally distributed. These options are inverse or reciprocal, square root, or natural log transformations. The inverse or reciprocal transformation is calculated by dividing the value of one by the value of the variable for each case. The square root transformation is calculated by taking the square root of the value of the variable for each case. The natural log transformation is calculated by multiplying each case by the natural log, *e* (Hamilton 1990; Norusis 1998). Square root and natural log transformations are commonly used to remedy the problems associated with non-normal distributions (Hamilton 1990; McClendon 1994; Tabachnick and Fidell 1996). Tabachnick and Fidell (1996) recommend that researchers should transform variables in all forms (i.e., square root, natural log, and inverse) in order to "produce the skewness and kurtosis values nearest zero, the prettiest picture, and/or the fewest outliers" (82).

Based on a comparison of the skewness and kurtosis values for the problematic variables after being transformed utilizing the three methods described above, the variables of population size, poverty rate, and income inequality would best approximate normality when transformed by taking the natural log of each case value. The high school dropout rate and median family income variables would best approximate a normal distribution using a square root transformation. Thus, the logged population size, poverty rate, and income inequality variables, along with the square root of the high school dropout rates and median family income variables were used in the bivariate and multivariate regression analyses with and without residual-change

[12] Appendix B displays the skewness and kurtosis values for the variables in question both not transformed and transformed using square root, logarithm, and inverse procedures.

scores measures. The results of these analyses will be presented in the remaining sections of this chapter.

The major limitation of data transformations is the interpretability of the new scores, particularly those measured on a meaningful scale such as those in the current examination (Newton and Rudestam 1999; Tabachnick and Fidell 1996). In general, the standardized regression coefficients for the logged variables are interpreted as a percentage change in the dependent variable resulting from a percentage change in the independent variable (Hanushek and Jackson 1977; Tufte 1974). The unstandardized regression coefficients for the logged variables would be interpreted as the proportionate change in the dependent variable resulting from a proportionate change in the independent variable (Tufte 1974). Unless otherwise noted, the variables of population size, poverty rate, and income inequality should be assumed to be logarithmically transformed. The variables of median family income and the 1990 high school dropout rate should be assumed to be square root transformations of the original variables.

Homoscedasticity Assumption.

The final assumption that must be met in order to adequately utilize regression procedures is homoscedasticity. The assumption of homoscedasticity requires that there is constant variance for all values of the disturbance terms (Norusis 1998). In order to determine whether the assumption for homoscedasticity was met, scatterplots were created by plotting the residuals against the predicted values of the categories of the dependent variable. Residuals are the differences between the observed values of the dependent variables and the values of the dependent variable as predicted by the regression line (Draper and Smith 1998; Norusis 1998; Tabachnick and Fidell 1996).

Plots were created using all of the predictor variables under study. Observations of these plots revealed that the variance of the residuals was smaller for small values of the predicted categories of the dependent variable than for larger values; in effect, a funnel-shaped distribution resulted (Draper and Smith 1998; Norusis 1998). A plot that shows a funnel-shaped distribution is characteristic of a regression equation that is being influenced by nonconstant variance, or heteroscedasticity (Draper and Smith 1998; Norusis 1998). Heteroscedasticity means that the errors of prediction are related to the values of the independent variables. The problem with heteroscedasticity is that its presence biases the estimate of the standard error of the sample regression coefficient (i.e., the slope)(Allen 1997).

In the present study, a positive relationship was found between the independent variables and the residuals, hence the funnel-shaped distribution. This relationship could lead the researcher to underestimate the actual standard error of his or her sample regression coefficient (Allen 1997; Draper and Smith 1998; McClendon 1994; Norusis 1998). An underestimation of this type often leads the researcher to conclude that a regression coefficient is significantly different from zero when it really is not (Allen 1997).

To remedy the problem of heteroscedasicity, Draper and Smith (1998) suggest transforming the dependent variables using a natural log transformation. Once the categories of the dependent variables were logged, plots of the residuals against the predicted values revealed a band of points that was in the desired horizontal impression for all six categories of crime (Draper and Smith 1998; McClendon 1994; Norusis 1998; Tabachnick and Fidell 1998). Thus, after transformation, the residuals were observed to be scattered around a horizontal line through zero, i.e., the assumption homoscedasticity is met (Norusis 1998). It is also important to note that according to Hanushek and Jackson (1977), models where the dependent variable is

transformed are considered to be linear in terms of the parameters after transformation, even though the variables themselves are nonlinear in form.

Two implications of logarithmically transforming the dependent variable and the independent variable(s) are (1) constant elasticity is present, which means that for every percent change in an independent variable, the dependent variable will change by the percent of the value of the slope in the regression equation; and (2) as opposed to linear forms, where a unit change in the dependent variable is associated with a unit change in the dependent variable controlling for the effects of the other predictor variables, log forms vary by each of the variables in the complete model in that a change in the dependent variable is associated with a change in the main independent variable *and* changes in the other predictor variables in the model (Hanushek and Jackson 1977).

For some variables in the current study only the dependent variable was logarithmically transformed. The interpretation of the results of the regression equation for these relationships indicates that for every unit change in the independent variable, the original dependent variable is multiplied by the value of the natural log of the slope. For example, for every one dollar increase in the total amount of welfare spending per recipient per year, the crime category being examined will increase (or arguably decrease if the sign of the slope is negative) by the value of the slope multiplied by the natural log. All categories of the dependent variable, therefore, should be assumed to be logarithmically transformed unless otherwise noted.

RESULTS FROM BIVARIATE REGRESSION ANALYSES

Bivariate correlations between the part one and part two crime categories and the exogenous variables were calculated. Bivariate regression only reveals the strength of

associations between the independent and dependent variables. This section will discuss the findings of the bivariate regression analyses relative to the categories of the predictor variables as described in the previous chapter. These categories are: (1) AFDC yearly spending per recipient; (2) the economic indicators; (3) the population structure indicators; and (4) the family structure indicators. Table 5.3 presents the Pearson product-moment correlation coefficient, also known as Pearson's r, value for the bivariate relationships under study. Pearson's r is a standardized measure of association that adjusts for differences in scales across predictors and outcomes.

AFDC Yearly Spending

Pearson's product correlation coefficients were found to be significant in 1980 between AFDC yearly spending per recipient and the part two crime categories of personal crime arrests and substance-related arrests ($r = -.267$, $<.01$, and $r = -.193$, $<.05$, respectively). Both relationships were found to negatively correlated. In 1990, however, the welfare variable had a positive, significant effect on all six crime categories. The 1990 findings are inconsistent with findings from previous studies examining welfare and crime, at least in regards to the observations concerning part one crime rates. Since part two arrests have not been readily studied, there is no basis upon which to compare consistency or inconsistency with previous results.

Table 5.3. Bivariate Correlations between Crime Categories and Predictors (N = 120)

	CRIME CATEGORIES					
	Personal Crimes, Part I	**Personal Crimes, Part II**	**Property Crimes, Part I**	**Property Crimes, Part II**	**Public Order Crimes**	**Substance-Related Offenses**
EXOGENE0US VARIABLES						
AFDC Spending per Recipient						
1980	-.090	-.267**	-.179	-.083	-.126	-.193*
1990	.381***	.256**	.471***	.469***	.338***	.309**
ECONOMIC INDICATORS						
Unemployment Rate						
1980	-.111	-.147	-.219**	-.205*	-.181*	-.162
1990	-.182*	-.057	-.173	-.272**	-.119	-.076
Median Family Income						
1980	.270**	.370***	.573***	.477***	.388***	.254**
1990	.429***	.249**	.502***	.490***	.326***	.281**
Poverty Rate						
1980	-.184*	-.269**	-.536***	-.457***	-.314**	-.178
1990	-.369***	-.188*	-.454***	-.449***	-.259**	-.229*
Income Inequality (Gini)						
1980	-.289***	-.383***	-.569***	-.485***	-.414***	-.291***
1990	-.455***	-.256**	-.533***	-.479***	-.359***	-.327***
POPULATION INDICATORS						
Females in Labor Force						
1980	.026	.064	.149	.291***	.058	.000
1990	.330***	.175	.372***	.416***	.216**	.189*
Percent Urban						
1980	.387***	.564***	.727***	.693***	.670***	.644***
1990	.520***	.490***	.592***	.459***	.562***	.548***
Population Size						
1980	.413***	.764***	.657***	.711***	.895***	.873***
1990	.860***	.837***	.922***	.801***	.908***	.907***
Racial Composition						
1980	.326***	.296***	.463***	.482***	.353***	.232***
1990	.441***	.254**	.412***	.439***	.309***	.277**
High School Dropout Rate						
1980	-.314***	-.433***	-.633***	-.565***	-.479***	-.404***
1990	-.551***	-.374***	-.639***	-.574***	-.459***	-.447***

Table 5.3. Bivariate Correlations between Crime Categories and Predictors, continued

	CRIME CATEGORIES					
	Personal Crimes, Part I	**Personal Crimes, Part II**	**Property Crimes, Part I**	**Property Crimes, Part II**	**Public Order Crimes**	**Substance-Related Offenses**
EXOGENE0US VARIABLES						
Residential Mobility						
1980	.116	.029	.332***	.215*	.131	.119
1990	.278**	.063	.317***	.220*	.140	.141
Age Structure of Population						
1980	.112	.154	.096	.015	.235**	.294***
1990	.329***	.157	.283**	.144	.250**	.269**
FAMILY INDICATORS						
Female-Headed Households						
1980	.326***	.270***	.310***	.194*	.330***	.318***
1990	.383***	.384***	.331***	.219*	.403***	.406***
Divorce Rate						
1980	.187*	.230*	.418***	.194*	.284**	.179
1990	.336***	.115	.370***	.255**	.196*	.197*

* = .05 level
** = .01 level
*** = .001 level

Economic Indicators

The variables that represent economic indicators are: (1) the unemployment rate; (2) median family income; (3) the poverty rate; and (4) income inequality as measured by the Gini index. The crime categories of 1980 part one property crime rates, 1980 part two personal crime arrests, 1980 public order arrests, 1990 part one personal crime rates, and 1990 part two property crime arrests were found to be significantly and inversely correlated with the unemployment rate variable. Observations of the bivariate correlations between median family income and both part one and part two crime categories revealed significant positive associations at the .01 and .001 probability level.

The bivariate correlations between the poverty rate and income inequality measure and

the part one and part two crime categories are consistent with significant findings from past studies examining the welfare-crime relationship are as explained in chapter four, the poverty rate is a measure of absolute deprivation and income inequality is a measure of relative deprivation. Both variables were observed to have a weak to moderate, negative effect on the crime categories.

Population Structure Indicators

The variables that fall under the population structure indicators are: (1) percent females in the labor force; (2) percent urban; (3) racial composition as measured by percent black; (4) the high school dropout rate; (6) residential mobility; and (7) the age structure of the population as measured by the percentage of males aged 15-29 in the population.

Based on a review of the past literature examining the welfare-crime relationship, positive correlations are expected between the population structure indicators and the part one offense rates. With the exception of the high school dropout rate, the remainder of the population structure indicators in the present study exhibits significant positive correlations with most of the six crime categories in both years under study.

The population size variable was found to have the highest value of Pearson's r across all crime categories at the bivariate level followed by percent urban and the racial composition variables. The percentage of males aged 15-29 in the population was found to have a positive, significant effect on 1980 and 1990 public order and substance-related arrests and 1990 part one personal and property crime rates. The percentage of females in the labor force indicator was found to be significantly and positively associated with 1980 part two property crimes and all 1990 crime categories except part two personal crimes. Significant negative correlations were

observed between the high school dropout rate and the six crime categories. The residential mobility rate was found to be significantly associated with 1980 part one property crime rates and 1990 part one personal and property crime rates in the expected positive direction.

Family Structure Indicators

The percentage of female-headed households and the divorce rate comprise the family structure indicators. Consistent with past research (i.e., DeFronzo 1996, 1997; DeFronzo and Hannon 1998; Grant and Martinez 1997; Hannon 1997; Hannon and DeFronzo 1998a; Sampson 1987), the percentage of female-headed households resulted in significant positive bivariate correlations across both part one and part two crime categories. The divorce rate variable was found to be positively and significantly correlated with all crime categories except 1980 substance-related arrests and 1990 part two personal crime arrests.

SUMMARY OF BIVARIATE ANALYSES

In general, the results of the bivariate regression analyses reveal the expected significant, positive correlations among the economic indicators, population structure indicators, and family structure indicators. There were two major exceptions to these observed correlations. One exception was the relationship between the AFDC yearly spending variable per recipient in 1990 and the six crime categories under study. AFDC yearly spending per recipient was found to have a moderate to strong positive effect on part one crime rates and part two arrests in 1990. The past research, at least for part one offenses, found an inverse relationship between welfare and crime. The second exception involved the high school dropout rate variable. The high school dropout rate was observed to be inversely correlated with all of the part and part two crime

categories.

The above-noted findings may not represent the true picture of the effects on the crime categories under study since bivariate regression does not control for other exogenous variables. These findings, therefore, may be spurious. Further, because one factor cannot be assumed to have complete explanatory power over other factors (e.g., assuming only changes in welfare dollars influence changes in crime rates or arrests), OLS regression analyses examining a number of variables are necessary to understand which variables make significant contributions to the prediction of the categories of the dependent variable under study. The following sections present the results of this procedure.

RESULTS FROM THE MULTIPLE REGRESSION ANALYSES

Before the results of the multivariate analyses are presented, a review of the zero-order correlations matrix of the exogenous variables for 1980 and 1990 is necessary. It is generally agreed that correlations between variables over .70 contain redundant information and as such, renders the researcher unable to indicate with certainty how much variation is being explained by the variables independently in the model (i.e., multicollinearity) (Tabachnick and Fidell 1996). As can be seen in Tables 5.4 and 5.5, nine of the variables are correlated at .70 and higher, with a number of variables highly correlated with one another above .80. Some authors, however, also warn that high bivariate correlations do not necessarily point to multicollinearity (Hanushek and Jackson 1977).

To determine the extent of multicollinearity between the exogenous variables, collinearity diagnostics were examined as suggested by Belsey, Kuh, and Welch (1980) in, Regression Diagnositics: Identifying Influential Data and Sources of Collinearity. Appendix B

presents the condition index thresholds and the variance-decomposition proportions for the exogenous variables in 1980 and 1990. Results from experiments conducted by Belsley et al. (1980) find that condition indices of 30 indicates possible serious problems with multicollinearity and variance-decomposition proportions threshold of 0.5 should be used to identify linear dependencies among the variables (Tabachnick and Fidell 1996).

The following variables were identified as being highly correlated either in the zero-order correlation matrix and/or according to the collinearity diagnostics: median family income, percent below poverty level, income inequality as measured by the Gini index, percent urban, the high school dropout rate, population size, percent of females in the labor force, divorce rate, residential mobility rate, and AFDC yearly spending per recipient.

Only some of the variables listed above had a condition index of 30 or above and/or variance-decomposition proportion 0.5 or greater for both years under study. Thus, in order to adequately compare the results from the analyses conducted on both 1980 and 1990, techniques employed to remedy the problems associated with multicollinearity must be applied to 1980 and 1990 data. These procedures will be described in more detail in the remaining paragraphs of this section. There really are no commonly agreed upon solutions to eliminate the problems of multicollinearity (Chamlin 1989; Hanushek and Jackson 1977). Tabachnick and Fidell (1996) suggest eliminating the problem variables or combining them into factors.[13]

Techniques for remedying the problems associated with the presence of multicollinearity among the predictor variables were two-fold. One solution was to create components with some of the highly correlated variables as suggested by Tabachnick and Fidell (1996). The other solution was modeled after a study conducted by Chamlin in 1989 in which he utilized the

backwards deletion method to remove the potentially collinear variables, one at a time. Each of these solutions will be discussed in turn.

Table 5.4. Zero-Order Correlations Between Predictor Variables, 1980 (N = 120)

		v1	v2	v3	v4	v5	v6	v7	v8	v9	v10	v11	v12	v13	v14
1	AFDC Yearly Spending	--	.006	-.107	.074	.103	.017	-.112	-.132	.125	.158	-.064	-.218	-.090	-.142
2	Unemployment Rate	.006	--	.508	-.419	-.534	.350	-.270	.177	-.292	.404	-.281	-.064	.085	-.270
3	Median Family Income	-.107	.508	--	-.920	-.982	.211	.595	.452	.371	-.836	.429	.099	-.077	.581
4	Poverty Rate	.074	-.419	-.920	--	.910	-.221	-.537	-.402	-.291	.828	-.537	-.118	.142	-.636
5	Income Inequality	.103	-.534	-.982	.910	--	-.195	-.576	-.481	-.383	.851	-.462	-.159	.094	-.583
6	Females in Labor Force	.017	.350	.211	-.221	.195	--	-.506	.102	-.409	.455	-.272	.307	-.069	-.394
7	Percent Urban	-.112	-.270	.595	-.537	-.576	-.506	--	-.721	.514	-.670	.281	.091	.279	.379
8	Population Size	-.132	.177	.452	-.402	-.481	.102	.721	--	.314	-.575	.167	.298	.200	.244
9	Racial Composition	.125	-.292	.371	-.291	-.383	-.409	.514	.314	--	-.441	.272	.006	.215	.235
10	High School Dropout Rate	.158	.404	-.836	.828	.851	.455	-.670	-.575	-.441	--	-.615	-.303	.093	-.506
11	Residential Mobility	-.064	-.281	.429	-.537	-.462	-.272	.281	.167	.272	-.615	--	.297	-.294	.417
12	Age Structure of Population	-.218	-.064	.099	-.118	-.159	.307	.091	.298	.006	-.303	.297	--	-.177	.072
13	Female-Headed Households	-.090	.085	-.077	.142	.094	-.069	.279	.200	.215	.093	-.294	-.177	--	.317
14	Divorce Rate	-.142	-.270	.581	-.636	-.583	-.394	.379	.244	.235	-.506	.417	.072	.317	--

[13] It should be noted that Tabachnick and Fidell (1996) suggest the factor analysis for multicollinearity is not the best solution due to limitations with the interpretability of the procedure.

Table 5.5. Zero-Order Correlations Between Predictor Variables, 1990 (N = 120)

		v1	v2	v3	v4	v5	v6	v7	v8	v9	v10	v11	v12	v13	v14
1	AFDC Yearly Spending	---	-.489	.688	-.747	-.701	.657	.309	.245	.413	-.715	.524	.079	-.047	.535
2	Unemployment Rate	-.489	---	-.670	.673	.633	-.755	-.219	-.120	-.312	.491	-.415	.186	.249	.397
3	Median Family Income	.688	-.670	---	-.918	-.916	.768	.475	.323	.391	-.889	.593	-.027	-.174	.590
4	Poverty Rate	-.747	.673	-.918	---	.924	-.788	-.327	-.225	-.399	.857	-.601	.020	.301	-.582
5	Income Inequality	-.701	.633	-.916	.924	---	-.714	-.349	-.311	-.452	.851	-.567	-.023	.182	.572
6	Females in Labor Force	.657	-.755	.768	-.788	-.714	---	.307	.247	.374	-.659	.514	-.110	-.123	.515
7	Percent Urban	.309	-.219	.475	-.327	-.349	.307	---	.653	.202	-.452	.124	.067	.207	.154
8	Population Size	.245	-.120	.323	-.225	-.311	.247	.653	---	.365	-.353	.057	.105	.305	.098
9	Racial Composition	.413	-.312	.391	-.399	-.452	.374	.202	.365	---	-.456	.320	.293	.262	.364
10	High School Dropout Rate	.715	.491	-.889	.857	.851	-.659	-.452	-.353	-.456	---	-.671	-.227	.094	-.681
11	Residential Mobility	.524	-.415	.593	-.601	-.567	.514	.124	.057	.320	-.671	---	.465	-.314	.993
12	Age Structure of Population	.079	.186	-.027	.020	-.023	-.110	.067	.105	.293	-.227	.465	---	-.024	.477
13	Female-Headed Households	-.047	.249	-.174	.301	.182	-.123	.207	.305	.262	.094	-.314	-.024	---	-.196
14	Divorce Rate	.535	-.397	.590	-.582	.572	.515	.154	.098	.364	-.681	.993	.477	-.196	---

Combining Variables into Components.

Principal component analyses (PCA) were performed to reduce some of the highly correlated variables into two factors using varimax rotation. The varimax rotation rotates the factors so that variables load primarily on one and only one factor (Tabachnick and Fidell 1996). The only methods that can be used for determining which variables should be combined into a component are mathematical and theoretical determinations. The mathematical determination is derived through the use of statistical packages utilizing the data reduction techniques whereby criterion such as eigenvalue scores[14] and communalities [i.e., the proportion of variance that overlaps the variance in the factors (Tabachnick and Fidell 1996)] are interpreted and decisions are made as to which variable loadings are best (Tabachnick and Fidell 1996). This allows the

researcher to provide statistical and substantive meaning to the variables in consideration simultaneously (Tabachnick and Fidell 1996). The theoretical determination uses concepts in theories as a guide to construct components that effectively reduce the problems of multicollinearity.

Guided by both theory and mathematics, the present study utilized the PCA procedure to reduce the correlated variables into two components. The two components that resulted from the PCA include the same sets of variables for both 1980 and 1990 for comparison purposes. Table 5.8 displays the results of the PCA. The values in the table are the values from the loading matrix that represent the correlations between the variables and the factors. All of the variables considered produced loadings of the standard .32 or above in which the greater the loading, the more the variable is a true measure of the component (Tabachnick and Fidell 1996). In general, loadings .71 or higher (50 percent overlapping variance) are considered excellent measures of the component; .63 (40 percent overlapping variance) are very good; .55 (30 percent overlapping variance) good; and .45 (20 percent overlapping variance) fair (Comrey and Lee 1992). According to this scale, most of the loadings are excellent. It is at this point that meaning and name was given to the findings of the PCA.

[14] Eigenvalues reflect the number of standardized units of variance explained by each factor, where each variable included in a factor has one unit of variance. Factors with the largest variance, as noted by larger eigenvalues, have the most variance and should be kept in the solution (Tabachnick and Fidell 1996).

Table 5.6 Results of the PCA

Variables	1980 Values	1990 Values
Component One		
High School Dropout Rate	.838	.868
Median Family Income	.882	.879
Poverty Rate	.843	.842
Income Inequality	.952	.804
Percent of Variance	.87	.85
Component Two		
Females in Labor Force	.517	.918
Residential Mobility Rate	.544	.586
Divorce Rate	.664	.866
Percent of Variance	.57	.78

As indicated in table 5.6, the first component is composed of income inequality, median family income, the poverty rate, and the high school dropout rate. With the exception of the high school dropout rate, the variables falling under this component represent a hypothesized composite measure of economic deprivation. The inclusion of the high school dropout rate can be proposed to influence the other three dimensions in this component because it is generally known that having a high school degree does positively influence income levels. This positive influence can also be observed in the zero-order correlation matrix of the predictor variables where the correlation between the high school dropout rate and income inequality and the poverty rate were correlated at higher than .80. It is hypothesized that the economic deprivation component will exhibit a positive relationship with part one offense rates and part two arrests.

The second component is comprised of the percentage of females in the labor force, the divorce rate, and the residential mobility rate. This component best represents a social control indicator. To illustrate, having a larger proportion of females in the workforce instead of home, may lead to decreases in the supervision that may be necessary to control crime (Rosenfeld

1986). Divorce frees people from the controls inherent in the married lifestyle and as such, could influence an increase in crime when there are higher percentages of divorced people in the population (Sampson 1986). Further, increases in residential mobility makes it difficult to maintain social contacts across distance and this also can undermine social control, which in turn, can then lead to increases in crime (Messner 1986). It is hypothesized that there will be a positive relationship between the social control component and part one crime rates and part two arrests as a result of the combined influence of the three variables included in this component.

The remaining two variables of percent urban and population size were not included in the PCA for two reasons. First, percent urban and population size were found to be correlated only with one another ($r = .626 < .01$ in 1980 and $r = .721 < .01$ in 1990), but not with the variables in the economic deprivation or social control components. Percent urban and population size will be analyzed separately across the models. Second, leaving the population size variable out of the model that includes percent urban does not really confound the results of the analyses. This is due to the fact that population size is still accounted for in many of the other variables in the model (as well as the percent urban variable) due to the calculation of percentages of these variables, which includes the value of population size in the denominator.

Backwards Deletion Method.

In 1989 Chamlin examined the relationship between conflict theory and police killings. He found that three of his predictor variables were collinear. To correct these problems, Chamlin created six models that allowed him to observe the overall pattern of results regarding the effects of the collinear variables on the phenomena (i.e., police killings) under study. One of his models contained the full set of predictor variables. Models 2, 3, and 4 included one of the three

collinear variables eliminating the other two; model 5 contained a composite variable that combined the three collinear variables and the rest of the variables in his study. Finally, model 6 contained the results from a ridge regression procedure.

Since the current study faces similar problems with a number of variables being highly correlated with one another, six models were created to gain a sense of the overall pattern of effects of the predictors on part one and part two crime categories. Model 1 in this study examines all of the proposed original variables, except for the divorce rate variable, which was found to be highly correlated with the residential mobility rate variable[15]. Model 2 examines all of the variables in the study except the residential mobility rate. Although this problem between residential mobility and the divorce rate only occurred in 1990, in order to adequately compare both years under study, the same model specifications were done for 1980.

Model 3 regresses the following variables on part one and part two crime categories: (1) age structure of the population as measured by the percentage of males aged 15-29: (2) racial composition as measured by percent black; (3) percent urban; (4) percent female-headed households; (5) the unemployment rate, and (5) AFDC yearly spending per recipient. This model was developed to remedy the problems associated with multicollinearity and to assess the effects of the main predictor variable under study, i.e., AFDC yearly spending per recipient. In addition, this model was developed to see if the other models that contain the component variables from the PCA result in a substantial increase in the value of the R^2.

It is generally known that by simply adding variables to a regression model, a higher

[15] All variables were entered into SPSS linear regression procedure for 1990 and across all six categories, SPSS issued a warning and omitted the problem variable from the model, i.e., residential mobility. Upon obtaining the error, we checked Norusis (1998), which indicated that when the warning and omission occurs, the problem is very highly related independent variables that cannot be estimated in the same regression model. Thus, the specification of two models containing residential mobility and not divorce rate, and vice versa, was necessary.

value of R^2 will result (Blalock 1979; Hanushek and Jackson 1977; Tabachnick and Fidell 1996). As such, the value of the adjusted R^2 presented for this coefficient allows researchers to determine the relative importance of the additional variables. If the adjusted R^2 increases by at least two percent, it is generally concluded that the additional variable(s) led to better or more parsimonious model specification (Achen 1982).

To further remedy problems associated with multicollinearity and to see if the additional variables are important to the regression model as stated previously, models 4, 5, and 6 were necessarily constructed. Model 4 examines the same variables in model 3 with the addition of the social control and economic deprivation components. AFDC had to be eliminated from analysis in model 4 because it was highly correlated with the two component variables[16]. Model 5 includes the same variables as model 4, except that the percent urban variable is being replaced by the population size variable. Model 6 contains the same variables as model five with AFDC spending per recipient replacing the two components. The results of the regression procedures across the six models will reveal the unique effect of each of the independent variables on the crime categories under study. Table 5.7 displays the variables being analyzed in each of the six models as described above.

[16] The AFDC yearly spending per recipient variable was found in both collinearity diagnositics and the zero-order correlation matrix to be highly correlated with the variables that are included in the components, particularly the economic deprivation component. Subsequent checks for multicollinearity between AFDC spending per recipient and the two components confirmed concerns of multicollinearity. As such, models were developed to handle this problem. Appendix B displays the zero-order correlations between AFDC and the components as well as the variance proportions and condition index values for a model containing the uncorrelated variables, AFDC per recipient, and the two components.

CROSS-SECTIONAL MULTIVARIATE ANALYSES ACROSS THE SIX MODELS

Multiple regression was used to analyze the relationships between the variables specified in the six models and the six crime categories for 1980 and 1990. The following sections will present the results of the analyses in relation to the categories of the exogenous variables across the six models. Interpretation of the influence of the variables in models 1 and 2 should be accepted with caution due to the aforementioned problems with multicollinearity.

Table 5.7. Variables Included in Models One-Six

Model 1	**Model 2**	**Model 3**
AFDC Spending Per Recipient	AFDC Spending Per Recipient	AFDC Spending Per Recipient
Unemployment Rate	Unemployment Rate	Unemployment Rate
Median Family Income	Median Family Income	Percent Urban
Poverty Rate	Poverty Rate	Racial Composition
Income Inequality	Income Inequality	Age Structure of Population
Females in Labor Force	Females in Labor Force	Female-Headed Households
Percent Urban	Percent Urban	
Population Size	Population Size	
Racial Composition	Racial Composition	
High School Dropout Rate	High School Dropout Rate	
Residential Mobility	Female-Headed Households	
Age Structure of Population	Age Structure of Population	
Female-Headed Households	Percent Divorced	
Model 4	**Model 5**	**Model 6**
Unemployment Rate	Unemployment Rate	AFDC Spending Per Recipient
Percent Urban	Population Size	Unemployment Rate
Racial Composition	Racial Composition	Population Size
Age Structure of Population	Age Structure of Population	Racial Composition
Female-Headed Households	Female-Headed Households	Age Structure of Population
Social Control Component	Social Control Component	Female-Headed Households
Economic Deprivation Component	Economic Deprivation Component	

Table 5.8 through 5.13 report the standardized and unstandardized regression coefficients, R-squared, and the adjusted R-squared values for models one through six for all six crime categories. Due to length and detail, these tables are located on the following pages, 100-111.

Table 5.8 Results of Multiple Regression Analyses of Part One Personal Crimes (N = 120)

	Year	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	1980	1.365	2.153	4.072	3.098	1.985*	2.355
	1990	-13.429	-12.166	-3.738	-1.417	-9.498	-9.235
Exogenous Variables							
AFDC Spending	1980	-.043	-.077	-.144	---	---	-.096
		(-.0294)	(-.0527)	(-.0781)	---	---	(-.0658)
	1990	-.091	-.097	.168*	---	---	-.012
		(.01792)	(.01921)	(.0325)	---	---	(-.002369)
Economic Indicators							
Unemployment Rate	1980	.059	.047	-.029	.032	.037	-.016
		(4.253)	(3.422)	(-2.084)	(2.314)	(2.696)	(-1.165)
	1990	-.015	-.047	-.147	-.068	-.060	-.125*
		(-2.011)	(-6.126)	(-19.20)	(-8.914)	(-7.782)	(-16.358)
Median Income	1980	.061	-.072	---	---	---	---
		(.00012)	(.00014)	---	---	---	---
	1990	.376	.269	---	---	---	---
		(.02572)	(.01839)	---	---	---	---
Poverty Rate	1980	.353	.175	---	---	---	---
		(.563)	(.279)	---	---	---	---
	1990	.079	.126	---	---	---	---
		(.254)	(.406)	---	---	---	---
Income Inequality	1980	-.389	-.444	---	---	---	---
		(-1.072)	(-1.225)	---	---	---	---
	1990	.140	.065				
		(.659)	(.306)	---	---	---	---
Population Indicators							
Females/ Labor Force	1980	-.053	-.054	---	---	---	---
		(-.406)	(-.415)	---	---	---	---
	1990	.255	.125	---	---	---	---
		(3.299)	(4.328)	---	---	---	---
Percent Urban	1980	-.024	-.025	.194	.113	---	---
		(.0632)	(.0651)	(.505)	(.294)	---	---
	1990	-.078	-.050	.328***	.220**	---	---
		(-.497)	(-.320)	(2.098)	(1.407)	---	---
Population Size	1980	.222	.173	---	---	.188	.264**
		(.174)	(.136)	---	---	(.148)	(.207)
	1990	.770***	.736***	---	---	-731***	.730***
		(1.217)	(1.164)	---	---	(1.154)	(1.154)
Racial Composition	1980	.133	.158	.202	.168	.174	.220*
		(1.924)	(2.282)	(2.918)	(2.420)	(2.515)	(3.174)
	1990	.060	.058	.079	.028	.061	.078
		(1.825)	(1.740)	(2.382)	(.858)	(1.856)	(2.354)
High School Dropout	1980	-.042	-.460	---	----	---	---
		(-.409)	(-.921)	---	---	----	---
	1990	.846	.512	---	---	---	---
		(2.164)	(1.260)	---	---	---	---
Residential Mobility	1980	.104	---	---	---	---	---
		(1.048)	---	---	---	---	---
	1990	.108	---	---	---	---	---
		(2.491)	---	---	---	---	---

Table 5.8 Results of Multiple Regression Analyses of Part One Personal Crimes, continued...

	Year	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age Structure	1980	.013	.035	.104	.099	.059	.046
		(1.373)	(3.676)	(11.019)	(10.417)	(6.214)	(4.911)
	1990	.138*	.182***	.306***	.314**	.099	.143**
		(9.617)	(12.668)	(21.262)	(21.796)	(6.908)	(9.932)
Family Indicators							
Female HH	1980	.284**	.327**	.240**	.324***	.299***	.228*
		(26.691)	(30.731)	(22.572)	(30.434)	(28.105)	(21.405)
	1990	.217***	.183**	.347***	.412***	.187***	.174***
		(40.464)	(34.215)	(64.661)	(76.790)	(34.817)	(32.455)
Divorce Rate	1980	---	-.128	---	---	---	---
		---	(-5.195)	---	---	---	---
	1990	---	.111	---	---	---	---
		---	(9.256)	---	---	---	---
Components							
Economic Deprivation	1980	---	---	---	.355*	.293*	---
		---	---	---	(.231)	(.191)	---
	1990	---	---	---	.432***	-.031	---
		---	---	---	(.575)	(-.04187)	---
Social Control	1980	---	---	---	-.152	-.116	---
		---	---	---	(-.152)	(-.178)	---
	1990	---	---	---	-.090	.139	---
		---	---	---	(-.121)	(.185)	---
R-squared	1980	.306	.307	.246	.275	.289	.272
	1990	.813	.817	.529	.573	.802	.794
Adjusted R-squared	1980	.221	.222	.206	.229	.245	.233
	1990	.791	.794	.504	.546	.789	.783

* = .05 level
** = .01 level
*** = .001 level

Unstandardized Regression Coefficients are in parentheses.

Table 5.9 Results of Multiple Regression Analyses of Part Two Personal Crimes (N = 120)

	Year	One	Two	Three	Four	Five	Six
Constant	1980	-5.175	-7.055	4.203	.161	-8.237	-5.262
	1990	-6.532	-5.887	-1.207	.602	-8.224	-6.792
Exogenous Variables							
AFDC Spending	1980	-.206*	-.179*	-.259**	---	---	-.196**
		(-.285)	(-.249)	(-.359)	---	---	(-.272)
	1990	-.031	-.028	.144	---	---	-.068
		(-.0054)	(-.0050)	(.0025)	---	---	(-.0012)
Economic Indicators							
Unemployment Rate	1980	.034	.047	-.034	.012	.033	.012
		(4.953)	(6.890)	(-5.033)	(1.727)	(4.786)	(1.709)
	1990	-.014	-.024	-.014	-.009	.001	.015
		(-1.607)	(-2.754)	(-1.561)	(-1.014)	(.108)	(1.676)
Median Family Income	1980	.209	.316	---	---	---	---
		(.000084)	(.00013)	---	---	---	---
	1990	.236	-.178	---	---	---	---
		(.0143)	(-.0108)	---	---	---	---
Poverty Rate	1980	.208	.319	---	---	---	---
		(.672)	(1.027)	---	---	---	---
	1990	.232	.201	---	---	---	---
		(.662)	(.574)	---	---	---	---
Income Inequality	1980	-.067	-.050	---	---	---	---
		(-.376)	(-.281)	---	---	---	---
	1990	.294	.253				
		(1.222)	(1.051)	---	---	---	---
Population Indicators							
Females in Labor Force	1980	.007	.008	---	---	---	---
		(.107)	(.131)	---	---	---	---
	1990	.044	.064	---	---	---	---
		(1.340)	(1.967)	---	---	---	---
Percent Urban	1980	-.083	-.088	.447***	.437***	---	---
		(-.436)	(-.465)	(2.360)	(2.309)	---	---
	1990	-.064	-.067	.368***	.280**	---	---
		(-.365)	(-.380)	(2.086)	(1.587)	---	---
Population Size	1980	.709***	.748***	---	---	.700***	.708***
		(1.125)	(1.186)	---	---	(1.110)	(1.123)
	1990	.942***	.918***	---	---	.900***	.848***
		(1.317)	(1.284)	---	---	(1.258)	(1.186)
Racial Composition	1980	.152	.126	.114	.034	.064	.126
		(4.439)	(3.674)	(3.329)	(1.002)	(1.860)	(3.685)
	1990	.025	.016	-.007	-.034	.005	-.007
		(.679)	(.431)	(-.196)	(-.920)	(.129)	(-.199)
High School Dropout	1980	-.050	.024	---	----	---	---
		(-.970)	(.462)	---	---	----	---
	1990	-.059	-.100	---	---	---	---
		(-1.014)	(-1.709)	---	---	---	---

Table 5.9 Results of Multiple Regression Analyses of Part Two Personal Crimes, continued...

	Year	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Residential Mobility	1980	-.125	---	---	---	---	---
		(-2.560)	---	---	---	---	---
	1990	.103	---	---	---	---	---
		(2.097)	---	---	---	---	---
Age Structure	1980	-.083	-.099	.062	.087	-.060	-.097
		(-17.677)	(-21.085)	(13.269)	(18.719)	(-12.752)	(-20.814)
	1990	-.118	.073	.134	.181*	-.082	-.057
		(-7.274)	(-4.460)	(8.223)	(11.108)	(-5.021)	(-3.512)
Family Indicators							
Female HH	1980	.042	.049	.113	.219**	.132*	.067
		(8.076)	(9.233)	(21.541)	(41.544)	(25.054)	(12.682)
	1990	.083	.074	.323***	.364***	.090	.119*
		(13.630)	(12.223)	(53.306)	(60.084)	(14.876)	(19.602)
Divorce Rate	1980	---	.037	---	---	---	---
		---	(3.047)	---	---	---	---
	1990	---	.011	---	---	---	---
		---	(.772)	---	---	---	---
Components							
Economic Deprivation	1980	---	---	---	.399**	.181	---
		---	---	---	(.526)	(.238)	---
	1990	---	---	---	.383**	-.180	---
		---	---	---	(.452)	(-.212)	---
Social Control	1980	---	---	---	.393***	.185*	---
		---	---	---	(.517)	(.243)	---
	1990	---	---	---	-.206	.074	---
		---	---	---	(-.243)	(.0868)	---
R-squared	1980	.656	.649	.399	.420	.617	.631
	1990	.746	.743	.361	.388	.731	.726
Adjusted R-squared	1980	.613	.606	.367	.384	.593	.612
	1990	.714	.711	.327	.349	.714	.712

* = .05 level
** = .01 level
*** = .001 level

Unstandardized Regression Coefficients are in parentheses.

Table 5.10 Results of Multiple Regression Analyses of Part One Property Crimes (N = 120)

	Year	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	1980	3.925	5.062	7.064	5.963	3.515	3.943
	1990	-10.648	-9.476	-4.235	.615	-8.995	-11.058
Exogenous Variables							
AFDC Spending/Recipient	1980	-.033	-.066	-.111	---	---	-.116
		(-.0216)	(-.0434)	(-.0731)	---	---	(-.07598)
	1990	-.013	-.014	.300***	---	---	.108*
		(-.00277)	(-.00299)	(.00626)	---	---	(.00225)
Economic Indicators							
Unemployment Rate	1980	.088	.071	-.034	.093	.116	-.042
		(6.070)	(4.900)	(-2.328)	(6.439)	(8.027)	(-2.937)
	1990	.125*	.104	-.019	.087	.092*	-.004
		(17.227)	(14.276)	(-2.556)	(11.99)	(12.737)	(-.573)
Median Family Income	1980	.258	.123	---	---	---	---
		(.00049)	(.000235)	---	---	---	---
	1990	.093	.001	---	---	---	---
		(.006703)	(.00099)	---	---	---	---
Poverty Rate	1980	-.076	-.213	---	---	---	---
		(-.116)	(-.325)	---	---	---	---
	1990	.024	.021	---	---	---	---
		(.08180)	(.07148)	---	---	---	---
Income Inequality	1980	.093	.074	---	---	---	---
		(.247)	(.195)	---	---	---	---
	1990	-.005	-.070				
		(-.02674)	(-.346)	---	---	---	---
Population Indicators							
Females in Labor Force	1980	-.035	-.037	---	---	---	---
		(-.257)	(-.271)	---	---	---	---
	1990	.117	.146*	---	---	---	---
		(4.306)	(5.354)	---	---	---	---
Percent Urban	1980	.197	.205	.600***	.409***	---	---
		(.494)	(.512)	(1.500)	(1.024)	---	---
	1990	-.005	.005	.415***	.286***	---	---
		(-.03636)	(.03133)	(2.804)	(1.935)	---	---
Population Size	1980	.307***	.259**	---	---	.411***	.533***
		(.231)	(.194)	---	---	(.309)	(.400)
	1990	.798***	.765***	---	---	.814***	.824***
		(1.330)	(1.275)	---	---	(1.357	(1.374)
Racial Composition	1980	.110	.144	.157	.087	.144*	.295***
		(1.523)	(1.984)	(2.166)	(1.204)	(1.990)	(4.071)
	1990	.038	.030	.068	.015	.045	.063
		(1.219)	(.953)	(2.158)	(.468)	(1.443)	(2.012)
High School Dropout Rate	1980	-.387	-.153	---	----	---	---
		(-.548)	(-1.4118)	---	---	----	---
	1990	-.537	-.799	---	---	---	---
		(3.064)	(-1.588)	---	---	---	---

Table 5.10 Results of Multiple Regression Analyses of Part One Property Crimes, continued...

	Year	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Residential Mobility	1980	.160	---	---	---	---	---
		(1.549)	---	---	---	---	---
	1990	.126*	---	---	---	---	---
		(3.064)	---	---	---	---	---
Age Structure	1980	-.071	-.051	.420	.029	-.053	-.076
		(-7.204)	(-5.178)	(2.844)	(2.925)	(-5.338)	(-7.724)
	1990	-.005	.049	.221**	.215**	-.017	.042
		(-.403)	(3.575)	(16.191)	(15.765)	(-1.254)	(3.098)
Family Indicators							
Female-HH	1980	.223**	.214**	.107	.212**	.205**	.121
		(20.108)	(19.228)	(9.667)	(19.123)	(18.478)	(10.853)
	1990	.115**	.093*	.251***	.339***	.102*	.070
		(22.529)	(18.353)	(49.429)	(66.629)	(20.038)	(13.728)
Divorce Rate	1980	---	-.043	---	---	---	---
		---	(-1.687)	---	---	---	---
	1990	---	.057	---	---	---	---
		---	(4.988)	---	---	---	---
Components							
Economic Deprivation	1980	---	---	---	.367***	.328**	---
		---	---	---	(.229)	(.205)	---
	1990	---	---	---	.558***	.072	---
		---	---	---	(.784)	(.102)	---
Social Control	1980	---	---	---	.023	.144	---
		---	---	---	(.01439)	(.08978)	---
	1990	---	---	---	-.054	.188***	---
		---	---	---	(-.07587)	(.265)	---
R-squared	1980	.665	.655	.563	.620	.641	.537
	1990	.895	.893	.564	.623	.892	.872
Adjusted R-squared	1980	.624	.612	.540	.596	.619	.513
	1990	.882	.879	.540	.599	.885	.865

* = .05 level
** = .01 level
*** = .001 level

Table 5.11 Results of Multiple Regression Analyses of Part Two Property Crimes (N = 120)

	Year	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	1980	-1.924	-2.611	5.475	3.459	-4.524	-3.111
	1990	-5.604	-6.073	-1.833	2.519	-6.150	-7.27
Exogenous Variables							
AFDC Spending/Recipient	1980	-.082	-.056	-.113	---	---	-.080
		(-1.924)	(-.0766)	(-.156)	---	---	(-.110)
	1990	.032	.032	.271**	---	---	.077
		(.0064)	(.0064)	(.0054)	---	---	(.0015)
Economic Indicators							
Unemployment Rate	1980	-.082	.070	-.006	.064	.094	.016
		(-.113)	(10.11)	(-.833)	(9.165)	(13.58)	(2.270)
	1990	.003	.012	-.060	-.034	-.020	-.028
		(.454)	(1.549)	(-7.950)	(-4.546)	(-2.685)	(-3.703)
Median Family Income	1980	-.285	-.189	---	---	---	---
		(-.0001)	(-.0007)	---	---	---	---
	1990	.200	.238	---	---	---	---
		(.0139)	(.0166)	---	---	---	---
Poverty Rate	1980	-.250	-.097	---	---	---	---
		(-.787)	(-.035)	---	---	---	---
	1990	.061	.066	---	---	---	---
		(.198)	(.217)	---	---	---	---
Income Inequality	1980	-.093	-.032	---	---	---	---
		(-.511)	(-.173)	---	---	---	---
	1990	.286	.313*				
		(1.368)	(1.495)	---	---	---	---
Population Indicators							
Females in Labor Force	1980	.151*	.152*	---	---	---	---
		(2.294)	(2.298)	---	---	---	---
	1990	.151	.139	---	---	---	---
		(5.335)	(4.906)	---	---	---	---
Percent Urban	1980	.117	.122	.589***	.511***	---	---
		(.607)	(.631)	(3.048)	(2.645)	---	---
	1990	-.142*	-.145	.290***	.188*	---	---
		(-.928)	(-.945)	(1.889)	(1.225)	---	---
Population Size	1980	.550***	.587***	---	---	.670***	.676***
		(.853)	(.911)	---	---	(1.039)	(1.049)
	1990	.805***	.819***	---	---	.782***	.745***
		(1.292)	(1.315)	---	---	(1.256)	(1.196)
Racial Composition	1980	.248**	.235**	.225**	.159*	.211***	.314***
		(7.082)	(6.704)	(6.400)	(4.524)	(6.026)	(8.957)
	1990	.192**	.196**	.196*	.170	.213**	.198**
		(5.899)	(6.024)	(6.019)	(5.229)	(6.528)	(6.096)
High School Dropout Rate	1980	-.079	-.065	---	----	---	---
		(-1.512)	(-1.240)	---	---	----	---
	1990	-.156	-.134	---	---	---	---
		(-3.076)	(-2.634)	---	---	---	---
Residential Mobility	1980	-.042	---	---	---	---	---
		(-.845)	---	---	---	---	---
	1990	-.056	---	---	---	---	---
		(-1.302)	---	---	---	---	---

Table 5.11 Results of Multiple Regression Analyses of Part Two Property Crimes, continued...

	Year	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age Structure of Population	1980	-.185**	-.203**	-.069	-.050	.190**	.212**
		(-38.975)	(-42.616)	(-14.498)	(-10.496)	(39.900)	(44.609)
	1990	-.093	-.117	.060	.094	.143*	-.112
		(-6.555)	(-8.262)	(4.248)	(6.601)	(10.115)	(-7.868)
Family Indicators							
Female-Headed Households	1980	-.043	-.106	-.038	.016	-.042	-.053
		(-7.991)	(-19.680)	(-.6972)	(3.043)	(-7.755)	(-9.860)
	1990	-.054	-.046	.136	.196*	-.061	-.053
		(-10.307)	(-8.796)	(25.831)	(37.136)	(-11.497)	(-10.025)
Divorce Rate	1980	---	.144	---	---	---	---
		---	(11.552)	---	---	---	---
	1990	---	-.019	---	---	---	---
		---	(-1.640)	---	---	---	---
Components							
Economic Deprivation	1980	---	---	---	.142	-.013	---
		---	---	---	(.183)	(-.0169)	---
	1990	---	---	---	.487***	-.044	---
		---	---	---	(.659)	(.059)	---
Social Control	1980	---	---	---	.060	.259**	---
		---	---	---	(.0768)	(.334)	---
	1990	---	---	---	-.165	.096	---
		---	---	---	(-.223)	(.130)	---
R-squared	1980	.674	.681	.513	.520	.661	.618
	1990	.726	.726	.401	.423	.699	.700
Adjusted R-squared	1980	.633	.641	.487	.490	.639	.598
	1990	.693	.692	.369	.687	.680	.684

* = .05 level
** = .01 level
*** = .001 level

Table 5.12 Results of Multiple Regression Analyses of Public Order Crimes (N = 120)

	Year	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	1980	-9.305	-8.264	2.872	1.375	-7.609	-6.880
	1990	-6.900	-6.248	-.729	1.484*	-6.487	-6.051
Exogenous Variables							
AFDC Spending	1980	-.034	-.038	-.110	---	---	-.042
		(-.0411)	(-.0464)	(-.1330)	---	---	(-.0507)
	1990	.031	.026	.185*	---	---	-.021
		(.0051)	(.0041)	(.0030)	---	---	(.0003)
Economic Indicators							
Unemployment Rate	1980	.033	.025	-.036	-.012	.014	.014
		(4.196)	(3.160)	(-4.536)	(-1.565)	(1.817)	(1.791)
	1990	-.108	-.136*	-.094	-.101	-.096	-.072
		(-11.518)	(-13.843)	(-9.985)	(-10.704)	(-9.961)	(-7.695)
Median Income	1980	.115	.093	---	---	---	---
		(.00004)	(.00003)	---	---	---	---
	1990	.176	.107	---	---	---	---
		(.0098)	(.0060)	---	---	---	---
Poverty Rate	1980	.136	.155	---	---	---	---
		(.383)	(.438)	---	---	---	---
	1990	.232	.275	---	---	---	---
		(.611)	(.724)	---	---	---	---
Income Inequality	1980	-.099	-.067	---	---	---	---
		(-.485)	(-.326)	---	---	---	---
	1990	.070	.022	---	---	---	---
		(.270)	(.086)	---	---	---	---
Population Indicators							
Females/Labor Force	1980	-.017	-.018	---	---	---	---
		(-.233)	(-.248)	---	---	---	---
	1990	-.029	-.011	---	---	---	---
		(-.824)	(-.314)	---	---	---	---
Percent Urban	1980	-.010	-.001	.561***	.547***	---	---
		(-.0481)	(-.0055)	(2.590)	(2.525)	---	---
	1990	-.015	.007	.400***	.297***	---	---
		(-.0760)	(.0376)	(2.091)	(1.552)	---	---
Population Size	1980	.874***	.867***	---	---	.855***	.839***
		(1.212)	(1.203)	---	---	(1.186)	(1.163)
	1990	.893***	.872***	---	---	.876***	.853***
		(1.151)	(1.124)	---	---	(1.129)	(1.100)
Racial Composition	1980	.076	.090	.047	.020	.060	.077
.		(1.928)	(2.283)	(1.200)	(.516)	(1.520)	(1.958)
	1990	-.035	-.035	-.047	-.074	-.040	-.050
		(-.852)	(-.852)	(-1.164)	(-1.836)	(-.985)	(-1.224)
High School Dropout	1980	.141	.085	---	----	---	---
		(2.408)	(1.451)	---	---	----	---
	1990	.006	-.021	---	---	---	---
		(.087)	(-.330)	---	---	---	---
Residential Mobility	1980	.082	---	---	---	---	---
		(1.464)	---	---	---	---	---
	1990	.059	---	---	---	---	---
		(1.112)	---	---	---	---	---

Table 5.12 Results of Multiple Regression Analyses of Public Order Crimes, continued...

	Year	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age Structure	1980	-.003	-.002	.186**	.189**	.009	-.001
		(-.542)	(-.291)	(34.762)	(35.283)	(1.755)	(-.208)
	1990	.031	.054	.249**	.311***	.059	.060
		(1.745)	(3.055)	(14.086)	(17.617)	(3.361)	(3.404)
Family Indicators							
Female-HH	1980	.146**	.091	.190**	.245***	.143**	.140***
		(24.287)	(15.188)	(31.561)	(40.735)	(23.744)	(23.331)
	1990	.144	.120*	.370***	.417***	.158***	.176***
		(21.889)	(18.288)	(56.308)	(63.426)	(24.106)	(26.397)
Divorce Rate	1980	---	.079	---	---	---	---
		---	(5.637)	---	---	---	---
	1990	---	.083	---	---	---	---
		---	(5.610)	---	---	---	---
Components							
Economic Deprivation	1980	---	---	---	.237*	-.022	---
		---	---	---	(.273)	(-.025)	---
	1990	---	---	---	.463***	-.067	---
		---	---	---	(.504)	(-.0728)	---
Social Control	1980	---	---	---	.238*	.016	---
		---	---	---	(.274)	(.0186)	---
	1990	---	---	---	.264*	.000	---
		---	---	---	(.287)	(.0002)	---
R-squared	1980	.836	.836	.525	.542	.828	.829
	1990	.852	.854	.495	.502	.847	.846
Adjusted R-squared	1980	.816	.816	.500	.513	.817	.820
	1990	.834	.837	.468	.502	.838	.838

* = .05 level
** = .01 level
*** = .001 level

Table 5.13 Results of Multiple Regression Analyses of Substance-Related Crimes (N = 120)

	Year	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	1980	-4.614	-2.898	4.129	2.532	-6.823	-4.949
	1990	-2.634	-1.991	.08353	2.166	-5.696	-5.061
Exogenous Variables							
AFDC Spending	1980	-.053	-.070	-.144	---	---	-.086
		(-.0619)	(-.0816)	(-.168)	---	---	(-.101)
	1990	-.002	-.007	.181***	---	---	-.030
		(-.0003)	(-.00011)	(.0028)	---	---	(-.0005)
Economic Indicators							
Unemployment Rate	1980	-.058	-.072	-.050	-.093	-.056	-.009
		(-7.183)	(-8.918)	(-6.152)	(-11.484)	(-6.925)	(-1.079)
	1990	-.082	-.103	-.070	-.069	-.061	-.046
		(-8.417)	(-10.596)	(-7.157)	(-7.058)	(-6.245)	(-4.713)
Median Income	1980	-.008	-.081	---	---	---	---
		(-.000002)	(-.000002)	---	---	---	---
	1990	-.124	-.194	---	---	---	---
		(-0067)	(-.0104)	---	---	---	---
Poverty Rate	1980	.375**	.341**	---	---	---	---
		(1.018)	(.925)	---	---	---	---
	1990	.167	.203	---	---	---	---
		(.423)	(.515)	---	---	---	---
Income Inequality	1980	-.148	-.125	---	---	---	---
		(-.697)	(-.589)	---	---	---	---
	1990	-.007	-.056				
		(.026)	(-.207)	---	---	---	---
Population Indicators							
Females/Labor Force	1980	-.047	-.048	---	---	---	---
		(-.608)	(-.632)	---	---	---	---
	1990	.024	.043	---	---	---	---
		(.665)	(1.180)	---	---	---	---
Percent Urban	1980	.177*	.189*	.588***	.415***	---	---
		(.790)	(.841)	(2.619)	(3.152)	---	---
	1990	-.009	.010	.396***	.297**	---	---
		(-.0473)	(.0521)	(1.991)	(1.495)	---	---
Population Size	1980	.805***	.781***	---	---	.907***	.817***
		(1.077)	(1.044)	---	---	(1.212)	(1.091)
	1990	.898***	.877***	---	---	.899***	.864***
		(1.114)	(1.087)	---	---	(1.115)	(1.072)
Racial Composition	1980	-.093	-.067	-.085	-.117	-.042	-.035
		(-2.293)	(-1.658)	(-2.080)	(-2.882)	(-1.040)	(-.860)
	1990	-.063	-.064	-.078	-.106	-.069	-.080
		(-1.503)	(-1.528)	(-1.855)	(-2.506)	(-1.638)	(-1.897)
High School Dropout	1980	.048	-.040	---	----	---	---
		(.794)	(-.665)	---	---	----	---
	1990	-.133	-.162	---	---	---	---
		(-2.016)	(-2.457)	---	---	---	---
Residential Mobility	1980	.138*	---	---	---	---	---
		(2.380)	---	---	---	---	---
	1990	.066	---	---	---	---	---
		(1.198)	---	---	---	---	---

Table 5.13 Results of Multiple Regression Analyses of Substance-Related Crimes, continued...

	Year	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age Structure	1980	.034	.043	.236***	.267***	.081	.057
		(6.115)	(7.722)	(42.639)	(48.235)	(14.683)	(10.280)
	1990	.007	.034	.273***	.327***	.068	.081
		(.400)	(1.847)	(14.881)	(17.838)	(3.685)	(4.411)
Family Indicators							
Female-HH	1980	.134**	.079	.206**	.214**	.142**	.165***
		(21.528)	(12.690)	(32.963)	(34.287)	(22.801)	(26.487)
	1990	.136**	.113*	.377***	.423***	.155***	.175***
		(19.901)	(16.565)	(55.138)	(61.952)	(22.724)	(25.585)
Divorce Rate	1980	---	.057	---	---	---	---
		---	(3.954)	---	---	---	---
	1990	---	.078	---	---	---	---
		---	(5.057)	---	---	---	---
Components							
Economic Deprivation	1980	---	---	---	.013	.187*	---
		---	---	---	(.01404)	(.208)	---
	1990	---	---	---	.441***	-.109	---
		---	---	---	(.461)	(-.114)	---
Social Control	1980	---	---	---	.237*	.032	---
		---	---	---	(.263)	(.035)	---
	1990	---	---	---	.235*	.039	---
		---	---	---	(.514)	(.041)	---
R-squared	1980	.843	.836	.541	.560	.808	.799
	1990	.856	.858	.483	.514	.851	.848
Adjusted R-squared	1980	.824	.816	.517	.533	.796	.788
	1990	.839	.841	.455	.484	.841	.840

* = .05 level
** = .01 level
*** = .001 level

Welfare Spending

The AFDC yearly spending per recipient variable was only found to be a significant predictor in one of the crime categories under study in 1980. Specifically, across the six models, yearly AFDC spending per recipient was found to significantly contribute in the prediction of part two personal crime arrests in models 1, 2, 3, and 6. The sign of the relationship was observed to be negative. This finding is interesting because the offense category of personal crime arrests falls under the part two crime type whereas past studies only examined part one

crimes.

The welfare variable in 1990, however, was found to positively and significantly contribute to the prediction of part one property and personal crime rates, part two property arrests, public order arrests, and substance-related arrests in model 3 (B= .168, <.05; B= .300, <.001; B=.271, <.01; B= .185, <.05; and B= .181, <.001, respectively). AFDC spending per recipient per year was also found in model 6 to be a significant predictor of 1990 part one property crimes in 1990 (B= .108, <.05).

Positive findings associated with the welfare variable are not commonly found within the body of research examining the welfare-crime relationship. Only one previous study (Messner 1986) found a positive relationship between welfare and a crime variable (i.e., larceny). Due to the conflicting results between the present study and the past literature examining the welfare-crime relationship, Cook's D values were observed to determine whether or not there may be outliers present that could be influencing the regression equation in a positive direction. Cook's D is a measure of the total influence on the regression equation should a particular case be deleted from the equation (McClendon 1994; Norusis 1998). It is generally recognized that Cook's D values over 1 deserve closer observation (Draper and Smith 1998; Norusis 1998). None of the models resulted in a Cook's D value over 1 (see Appendix B).

Other possible explanations for the positive findings could have resulted from violating the assumptions of regression such as heterosciedasticity or non-normal data distributions. As the previous discussion regarding the assumptions of regression illustrated, however, adequate transformations were made to correct these problems. The observations regarding the influence of the welfare variable in terms of its positive contribution in the prediction of crime can therefore be accepted with confidence; they are not statistical artifacts.

Economic Structure Indicators

The variables included across the models that are classified as economic structure indicators are the unemployment rate, median family income, poverty rate, and income inequality as measured by the Gini index. Findings regarding the economic deprivation component will also be presented in this section. Only models 1 and 2 include the economic structure indicators, except for the unemployment rate variable, which is in all six models under study. The economic deprivation component is included in models 4 and 5.

The unemployment rate was found to significantly contribute to the prediction of 1990 public order arrests in model 2 (B= -.136, <.05) and 1990 part one property crime rates in model 1 (B= .125, <.05) . The poverty rate was a significant predictor of 1980 substance-related offense arrests in models 1 and 2 (B= .375, <.01 and B= .341, <.01, respectively). The income inequality variable was found to make a significant contribution in the explanation of 1990 part two property arrests in model 2 (B= .313, <.05).

The economic deprivation component includes the variables of median family income, poverty rate, income inequality, and the high school dropout rate, and is examined in models 4 and 5. This component was observed to have a moderate to strong effect on 1980 part one personal and property crime rates, public order arrests, and across all six crime categories in 1990 in model 4. The economic deprivation component also contributed significantly to the prediction of substance-related arrests, part one personal and property crime rates (B= .187, <.05; B= .293, <.05; and B= .328, <.01, respectively) in model 5 in 1980.

Population Structure Indicators

Percentage of females in the labor force, percent urban, population size, racial composition of the population, high school dropout rate, residential mobility rate, and the age structure of the population rate are included under the heading of population structure indicators. The social control component will also be discussed in this section since two of the three variables included in this component are population structure indicators, namely, percentage of females in the labor force and residential mobility rate.

The percentage of females in the labor force variable contributed significantly to the prediction of 1980 part two property arrests in models 1 and 2 (B =.151, <.05 and B= .152, <.05) and 1990 part one property crime rates in model 2 (B= .146, <.05) . The direction of influence was found to be in the expected positive direction.

The percent urban variable is included in models 1, 2, 3, and 4. Percent urban was found to contribute significantly in the prediction of all six crime categories under study, during 1980 and 1990 in models 3 and 4. The only exception to these observations is for the crime category of 1980 part one personal crime rates, where percent urban was not observed to be significant in any model. The substance-related arrests in 1980 was found to be significantly influenced by percent urban in models 1 and 2 (B= .177, <.05 and B= .189, >05, respectively). Percent urban was also found to be a significant predictor of 1990 part two property crime arrests (B= -.142, <.05) in model one. The sign of this relationship, however, was observed to be negative. This observation most likely is the result of the problems associated with multicollinearity in model 1.

The population size variable was found to contribute significantly to the prediction of all six crime categories under study in every model in which it was included (i.e., models 1, 2, 5, and 6). The only exception to this generalized observation is in relation to 1980 part one

personal crimes. Population size was found to be a significant predictor of this offense category in model 6 only (*B*= .264, <.01).

The racial composition variable, as measured by the percentage of blacks in the population, is included in all six models. In 1980, the racial composition variable was found to contribute significantly the prediction of 1980 part one property crimes in models 5 and 6 (*B*= .144, <.05 and *B*= .295, <.001, respectively). In model 6, the racial composition variable was found to have a significant influence on part one personal crimes in 1980 (*B*= .220, <.05). In both years under study, the racial composition variable was observed to significantly contribute to the prediction of part two property crime arrests across all six models.

The high school dropout rate and the residential mobility rate were not found to contribute significantly to the prediction of any of the crime categories under study in 1980 nor 1990. The only exception to this overall observation is with the significance of the residential mobility rate in relation to 1980 substance-related arrests and 1990 part one property crime rates in model 1. This significant result was found to be in the expected positive direction, which is consistent with findings observed in previous studies examining the relationship between welfare and crime.

The age structure of the population variable is measured as the percentage of males aged 15-29 in the population. In 1980 and 1990, this variable was found to make a weak to moderate, though significant, contribution in the prediction of public order arrests and substance-related arrests in models 3 and 4. The age structure of the population variable was also found to be a significant predictor of part two property crime arrests in 1980 in models 1, 2, 5, and 6. The age structure variable was also found to be a significant predictor of 1990 property crime rates in models 3 and 4 (*B*= .221, <.01 and *B*= .215, <.01, respectively). Further, across all models

except model 6, the age structure indicator contributed significantly to the prediction of part one personal crimes. In addition, this indicator was found to have a weak influence on 1990 part two personal crime arrests in model 4 (B= .181, <.05) and part two property crime arrests (B= .143, <.05).

The social control component is comprised of the variables of percentage of females in the labor force, residential mobility, and the divorce rate. It was hypothesized that the social control component would positively influence crime. This component is only included in models 3 and 4. The social control component was found to contribute significantly to the prediction of 1980 and 1990 substance-related arrests in model 4 (B= .237, <.05 and B= .235, <.05, respectively).

This component was also found to be a significant predictor of 1980 part two property and personal crime arrests in model 5 and 1980 part two personal arrests and public order offenses in model 4. In 1990, the social control component was observed to contribute significantly to the prediction of public order arrests in model 4 (B= .264, <.05) and part one property crime rates in model 5 (B= .188, <.05) . All observations were observed to be positive in value, which is consistent with the hypothesis that the social control component will have a positive influence on crime.

Family Structure Indicators

Percentage of female-headed households and the divorce rate fall under the family structure indicators heading. Positive relationships are expected between the family structure indicators and the six crime categories under study. The female-headed households variable is included in all six models whereas the divorce rate variable is only included in model 2. The

divorce rate was not found to contribute significantly to the prediction any of the six crime categories under study.

The percentage of female-headed households variables was found to be a significant predictor of 1980 and 1990 substance-related arrests and 1990 part one personal crime arrests across all six models. This indicator was also found to be a significant predictor of part two personal crimes in models 1 and 5, part one property crime rates in models 1, 2, 4, and 5, part one personal crime rates in models 1-5, and public order arrests in all models except model 2 in 1980.

In 1990, the female-headed household variable was found to be significant across all six models examining part one personal crime rates. In addition, this family structure indicator was also found to contribute significantly to the prediction of part one property crimes in models 2-5, public order arrests in models 2-6, and part two personal crime arrests 3, 4, and 6. The variable of percentage of female-headed households was not found to be a significant predictor of part two property crime arrests in either year under study except for model 4 in 1990 where a significant relationship was observed (B= .196, <.05).

MODEL SPECIFICATION

It is generally known that simply by adding variables to a regression model, a higher value of R^2 will result (Blalock 1979; Hanushek and Jackson 1977; Tabachnick and Fidell 1996). R^2 represents the proportion of variation of the dependent variable that is explained by the model (Norusis 1998). Adjusted R^2 represents an estimate of how well the model would fit other data sets drawn from the same population (Norusis 1998). The percent change in Adjusted R^2 when a predictor variable is added or deleted from the regression equation is an indicator of how well

the model is specified. If the value of the Adjusted R^2 increases by at least two percent with the addition or deletion of exogenous variables across regression models, this indicates better or more parsimonious model specification (Achen 1982).

The following sections will present a discussion of the relative importance of the additional variables in models 3-6. Models 1 and 2 are excluded from this discussion because of the problems of multicollinearity associated with them. Each crime category will be examined separately across the models. The major purpose of this discussion is to determine which model is more parsimoniously specified in the prediction of part one and part two crimes in the context of the welfare-crime relationship. This determination will yield the best model to calculate residual change score measures for the variables included in the model. Regression analyses using the residual change scores will then be performed. The results of the regression analyses using these new measures, which take into account changes in the levels of phenomena over time, will then be presented.

Part One Personal Crimes

Observations of the Adjusted R^2 values from model 3 to model 6 indicates that model 5 for both 1980 and 1990 is the better explanatory model in relation to part one personal crime rates. Model five does not include the welfare or percent urban variables; it includes the primary non-correlated variables[17], population size, and the two components. Since this study's primary concern regards the influence of the welfare variable, however, scrutiny of models 3 and 6,

[17] The primary non-correlated variables are the unemployment rate, age structure of the population, racial composition, and percent female-headed households.

which includes this variable, is necessary. In both years under study, model 6, which includes the population size variable as well as the primary non-correlated variables, is the better specified model accounting for .272 proportion of the variation in 1980 part one personal crime rates and .794 proportion of variation in 1990 part one personal crimes. Adjusted R^2 values from model 3 to model 6 for 1980 and 1990 indicate increases greater than two percent.

Part One Property Crimes

For 1980 and 1990, model 5 has the highest value of R^2 (R^2 = .641 and R^2 = .892, respectively) in regards to the explanation of part one property crimes. Again, as indicated by the percent change in the Adjusted R^2 value across the models, model 5 for both years under study displays the more parsimonious model. An observation of deviations in Adjusted R^2 values from models 3 to 6 indicates that in 1990, an increase of a little over 30 percent in change from model 3 to model 6 wherein model 6 is the better specified model. In 1980, however, model 3 has a higher Adjusted R^2 value (Adjusted R^2= .540) with an increase of almost 3 percent over that accounted for in model 6 (Adjusted R^2= .513). Thus, for 1980, the addition of the percent urban variable in model 3 as a substitute for the population size variable in model 6 represents the better specified model for this crime category.

Part Two Personal Crime Arrests

For 1990 a similar pattern exists as observed previously with the part one crime categories in that across models 3-6, the values of the R^2 increases from models 3 to 4 to 5, but there is a slight decrease in R^2 values from model 5 to 6. An observation of the Adjusted R^2 values from models 5 and 6 indicates a less than two percent change with the addition of the

welfare variable and the removal of the two components in model 6 (Adjusted R^2= .714 and .712, respectively). As such, either model 5 or 6 could be considered the better-specified model in regards to explaining the proportion of variation in part two personal crime arrests. In 1980, model six is the more parsimonious model overall accounting for .612 of the variation in part two personal arrests.

Part Two Property Crime Arrests

In 1990, model 5 resulted in the largest R^2 value (R^2= .661). In 1990, models 5 and 6 were almost identical, differing by only one-hundredths of a percent (R^2 = .699 and R^2= .700, respectively). An observation of the Adjusted R^2 values for models 5 and 6 does not show an increase of at least two percent. Thus, as was the case with the part two personal crime arrests category, either model could be determined to be a better fit to the data. In 1980, however, model 5 reigns as the more parsimonious model with an Adjusted R^2 value of .639, which is an increase well over the necessary two percent as compared to the Adjusted R^2 values of models 3, 4, and 6 (Adjusted R^2= .487, .490, and .598, respectively). For models containing the welfare variable, model 6 represents the better-specified model in regards to the explanation of part two property crime arrests for both years under study.

Public Order Arrests

As observed previously regarding the 1990 part two personal and property crime arrests, the R^2 and Adjusted R^2 values of models 5 and 6 were similar in value. Thus, either model 5 or 6 could be stated as the better-specified model in the explanation of public order arrests for both years under study. Since model 6 contains the welfare variable and its Adjusted R^2 value was

greater than that in model 3 (Model 6 Adjusted R^2 values for 1980 and 1990 were .820 and .838, respectively; Model 3 Adjusted R^2 values for 1980 and 1990 were .500 and .468, respectively), which also contains the welfare variable, this observation would yield model 6 as the more parsimonious variable in regards to the study of the welfare-crime relationship. Although, for this crime category, the welfare indicator was not found to be a significant predictor of public order arrests .

Substance-Related Arrests

Practically identical results can be observed regarding model specification for the explanation of substance-related arrests as were made for public-order arrests. Model 5 is the more parsimonious model overall. Model 6, however, represents the better fit (i.e., highest Adjusted R^2 value) out of the two models that include the welfare variable.

SUMMARY OF CROSS-SECTIONAL MULTIPLE REGRESSION ANALYSES

Overall, model 6 appears to be the better specified model in regards to explaining the variation in the crime categories under study over the other models. Knowing the scores of the variables of AFDC yearly spending per recipient, unemployment rate, population size, racial composition of the population, age structure, and percent female-headed households predicts the variability in each of the crime categories under study. The population size contributed significantly across all six models in proportions greater in value than all other included variables in both years under study. The welfare variable was found to be a significant predictor of 1980 part two personal crimes in models 1, 2, 3, and 6. Signs of the unstandardized and standardized regression coefficients were negative. In 1990, the AFDC yearly spending per

recipient variable was also found to contribute significantly in the prediction of part one property and personal crime rates, part two property arrests, substance-related arrests, and public order arrests. All values indicated a positive relationship between the welfare variable and these crime categories.

The racial composition variable was found to have a significant, positive influence on part one personal crimes in 1980. In addition, for both 1980 and 1990, this variable was observed to significantly predict part two property crime arrests across all six models, except for model 4 in 1990. The age composition variable and percent female-headed households were also found to weakly to moderately contribute in the prediction of a number of the crime categories under study in both 1980 and 1990. Further, with the exception of 1980 part one personal crime rates, the percent urban variable was consistently found to be a significant predictor of all six crime categories for both years under study in models 3 and 4. Regression coefficients were positive in value.

The results of the cross-sectional regression analyses discussed in the preceding sections were based on data collected at one point in time, i.e., either 1980 or 1990. These data does not allow for the observation of changes in the level of crime rates or arrests in relation to the predictor variables from one time period to the next. Thus, the opportunity to examine the dynamic nature of relationships is not possible with cross-sectional analyses. Perhaps changes in the levels of some of the exogenous variables examined in this study will yield more information as to how changes in crime rates and arrests were affected between 1980 and 1990. Calculating variables into residual- change scores and then entering them into a multiple regression equation does allow for the observation of changes in the levels of variables during the 1980s. The results of these analyses will be addressed in the next section.

RESULTS FROM REGRESSION ANALYSES WITH RESIDUAL-CHANGE SCORES

As stated above, residual-change scores allow us to observe changes in the level of a variable over time. The residual-change score measure provides an opportunity to examine the dynamic nature of relationships that is superior to that of the cross-sectional analyses discussed in the previous section. The variables included in the regression analyses, once the residual-change scores were calculated, were those included in model 6. Specifically, the variables of the unemployment rate, the racial composition of the population, AFDC yearly spending, age structure of the population, percent female-headed households, and population size were the variables analyzed across all six crime categories.

Model 6 was chosen because (1) it includes the welfare indicator, which is central to our study; (2) it does not have the problems of multicollinearity associated with it as is present in models 1 and 2; and (3) it is the better specified model in regards to its explanatory power (i.e., higher values of R^2) of the variance in the crime categories under study. Unlike the previous analyses, results will be discussed by crime category with both types of personal crimes discussed and both types of property crimes discussed in one section. This organizational structure was chosen because only one model is being examined, and because we are observing changes in the levels of variables. Table 5.12 presents the standardized and unstandardized regression estimates for changes in part one and part two offenses by category during the 1980s.

Table 5.14. Results of Residual-Change Scores Regression Analyses (N = 120)

	CRIME CATEGORIES					
	Personal Crimes, Part I	**Personal Crimes, Part II**	**Property Crimes, Part I**	**Property Crimes, Part II**	**Public Order Crimes**	**Substance-Related Offenses**
EXOGENE0US VARIABLES						
AFDC Spending/Recipient	.042	.195***	.085	.149*	.007	.045
	(7.866)	(46.476)	(26.046)	(48.683)	(1.897)	(12.465)
ECONOMIC INDICATORS						
Unemployment Rate	-.008	.033	.025	-.028	.017	-.002
	(-.744)	(4.248)	(4.202)	(-4.842)	(2.406)	(-.235)
POPULATION INDICATORS						
Population Size	.283**	.733***	.683***	.547***	.847***	..830***
	(.224)	(.746)	(.896)	(.764)	(.986)	(.973)
Racial Composition	.189*	.085	.298***	.276***	.060	-.062
	(2.741)	(1.577)	(1.151)	(7.070)	(1.274)	(-1.332)
Age Structure of Population	.058	-.097	.214***	-.085	.004	.064
	(4.980)	(-10.707)	(30.688)	(-12.641)	(.503)	(8.216)
FAMILY INDICATORS						
Female-Headed Households	.236**	.068	-.053	.116	.147***	.173***
	(31.691)	(11.740)	(-11.701)	(27.369)	(28.995)	(34.402)
R-squared	.267	.635	.548	.615	.825	.791
Adjusted R-squared	.228	.615	.524	.594	.816	.780

* = .05 level
** = .01 level
*** = .001 level
Unstandardized Regression Coefficients are in parentheses.

Personal Crimes

Weak to moderate changes in the level of the population size and percent female-headed household variables were found to have a significant impact on changes in the level of part one personal crime rates (B = .283, <.01 and B = .236, <.01, respectively). Changes in the levels of variables found to affect changes in the level of part two personal crime arrests were AFDC yearly spending per recipient and the population size. The crimes included in this category are manslaughter by negligence, other assaults, and offenses against the family. Thus, as both changes in the levels of rates of welfare spending and population size increased, changes in the

levels of rates of part two personal crime arrests were also positively and significantly affected. Changes in the level of the population size had the strongest effect on changes in the levels of part two personal offense arrests (B = .733, <.001).

Property Crimes

Observations from the results of the residual-change score analyses of part one property crime rates reveals that changes in the levels of the age structure of the population, as measured by the percentage of males aged 15-29 in the population, racial composition, and the population size variables significantly affected changes in the levels of part one property crimes. Changes in the levels of the age structure of the population variable were only found to affect changes in the levels of crime in this crime category as compared to the other crime categories under study (*B*= .214, <.001). It can be observed that changes in the population size variable had a strong effect on changes in the levels of part one property crime rates in the 1980s (B = .683, <.001).

The changes in the levels of AFDC yearly spending per recipient, racial composition, and the population size variables were found to positively affect changes in the levels of part two property crime arrests. The population size variable was observed to have the strongest effect on changes in the levels of part two property crime arrests (B = .547, <.001) compared to the other significant variables in the model.

Public Order Crimes

Changes in the levels of the population size and percent female-headed households were found to have a significant impact on changes in the levels of public order crimes. The percent female-headed households variable is operationalized as a measure of informal social control.

The changes in the levels of this variable can be said to affect changes in public order arrests through its attenuation of informal social controls.

Behaviors that fall under the public order crime category, such as runaways, curfew and loitering, prostitution, gambling, and disorderly conduct can be hypothesized as those most amenable to informal social controls. It can also be expected that these types of behaviors would be more prevalent when the population size of a county increases. During the 1980s, changes in the levels of the population size variable had a large effect on the changes in the levels of public order offenses (B = .847, <.001).

Substance-Related Crimes

Similar to the findings observed for part one personal crimes and public order arrests, changes in the levels of variables found to significantly affect changes in the levels of substance-related arrests were the population size and percent female-headed households (B = .830, <.001 and B = .173, <.001, respectively). The offenses that fall under this crime category, i.e., driving under the influence, drunkenness, liquor law violations, and drug law violations are also those that may be affected by changes in increased levels in population size and measures of informal social control like the female-headed household variable. This result is what has been found with many other crime categories. No surprise, this analysis observed similar results with regards to substance-related offenses.

SUMMARY OF RESIDUAL-CHANGE SCORES REGRESSION ANALYSES

Changes in the levels of the population size variable were found to moderately to strongly affect all crime categories under study in the regression analyses with the residual-change scores. The effects of population size on the part two crime categories were found to exhibit the strongest associations. The welfare variable was found to positively, though weakly, affect changes in the levels of only the crime categories of part two personal and property crime arrests. These were the only crime categories in the cross-sectional regression analyses in which AFDC yearly spending per recipient was found to be a significant predictor in model six. Although, the crime category of part two personal arrests was observed to have a negative relationship with welfare in the cross-sectional multiple regression analyses in 1980.

During the 1980s, the female-headed household variable was found to weakly to moderately affect positive changes in the levels of part one personal crime rates, substance-related offense arrests, and public order offense arrests. Many of the offenses contained in these categories may be more amenable to informal social controls that lower percentages of female-headed households can provide.

Only the crime category of part two property crime arrests was found to be affected by changes in the levels of the percentage of males aged 15-29 in the population during the 1980s. This was not the case in the cross-sectional analyses where the age structure of the population variable, as measured by the percentage of males aged 15-29 in the population, was found to affect a number of crime categories across a number of the models under study. Further, only the property crime categories were found to be significantly affected by changes in the levels of the percent of blacks in the population (i.e., the racial composition variable).

Overall, the regression analyses with the residual-change score measures provided a more

complete picture regarding how changes in the levels of certain variables had affected changes in the levels of crime during the 1980s. Consistent with the cross-sectional analyses, the population size variable was also found to be a significant predictor of changes in crime from 1980 to 1990 in every crime category under study. The population size variable had the strongest effect on crime in most crime categories across the six models in the cross-sectional analyses and in the regression analyses with the residual-change scores. The remaining variables found to be significant in this study (i.e., AFDC yearly spending per recipient, percent female-headed households, and age structure of the population variable) weakly to moderately contributed to an understanding of the changes in the levels of the structural factors found to influence crime during the 1980s.

CONCLUSION

This chapter presented and discussed the results of the descriptive, bivariate, and multivariate analyses as well as the regression analyses that utilized the measures of the residual-change scores. The primary indicator under study, AFDC yearly spending per recipient was found to exhibit a negative association with part two personal crime arrests in 1980. This would be the only finding, in regards to the welfare variable that would be consistent in direction with past studies examining the welfare-crime relationship. In all other models, when the welfare variable was found to make a significant contribution to the prediction of crime, it had a positive influence in the cross-sectional analyses. However, in the regression analyses involving the residual-change scores, changes in the levels of AFDC yearly spending per recipient from 1980 to 1990 positively affected changes in the levels of part two personal and property crime arrests. Table 5.15 displays a summary of the standardized regression coefficients between AFDC and

the six categories of crime under study for 1980, 1990, and during the 1980s based on the best specified multiple regression model, which was model 6.

Table 5.15. Summary of Relationship between AFDC and Crime Categories (N=120).

Crime Types	AFDC 1980	AFDC 1990	AFDC 1980s
Part One Personal Crimes	-.096	-.012	.042
Part Two Personal Crime Arrests	-.196**	-.068	.195***
Part One Property Crimes	-.116	.108*	.085
Part Two Property Crime Arrests	-.080	.077	.149*
Public Order Arrests	-.042	-.021	.007
Substance-Related Arrests	-.086	-.030	.045

* = .05 level
** = .01 level
*** = .001 level

The population size variable was found to have the strongest influence in the explanation of crime in nearly all crime categories under study in both the cross-sectional analyses and the analyses including the residual-change score measures. The percent urban variable was also found to have a significant effect on a number of crime categories in the cross-sectional analyses. This variable was not examined in the regression with residual-change scores because it was not included in model 6, which was determined to be the better specified model according to Adjusted R^2 values.

Both the age structure of the population and the racial composition variable were found to contribute significantly to the prediction of a number of the categories of crime under study across the six models in 1980 and 1990 in the cross-sectional analyses. In the regression analyses with residual-change score measures, however, changes in the level of the age structure

of the population variable were only found to significantly affect changes in the levels of part two personal and property crime arrests. Changes in the levels of the racial composition variable were only found to moderately affect changes in the levels of part one and part two property crimes.

Another variable repeatedly found to be of significance in the contribution to the prediction of part one and part two offenses was the percent female-headed households variable. This indicator was observed to be a significant predictor of part two offenses, particularly the substance-related and public order offenses in both types of regression analyses.

Based on these findings, if the present study were directly testing the theories of social disorganization, anomie, and social support, there is evidence of support for these theories in regards to the variables most often found to be significant predictors of part one and part two offenses. The next chapter will present a more detailed explanation of these possibilities as well as the importance of these findings in relation to welfare and crime policy.

CHAPTER SIX

DISCUSSION

INTRODUCTION

Past studies examining the welfare-crime relationship have generally observed an inverse relationship between welfare spending and part one crime rates (DeFronzo 1983a, 1983b, 1992, 1996a, 1996b, 1997; DeFronzo and Hannon 1998a, 1998b; Devine, Sheley, and Smith 1988; Fiala and LaFree 1988; Grant and Martinez 1997; Hannon 1997; Messner 1986; Rosenfeld 1986; and Zhang 1997). The present study expanded upon the available knowledge concerning the relationship between welfare and crime by examining how welfare spending affects the more prevalent, yet often disregarded in research, part two offenses. This investigation also examined the macro-level effects of a set of predictors on index offenses for comparison purposes to previous studies examining the welfare-crime relationship.

In general, contradictory results to past examinations were observed. Specifically, based on the results of both multiple regression analyses (i.e., cross-sectional and regression with residual-change score measures), AFDC yearly spending per recipient was observed to exhibit a positive relationship with crime when a significant relationship resulted. The only crime category in the cross-sectional multiple regression analyses that was consistent with the negative association found in past studies between welfare and crime was the crime category of part two personal crime arrests in 1980.

This chapter will provide possible explanations for the above-noted results and other significant relationships under study. These explanations will be based on the three theories presented in chapter 3, namely, social disorganization, anomie, and social support. Next, this

chapter will review the possible policy implications of the present study's findings based upon liberal and conservative ideologies. Finally, this chapter will detail the limitations of the present study and provide directions for future research.

THE THREE THEORIES

Social Disorganization

Social disorganization theory posits that increases in welfare spending can either increase or decrease crime due to its potential influence on a community's ability to exert informal social control over its residents. For example, increases in welfare may influence the breakdown of family controls and labor market constraints, thereby increasing crime and delinquency (Rosenfeld 1986; Sampson and Wilson 1995). Both employment and the family have the ability to exert social control over community behavior and to direct its residents, especially children, into culturally approved paths; but if disrupted, crime and delinquency are likely to occur (Rosenfeld 1986).

When spending on programs like AFDC are increased, this might encourage the breakdown of the family since traditionally, a mother could not be married to collect welfare (Hannon and DeFronzo 1998a; Rosenfeld 1986). Theoretically, in areas where there are greater numbers of single-headed households, there could be an attenuation of informal social controls whereby it is more difficult to monitor and report criminal and/or delinquent activity (Sampson 1986). In addition, welfare assistance, because eligibility rules require that the parent be unemployed, may also encourage parents to not seek gainful employment in the job market (Gilder 1981; Murray 1984; Rosenfeld 1986). Because the job market elicits certain controls over residents in an area, crime and/delinquency could increase as a result of decreased

percentages of residents seeking employment in a community thereby diminishing the possible effects of the controls employment has on communities.

The contentions of social disorganization theory also could support a negative relationship between welfare and crime (i.e., as welfare spending increases, crime decreases). Because residents receiving welfare would more likely remain in the neighborhood throughout the day, as opposed to going to a job, increases in the percentage of residents receiving welfare in any given unit of analysis could lead to increases in abilities to supervise activities in neighborhoods.

Welfare assistance may also be able to mediate the effects of economic deprivation. Economic deprivation is believed to encourage (1) the inability of adults to effectively supervise children; (2) marital discord and divorce; and (3) a disregard for the dominant cultural values due to the economic hardships (Sampson and Wilson 1995). Each of these factors can interfere with the informal control mechanisms a community or neighborhood has over its residents (Elliott et al. 1996; Sampson 1986; Sampson and Groves 1989; Sampson and Wilson 1995; and Shaw and McKay 942, 1969).

In the present study, AFDC yearly spending per recipient was found to be inversely correlated with part two personal crime arrests in 1980. AFDC yearly spending per recipient did not significantly contribute to the prediction of any of the other crime categories under study in 1980. In 1990, however, significant, positive correlations were observed between AFDC yearly spending per recipient and the other crime categories under study. The only exception to this general finding was that there was no significant relationship observed between welfare and part two personal crime arrests. In the regression analyses with residual-change score measures,

significant, positive relationships were observed between welfare spending and part two personal and property crimes.

Possible explanations for these findings from a social disorganization perspective relate to welfare's influence on informal social controls as stated above. Results from the 1990 multiple regression analyses and the regression with residual-change score measures would support these contentions.

AFDC spending per recipient was found to be a significant and positive predictor of crime across many of the crime categories under study. Thus, increases in many of the offenses under these crime categories such as burglary, prostitution, gambling, and larceny, would be expected in areas where welfare spending has increased. The reasons these types of behaviors would be expected to increase are because AFDC programs can enable greater percentages of residents to be free from common informal constraints on behavior such as jobs and family life. Other variables also believed to influence the breakdown of social controls in an area are increases in the percentage of people living in an urban area, increases in population size, more diversity in racial and ethnic populations in a given area, and increases in the percentage of female-headed households. It can be observed across the regression models that all of the above predictors were also found to contribute positively to the increases in crime categories under study.

Another possible explanation for the positive findings between AFDC and many of the crime categories under study relates to welfare's effect on economic deprivation. According to the contentions of social disorganization, attenuating the effects of economic deprivation should lead to the promotion and acceptance of pro-cultural values (i.e., not engaging in criminal or delinquent behaviors) and an effective informal social control network. In the present study, the

opposite occurred. When welfare spending increased, it significantly and positively affected the crime categories under study (i.e., crime rates and/or arrests increased as well).

Anomie

Crime, following anomie theory, can be considered an illegitimate medium for meeting culturally prescribed goals. Thus, crime results when access to the legitimate means to valued goals are blocked due to the lack of fit between the social structure in which people are enmeshed and the culture which holds what persons should attain (Merton 1938; Messner and Rosenfeld 1997). Anomie theory would suggest that high levels of welfare relief can act as legitimate means through which persons can meet the culturally prescribed goals, which, in turn, reduces rates of crime. Based on the findings from the present study, traditional anomie theory provides a plausible explanation for explaining the negative relationship between part two personal arrests and AFDC yearly spending per recipient in 1980.

The positive findings between welfare and the other crime categories under study during the 1980s and in 1990 can also be explained based on the contentions of the traditional anomie perspective. Increases in AFDC spending were unable to act as legitimate means through which culturally prescribed goals could be met. As a result, crime increased due to the lack of fit between the prevailing social structure and the culture, which determines the goals for which the populace should attain. Although this explanation is not rejected by the findings, institutional anomie theory provides a better explanation to account for the significant, positive findings between welfare spending and crime during the 1980s and 1990.

Institutional anomie contends that anomic tendencies, produced by the desire of everyone in society to achieve the American Dream of material success, are affected by an institutional

imbalance of power dominated by the economy (Messner and Rosenfeld 1997). The economic institution, rather than the institutions of the school, family, and/or government, holds most of the behavior controlling power. The American Dream of material and monetary success can only be achieved through the means available in the economic system. Thus, increasing welfare assistance may increase the pressure to attain material success goals in such a way that persons will resort to criminal means to acquire them because welfare alone may not lessen the anomic condition (Chamlin and Cochran 1997). Further, welfare is a government program, which is subservient to the economic institution and because of the government's inferior status, welfare is unable to provide the regulating behavior necessary to affect reductions in crime.

Evidence from the results of this study would follow the contentions of institutional anomie theory. For example, in 1990, increasing AFDC yearly spending per recipient influenced an increase in the crime rates and arrests for all of the crime categories under study except part two personal crime arrests. Further, during the 1980s, positive changes in the levels of AFDC spending affected positive changes in the levels of crime in the regression with residual-change score measures. Thus, increases in welfare checks could not provide enough monetary assistance to achieve the American Dream. In turn, increases in behaviors such as prostitution, gambling, fraud, forgery, embezzlement, burglary, robbery, and drug sales could have been the result of the inability of increased AFDC yearly spending to provide the legitimate means necessary to attain the culturally prescribed goals of monetary and material success.

Illegal activities such as those listed above can aid in the continuous pursuit of the American Dream whereas AFDC programs cannot provide enough monetary assistance; it is always possible to possess more money according to the American Dream (Messner and Rosenfeld 1997). Therefore, it appears from the findings that government programs alone do not

appear to provide the regulatory means necessary to adequately control behavior in the manner that the economic institution can.

Social Support

The concept of social support offers the explanation that welfare assistance payments act as a social support mechanism that can increase community cohesion. This increase in community cohesion has the ability to decrease crime by lessening the influence of economic and familial hardships. The social support perspective offers a reasonable explanation for the significant, negative relationship between AFDC yearly spending and part two personal crime arrests (perhaps) superior to those offered by the social disorganization or anomie perspectives.

Increased AFDC yearly spending per recipient as a level of social support (in the form of government assistance) may have reduced the stress and frustration associated with economic and familial hardships through an increase in community cohesion. This increase in community cohesion affected a decrease in the number of arrests for other assaults, manslaughter by negligence, and offenses against the family (i.e., part two personal crime arrests) in 1980.

In a study conducted by Fiala and LaFree (1988), they found that increasing spending on welfare benefit programs led to decreases in child homicide rates. The Fiala and LaFree (1988) study taken from a social support perspective offers additional insight into the finding of a negative association between welfare and part two personal arrests. It can be argued that the types of crimes that fall under the part two personal crime category are those that are more expressive in nature (i.e., crimes influenced by strong emotions like child homicide) and would be amenable to increasing levels of social support and community cohesion in areas marked by hardships.

In the 1980s and 1990, however, welfare was found to exhibit a positive relationship with crime categories when significant. These positive results could be a function of the diminishing effects of welfare programs to provide the appropriate levels of social support necessary to increase community cohesion and lessen economic and familial hardships. Evidence supporting this contention can also be observed in relation to the significant increases in the variables of population size, percent urban, diverse racial composition, percent female-headed households, and changing age structure of the population and the corresponding increases in crime rates and arrests during the 1980s and 1990. Certainly, areas marked by increases in these structural factors may also have suffered decreases in community cohesiveness. The reduction in cohesiveness reduces the ameliorating effects social support has on conditions of poverty and family breakdowns, which often lead to crime due to a lack of social support from institutions such as the government (Cullen 1994).

During the 1980s, increases in welfare spending significantly affected an increase in part two personal and property crime arrests. Crimes that fall under these categories were also positively affected by increases in population size, racial composition, percent female-headed household, and the age structure of the population in either/both the cross-sectional analyses or multiple regression with residual-change score analyses.

Perhaps increases in welfare spending were unable to provide the level of social support necessary to influence an increase in community cohesion. In turn, the amount of community cohesion necessary to buffer against the effects of economic and familial hardships often present in communities with increased racial diversity, large populations, and a greater number of female-headed households could not be provided (Sampson and Wilson 1995). As a result, arrests increased for these offenses. Similar explanations can be offered to account for the

significant, positive findings between AFDC yearly spending per recipient and part one personal and property crime rates, public order arrests, and substance-related arrests in the cross-sectional multiple regression analyses in 1990.

POLICY IMPLICATIONS: LIBERAL AND CONSERVATIVE IDEOLOGIES

As stated in chapter two, the liberal and conservative positions are important to consider because of the impact these positions have on policy-making and legislation (Walker 1994). Their impact is especially pertinent to the present study because the legislatures of both the federal and state governments are composed of both liberal and conservative representatives that develop laws and regulations concerning welfare relief and crime. Traditionally, programs like AFDC were proposed and administered by the federal government.

Since the passing of the welfare reform laws in 1996-97, it is the responsibility of each individual state to distribute and implement their own personal welfare and work assistance programs (Ways and Means Committee 1996, 1998). In addition, it is typically the state government that develops crime laws and implements strategies to attack the crime problem. The current study has examined the relationship between welfare and crime in counties of one state (i.e., Kentucky). Further, this study also found significant, positive relationships between welfare and certain categories of crime. Even though this study examines the welfare-crime relationship in 1980 and 1990, years before the welfare reform, it does provide insight into the possible ramifications that liberal and conservative policy agendas could have on future part one crime rates and part two arrests. To elaborate, each ideological framework will be explored in relation to the findings of the present study.

Liberals

The liberal viewpoint concerning welfare relief has traditionally proposed that policies are needed that encourage social mobility and economic viability to a significant portion of society that has been unable to provide for itself (i.e., the lower- and under-classes, as well as the working-class poor)(Messner and Rosenfeld 1997). Programs like AFDC would fit this need. In regards to crime control measures, liberals have traditionally been supportive of rehabilitative correctional policies (Felson 1994; Messner and Rosenfeld 1997). Further, liberals would contend that increasing welfare spending would result in the reduction of crime because welfare can reduce poverty, inequality, and provide the needed support to strengthen the family structure (Currie 1985; DeFronzo 1983, 1996a, 1996b, 1997; Ellwood and Summers 1986; Greenstein 1985; Piven and Cloward 1987; Wilson 1987, 1997). Poverty and inequality are often found to be precipitators of criminal behavior in communities experiencing these phenomena at increasing rates (Sampson and Wilson 1995; Shaw and McKay 1969).

Results from the present analyses are contrary to the contentions of the liberal ideologies. In both the cross-sectional regression models and regression with residual-change score measures it was observed that AFDC yearly spending per recipient was found to increase crime rates and arrests. In particular, categories that include crimes that are instrumental (i.e., they provide monetary or material gain) were consistently found to be positively influenced when welfare spending increased. For example, in 1990, AFDC spending positively contributed to the increase in part one property crime rates and part two property crime arrests. In addition, positive changes in the levels of AFDC spending were significantly correlated with positive changes in the levels of part two property crime arrests during the 1980s.

If welfare was able to provide the social mobility and economic viability necessary to affect crime as supported by the liberal position, then the relationship between welfare spending and the property crime categories, in particular, would have been observed to be in the opposite direction. Thus, at least in Kentucky during this time period as well as in other areas with similar structural characteristics. It can be argued that increasing welfare spending may not affect crime in the desired direction.

It is also important to note that other factors found to increase crime rates and arrests were also significant predictors of criminal behavior in the same models wherein AFDC yearly spending was found to contribute significantly to the prediction of crime. For example, the variables of percent female-headed households, racial composition, percent urban, and the age structure of the population were often found to positively contribute in the prediction of a number of crime categories under study such as part one property crime rates, part two property crime arrests, public order offenses, and substance-related offenses[18].

Arguably, these would be the types of offenses that might be reduced by programs like AFDC since it provides income to those in need thereby decreasing reliance on illegitimate means for continued existence, as well as enabling the mechanisms of informal social control to work in neighborhoods where welfare assistance is common among residents. In the present examination, however, policies that resemble a liberal viewpoint (i.e., increase welfare spending to reduce the effects of poverty, inequality, breakdown of family, and urbanization) did not produce the desired effects in relation to crime. Thus, any policies of a liberal nature that seek to increase welfare spending to reduce crime, particularly instrumental offenses and crimes falling

[18] Since drug offenses are included under the substance-related offense category, many drug offenses involve selling and trafficking of illegal substances. These would be conceptualized as being instrumental offenses and therefore capable of being affected by welfare spending.

under the part two heading, should be carefully examined within the contexts of the structure they would be implemented.

Conservatives

In general, conservatives believe that welfare assistance leads to criminal acts (Felson 1994; Murray 1984). In addition, programs like AFDC are thought to cause families to breakdown, encourage laziness and a poor work ethic, and promote dependency on the government for survival (Ellwood 1988; Gilder 1981; Mead 1986; Murray 1984; Rector 1992). The results of the present examination do provide support for the contention that increased welfare spending increases criminal behavior. In almost every crime category under study (except for 1980 part two personal crime arrests), when AFDC yearly spending was found to be significant, it positively contributed to the prediction of increased crime rates and arrests both in the cross-sectional analyses and the regression with residual-change scores.

It is also argued by conservatives that welfare assistance allows addicts to support their drug habit because it is easier to disregard the importance of maintaining stable employment (Murray 1984). There is some evidence to support this statement, at least in regards to the crime category of 1990 substance-related offenses in model 3. A significant, positive relationship was observed between AFDC yearly spending per recipient and substance-related arrests.

It was also observed that in many of the crime categories where the welfare variable was found to be a significant predictor of crime rates and arrests, the variable of percent female-headed households was also observed to be significant. Conservatives often point out that welfare assistance programs like AFDC encourage the breakdown of families since welfare makes it easier for fathers to shirk their responsibilities for their children (Murray 1984).

Perhaps this contention could be supported by the positive relationship between welfare and the crime categories during the 1980s and 1990, but it is not a likely explanation regarding the negative association between welfare and part two personal crime arrests in 1980. The conservative position that welfare increases crime and the breakdown of families would not be supported in the latter. Many contentions proposed by conservatives have not been substantiated in the past literature (Piven and Cloward 1987; Wilson 1997), but it is difficult to deny that many of the results of the present analyses indicate a positive relationship between welfare spending and crime.

Conservative policy agendas may provide guidance for welfare legislation as well as crime legislation at the county and state levels. Researchers have found a consistent decline in crime since the mid-1990s (Chaiken 2000; Ringel 1996). This time period was also when welfare reform legislation was passed and implemented nationwide with welfare rolls being cut as well as spending. Although little research has focused on the relationship between welfare and crime during the latter half of the 1990s when crime rates had been significantly decreasing, it is possible that the reductions in welfare assistance payments contributed somewhat to the decreases in crime. Thus, welfare reform policies must be carefully structured in such a way that increasing spending does not result in increased crime in areas structurally similar to the counties in Kentucky. This caution is especially salient for the more prevalent part two crime categories.

LIMITATIONS AND FUTURE DIRECTIONS

The present study notably contributes to the literature examining the welfare-crime relationship not only because it considered the importance of welfare in relation to the part two offenses, but also because inconsistent findings were observed between AFDC yearly spending

per recipient and part one and part two crime categories (with the exception of 1980 part two personal crime arrests in the cross-sectional multiple regression analysis). In essentially all of the past studies examined in chapter three, significant inverse relationships were observed between welfare and part one crimes. The only exception was Messner's (1986) study, which found a positive relationship between welfare spending and larceny rates.

The present examination is more in line with the positive relationship observed by Messner (1986). One of the prominent researchers in the welfare-crime arena, DeFronzo (1983), indicated that positive relationships between welfare spending and crime are not unexpected since AFDC assistance levels may still leave potential offenders with unmet needs that a number of property offenses and drug sales can effectively supplement. Nonetheless, there are three major limitations to the present study.

One limitation concerns the availability of AFDC spending and/or part one and part two crime data for the years 1950, 1960, and 1970. Not only would causation be more readily established if these three years were considered in the analyses, but such a study would also provide an opportunity to gain a greater understanding of the historical effects, and offer support for the ideological contentions regarding the welfare program over the years. For example, in the 1950s and 1960s Congress first modified the eligibility requirements of the AFDC program from the widowed mother[19] to needy mother or other caretaker or relative.

During the following decade, AFDC eligibility requirements were changed to allow any child of an unemployed or incapacitated person to be AFDC eligible (Ways and Means Committee 1998). Federal mandates required that states increase their pool of eligible recipients. To complicate matters, however, Kentucky AFDC cash payment amounts established

by state law prior to 1995 dictated that recipients are not to receive more than the Maximum Benefit (Kentucky Legislative Research Commission 1998). The Maximum Benefit in Kentucky is an amount lower than the Standard of Need (i.e., income needed to provide for food, transportation, and housing calculated by each state) due to issues with budget considerations rather than the actual Standard of Needs per household or the national poverty level (Kentucky Legislative Research Commission 1998). Thus, national changes in welfare eligibility rules and the actual benefit amounts distributed in Kentucky below the Standard of Need could have contributed to the positive findings in the present study.

To illustrate, changes in eligibility rules widened the net relative to the increased number of recipients who could have received AFDC benefits at the county level. This increase in eligible recipients, and arguably an increase in dollars distributed, may have structurally influenced an increase in crime rates and arrests through AFDC's inability to adequately provide the amount of social control or support necessary to ameliorate the rates of such behavior. Further, since the benefit amount of welfare payments distributed by Kentucky are lower than what is necessary to meet the Standard of Need in the state, this inequity may have contributed to a situation wherein no matter how much welfare benefits increased, the given amounts could not be enough for recipients to meet their Standard of Needs. When counties experienced an increase in welfare payments per recipient, this increase could have contributed to an increase in crime rates and arrests because there were large numbers of people unable to meet their needs. This line of reasoning is similar to that offered by institutional anomie theory as discussed previously.

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[19] The AFDC program began in 1935 during the Great Depression and was a cash benefit program only for mothers who had indigent children who were fatherless (Ways and Means Committee 1996, 1998).

The effects of these changes could not be examined in this study because the crime and welfare data were not available for 1950, 1960, and 1970. In order to develop a more complete understanding of the welfare-crime relationship, it is important to study these data. Examining 1950, 1960, and 1970, 1980, and 1990 (i.e., years before the welfare reform) would also yield more information concerning the effects urbanization, population, varying racial compositions, age structure of the population, and percent female-headed households had on crime rates and arrests. These variables were often found to be positively related to the crime categories in the present examination. Such observations would enable researchers, urban planners, policy makers, and the like more insight as to how these structural processes have affected crime over the years.

Certainly, future research would benefit if data from those years were available, but more importantly, since welfare reform occurred during 1996-97, the 2000 census year and crime data will be invaluable to the study of the effects of welfare spending on crime. Further, having the 2000-year data would allow for a panel study in which causation between the structural and the crime variables could be established.

It should also be noted that during the first several years after the passage of the 1996-97 welfare reform legislation, welfare rolls declined in Kentucky and elsewhere (Goetz, Tegegne, Zimmerman, Debertin, Singh, Muhammed, and Ekanem 1999; Meckler 2001). Goetz et al. (1999) attribute this decline to the prosperous economy of the mid-late 1990s, but also argue that the welfare reform legislation itself is associated with the reduction in welfare recipients. Further, Goetz et al. (1999) found that declines in welfare caseloads in Kentucky occurred in urban areas experiencing the greatest economic growth. Unexpectedly, they also found significant caseload declines in poverty-stricken rural areas. Not yet known, however, is how

these declines in welfare rolls affected crime. Therefore, crime, welfare, and structural data from 2000 and beyond would be vital to a more complete understanding of the welfare-crime relationship.

A second limitation of the present study is the examination of only one state. Examining other states at the county level, as was done in the present examination, would allow for a more complete picture as to how welfare spending affects other counties in other states dissimilar to those in Kentucky. For example, on a number of factors considered in this study (i.e., serious crimes per 100,000 in population for 1980 and 1990, urban population in 1980 and 1990, black population in 1980 and 1990, and the population of single males in 1990), Kentucky was found to differ from the mean value for the remaining 49 states. This difference between Kentucky and the other states does not allow for the results of this study to extend beyond Kentucky or states with counties sharing similar characteristics to those in Kentucky.

Another reason that it is necessary to examine a number of states at the county level is because spending practices vary by county due to welfare distribution practices and governmental structures. Thus, since some states may differ in structural composition, it is imperative to understand how these macro-level processes influence criminal behavior, particularly behaviors that allow for instrumental gain such as those offenses under the part one and part two property crimes as well as drug sales, which is a substance-related crime.

The development of measures for welfare and poverty indicators that are not highly correlated with one another as was found in this study would also be beneficial. If welfare programs aim to assist those in poverty, it is necessary that research disentangle the shared variation between the poverty rate and welfare spending. Many of the past studies, as well as the present, have measured welfare as AFDC yearly spending per recipient. The present study was

directed to combine a number of economic deprivation variables into a component due to issues of multicollinearity between these factors and welfare. No analyses, however, were able to examine the effects of this component and welfare in the same regression model. This problem is also a limitation to the present examination.

Future research might also consider measuring welfare in terms of percentage of people on welfare rolls rather than dollar spending. Measuring welfare in this manner would still allow for testing theories such as social disorganization and social support, as well as examining findings and offering directions for policymaking in relation to ideological frameworks. Perhaps it is not the dollar value that matters as much as the percentage of people on the welfare rolls assuming welfare is a structural covariate of crime.

It is noted that measuring welfare as percentage on rolls rather than spending could be confounded with the percentage of female-headed household variable because many of those counted under the female-headed household variable might be counted under the AFDC roll category simply by definition of eligibility and need issues. The female-headed household variable needs to be included in future analyses because it was also found to be a significant predictor of crime rates and arrests in the present study as well as other examinations of the welfare-crime relationship (DeFronzo 19976, 1997; DeFronzo and Hannon 1998; Grant and Martinez 1997; Sampson 1987).

Until future research is conducted following these considerations, the knowledge base may be unduly limited if it cannot control for the effects of economic deprivation indicators in the same models as welfare. One other possible solution to this problem would be to measure welfare spending in total dollar values overall for a county per year rather than dividing across

recipients. It is possible that nothing would be lost in measuring welfare as total dollars, and much to be gained if other economic variables could be considered in the same models.

Finally, future studies would expand the knowledge base in the welfare-crime literature if they would continue to study the more numerous part two offenses more often as dependent variables. In addition, future studies should also examine part two offenses' relative importance in predicting part one crime rates. The reason for this inclusion is that there is some indication from past researchers that areas ridden with part two offenses are often those with higher rates of part one crimes (McGahey 1986; Reiss 1986; Sherman nd; Wilson 1983; Wilson and Kelling 1982). Thus, being able to determine which changes in the structural nature of a community have an effect on reducing part two offenses, it might be possible that there would be the added effect of decreasing part one crime rates should a significant, positive relationship be observed between the two offense types.

CONCLUSION

This study was one of the first to examine the relationship between part one **and** part two offenses in relation to welfare spending. Past examinations typically concentrated on the part one crimes leaving much to be questioned in regards to how structural factors like welfare spending have on the more prevalent part two offense arrests. Overall, the findings observed in the present examination were inconsistent with past findings, not only in regards to part two offenses, but also the commonly studied part one crime rates. Welfare spending measured as AFDC yearly spending per recipient, when significant, was generally found to positively contribute to the prediction of the crime categories under study during the 1980s and 1990. Explanations were offered in the present chapter as to the possible theoretical explanations for

these findings as well as directions for policies following liberal and conservative ideological contentions.

The current study also expands the existing body of literature examining the welfare-crime relationship by performing multiple regression analyses utilizing residual-change score measures. Results from these analyses allowed for the observations of how changes in levels of the predictor variables influenced changes in the levels of the crime categories under study during the 1980s.

Essentially, this study is one of the first to start examining the welfare- part one and two-crime relationship beyond the cross-sectional time frame. Future study of 2000 data and beyond would bring the understanding of the welfare-crime relationship to the next level -- that of causation. If researchers are able to establish a causal connection between welfare and crime, regardless of direction, policies based on empirical findings would not only be beneficial to state and local government spending policies for policing, schools, and other crime control measures, but also to the citizens that live in the communities most affected by welfare and crime.

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APPENDIX A.

Part I Offenses

Murder
Forcible Rape
Robbery
Aggravated Assault
Burglary
Larceny-Theft
Motor Vehicle Theft
Arson (added in 1979)

Part II Offenses

Simple Assault
Forgery and Counterfeiting
Fraud
Embezzlement
Stolen Property (buying and receiving)
Vandalism
Weapons (carrying, possessing, etc.)
Prostitution and related offenses
Sex Offenses (statutory rape, etc.)
Drug law violations
Gambling
Offenses against the family (nonsupport, etc.)
Driving under the influence
Liquor Law Violations
Public Drunkenness
Disorderly conduct
Vagrancy
Curfew/Loitering
Runaways
All other violations of state and local laws
(except traffic violations)

Appendix B

Table B1. Skewness and Kurtosis Values for Necessary Variable Transformations, 1980

Variables	No Transformation		Square Root		Logarithm		Inverse or Reciprocal	
	Skewness	Kurtosis	Skewness	Kurtosis	Skewness	Kurtosis	Skewness	Kurtosis
AFDC Spending Per Recipient	-.467	.020	-.685	-.424	6.323	48.204	5.432	9.463
Population Size	8.599	83.773	4.381	28.996	.974	2.513	2.823	15.003
Median Family Income	.162	-.488	-.092	-.500	-.356	-.310	.937	.868
Poverty Rate	.668	-.050	.248	-.474	-.228	-.216	1.593	4.400
Income Inequality	.782	.470	.482	-.041	.188	-.285	.405	.031

Table B2. Skewness and Kurtosis Values for Necessary Variable Transformations, 1990

Variables	No Transformation		Square Root		Logarithm		Inverse or Reciprocal	
	Skewness	Kurtosis	Skewness	Kurtosis	Skewness	Kurtosis	Skewness	Kurtosis
AFDC Spending Per Recipient	-.385	.032	6.78	11.93	-.598	.403	1.112	14.171
Population Size	8.296	78.846	4.192	26.583	.927	2.306	3.036	17.060
Median Family Income	.387	.157	.035	-.156	-.310	-.108	1.015	1.136
Poverty Rate	.687	-.059	.247	-.377	-.290	.064	1.848	5.554
Income Inequality	.704	.930	.191	.692	-.450	1.771	2.546	13.337
High School Dropout Rate	-.258	-.779	-.483	-.557	-.725	-.168	1.263	1.239

Table B3. Variance-Proportions for 1980

		v1	v2	v3	v4	v5	v6	v7	v8	v9	v10	v11	v12	v13	v14	v15
1	Constant	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	AFDC Spending/Recipient	.00	.00	.00	.00	.00	.00	.00	.07	.00	.16	.00	.00	.00	.00	.00
3	Unemployment Rate	.00	.00	.00	.00	.00	.00	.02	.19	.00	.49	.00	.00	.00	.00	.00
4	Median Family Income	.00	.00	.00	.00	.00	.00	.90	.02	.00	.00	.00	.00	.00	.00	.00
5	Poverty Rate	.00	.00	.02	.00	.00	.00	.00	.09	.00	.00	.00	.18	.00	.02	.00
6	Income Inequality	.00	.00	.12	.00	.01	.00	.01	.06	.00	.00	.00	.31	.00	.00	.01
7	Females in Labor Force	.00	.00	.60	.00	.01	.00	.01	.00	.00	.04	.01	.10	.00	.21	.03
8	Percent Urban	.00	.06	.08	.00	.01	.00	.00	.15	.00	.00	.02	.01	.03	.55	.02
9	Population Size	.00	.10	.00	.00	.01	.00	.03	.05	.01	.03	.02	.10	.40	.00	.00
10	Racial Composition	.00	.57	.00	.02	.04	.00	.00	.00	.01	.12	.18	.01	.14	.18	.14
11	High School Dropout Rate	.00	.15	.02	.04	.79	.02	.00	.05	.04	.14	.18	.05	.11	.01	.12
12	Residential Mobility	.00	.02	.02	.07	.12	.00	.00	.19	.52	.01	.06	.01	.25	.02	.09
13	Age Structure of Population	.25	.08	.02	.61	.00	.43	.01	.13	.35	.00	.14	.13	.05	.01	.55
14	Female-Headed Households	.01	.03	.01	.47	.09	.15	.01	.02	.02	.01	.52	.12	.31	.04	.07
15	Divorce Rate	.74	.02	.11	.25	.00	.54	.01	.00	.07	.00	.39	.08	.02	.01	.00

Table B4. Variance-Proportions for 1990

		v1	v2	v3	v4	v5	v6	v7	v8	v9	v10	v11	v12	v13	v14	v15
1	Constant	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	AFDC Spending/Recipient	.00	.00	.00	.00	.00	.00	.00	.42	.00	.02	.00	.00	.00	.00	.00
3	Unemployment Rate	.00	.00	.00	.00	.00	.00	.00	.10	.00	.49	.00	.00	.00	.00	.00
4	Median Family Income	.00	.00	.03	.00	.00	.00	.00	.02	.00	.12	.00	.06	.00	.01	.00
5	Poverty Rate	.00	.00	.06	.00	.00	.00	.02	.03	.00	.00	.00	.19	.02	.01	.00
6	Income Inequality	.00	.00	.21	.00	.04	.00	.03	.00	.00	.07	.00	.14	.00	.31	.01
7	Females in Labor Force	.00	.00	.16	.00	.02	.00	.00	.05	.00	.03	.02	.06	.14	.30	.00
8	Percent Urban	.00	.00	.36	.00	.02	.01	.40	.10	.02	.12	.01	.10	.16	.12	.00
9	Population Size	.00	.00	.05	.00	.00	.01	.42	.08	.00	.10	.05	.30	.33	.00	.03
10	Racial Composition	.00	.01	.00	.00	.42	.14	.03	.06	.26	.00	.03	.02	.10	.17	.01
11	High School Dropout Rate	.00	.13	.01	.02	.04	.19	.02	.04	.41	.02	.00	.04	.14	.05	.00
12	Residential Mobility	.00	.77	.01	.00	.19	.03	.03	.02	.20	.02	.05	.03	.00	.00	.00
13	Age Structure of Population	.03	.01	.03	.54	.27	.59	.05	.03	.00	.01	.08	.03	.01	.00	.00
14	Female-Headed Households	.02	.02	.00	.44	.01	.18	.19	.04	.02	.01	.04	.47	.28	.06	.27
15	Divorce Rate	.97	.08	.08	.43	.00	.04	.00	.04	.12	.00	.76	.04	.09	.02	.00

Table B5. Condition Index Values for 1980 and 1990

1980		1990*	
DIMENSION	**CONDITION INDEX**	**DIMENSION**	**CONDITION INDEX**
Constant	1.000	Constant	1.000
AFDC Spending/Recipient	4.055	AFDC Spending/Recipient	3.573
Unemployment Rate	6.684	Unemployment Rate	4.857
Median Family Income	7.380	Median Family Income	8.030
Poverty Rate	8.854	Poverty Rate	13.087
Income Inequality	13.968	Income Inequality	23.392
Females in Labor Force	20.102	Females in Labor Force	26.415
Percent Urban	23.185	Percent Urban	33.706
Population Size	27.569	Population Size	38.047
Racial Composition	44.365	Racial Composition	61.525
High School Dropout Rate	56.406	High School Dropout Rate	67.456
Residential Mobility	62.326	Residential Mobility	81.323
Age Structure of Population	136.446	Age Structure of Population	126.889
Female-Headed Households	163.026	Female-Headed Households	245.357
Divorce Rate	184.217	Divorce Rate	-----

*Condition index values for 1990 without divorce rate.

Table B6. Durbin-Watson Values for Cross-Sectional Multiple Regression Analyses

	Models	One	Two	Three	Four	Five	Six
Crime Categories	**Year**						
Part One Personal	1980	1.845	1.818	1.830	1.803	1.780	1.785
	1990	2.239	2.327	2.414	2.483	2.203	2.229
Part One Property	1980	1.870	1.812	1.999	2.085	1.769	1.668
	1990	2.196	2.236	2.333	2.338	2.146	2.119
Part Two Personal	1980	1.961	1.997	2.107	2.064	1.939	1.994
	1990	2.196	2.236	2.333	2.338	2.146	2.119
Part Two Property	1980	2.102	2.073	2.129	2.137	2.110	2.160
	1990	2.077	2.060	2.279	2.220	1.870	1.896
Public Order	1980	1.885	1.863	2.090	2.041	1.878	1.896
	1990	2.137	2.137	2.214	2.246	2.154	2.123
Substance-Related	1980	2.309	2.288	2.138	2.162	2.170	2.118
	1990	1.987	2.010	2.361	2.437	2.032	2.035

Table B7. Variance-Proportions AFDC, Components, and Uncorrelated Variables, 1980

		v1	v2	v3	v4	v5	v6	v7	v8	v9
1	Constant	.00	.00	.00	.00	.01	.00	.00	.00	.00
2	AFDC Spending/Recipient	.00	.00	.00	.60	.17	.00	.00	.38	.14
3	Unemployment Rate	.00	.00	.00	.03	.55	.00	.00	.04	.08
4	Percent Urban	.00	.00	.00	.17	.06	.00	.00	.24	.64
5	Racial Composition	.00	.01	.06	.00	.00	.00	.01	.05	.08
6	Age Structure of Population	.00	.01	.81	.00	.06	.00	.18	.02	.00
7	Female-Headed Households	.00	.04	.10	.16	.17	.08	.61	.24	.04
8	Economic Deprivation	.00	.29	.01	.02	.06	.42	.01	.02	.01
9	Social Control	.99	.65	.08	.00	.09	.49	.19	.01	.00

Table B8. Variance-Proportions AFDC, Components, and Uncorrelated Variables, 1990

		v1	v2	v3	v4	v5	v6	v7	v8	v9
1	Constant	.00	.00	.00	.00	.01	.00	.00	.00	.00
2	AFDC Spending/Recipient	.00	.00	.00	.03	.01	.00	.00	.05	.05
3	Unemployment Rate	.00	.00	.00	.63	.01	.00	.00	.00	.07
4	Percent Urban	.00	.00	.00	.00	.68	.00	.00	.01	.07
5	Racial Composition	.00	.00	.00	.21	.01	.00	.00	.68	.58
6	Age Structure of Population	.00	.00	.48	.01	.04	.05	.19	.06	.00
7	Female-Headed Households	.01	.01	.33	.03	.00	.21	.33	.05	.12
8	Economic Deprivation	.02	.30	.19	.08	.20	.68	.47	.09	.06
9	Social Control	.97	.94	.00	.01	.04	.05	.01	.07	.05

Table B9. Condition Index Values for 1980 and 1990 for AFDC, Components, and Uncorrelated Variables

1980		**1990**	
DIMENSION	**CONDITION INDEX**	**DIMENSION**	**CONDITION INDEX**
Constant	1.000	Constant	1.000
AFDC Spending/Recipient	1.712	AFDC Spending/Recipient	1.617
Unemployment Rate	3.857	Unemployment Rate	2.681
Percent Urban	4.457	Percent Urban	3.761
Racial Composition	5.536	Racial Composition	5.339
Age Structure of Population	13.242	Age Structure of Population	12.983
Female-Headed Households	14.958	Female-Headed Households	15.365
Economic Deprivation	31.472	Economic Deprivation	32.944
Social Control	50.896	Social Control	70.105

Table B10. Zero-Order Correlations AFDC, Components, and Uncorrelated Variables 1980

		v1	v2	v3	v4	v5	v6	v7	v8
1	AFDC Spending/Recipient	1.00	-.136	-.047	.320	-.262	-.081	.785	.726
2	Unemployment Rate	-.136	1.00	-.270	-.292	-.064	.085	.499	-.394
3	Percent Urban	-.047	-.270	1.00	.514	.091	.279	.611	.510
4	Racial Composition	.320	-.292	.514	1.00	.006	.215	.374	.398
5	Age Structure of Population	-.262	-.064	.091	.006	1.00	-.177	.196	.033
6	Female-Headed Households	-.081	.085	.279	.215	-.177	1.00	-.108	.053
7	Economic Deprivation	.785	-.499	.611	.374	.196	-.108	1.00	.353
8	Social Control	.726	-.499	.611	.374	.196	-.108	.353	1.00

Table B11. Zero-Order Correlations AFDC, Components, and Uncorrelated Variables 1990

		v1	v2	v3	v4	v5	v6	v7	v8
1	AFDC Spending/Recipient	1.00	-.489	.309	.413	.079	-.047	.690	.687
2	Unemployment Rate	-.489	1.00	-.219	-.312	.186	.249	-.488	-.497
3	Percent Urban	.309	-.219	1.00	.202	.067	.207	.468	.173
4	Racial Composition	.413	-.312	.202	1.00	.293	.262	.374	.390
5	Age Structure of Population	.079	.186	.067	.293	1.00	-.024	.067	.161
6	Female-Headed Households	-.047	.249	.207	.262	-.024	1.00	-.115	-.144
7	Economic Deprivation	.690	-.488	.468	.374	.067	-.115	1.00	.537
8	Social Control	.687	-.497	.173	.390	.161	-.144	.537	1.00

Table B 12. Cook's D Values, Means and Standard Deviations (N = 120)

	Models	**One**		**Two**		**Three**		**Four**		**Five**		**Six**	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Crime Categories	**Year**												
Part One Personal	1980	.015	.060	.016	.064	.013	.056	.016	.085	.013	.056	.013	.048
	1990	.011	.027	.012	.034	.011	.029	.014	.075	.013	.053	.012	.067
Part One Property	1980	.044	.332	.041	.294	.010	.024	.018	.116	.018	.106	.012	.032
	1990	011	.019	.009	.025	.011	.017	.012	.024	.015	.048	.011	.020
Part Two Personal	1980	.037	.304	.035	.275	.010	.022	.011	.023	.010	.017	.010	.018
	1990	.012	.027	.011	.015	.009	.037	.012	.031	.011	.030	.015	.023
Part Two Property	1980	.055	.500	.055	.500	.008	.014	.009	.014	.009	.016	.009	.019
	1990	.014	.036	.014	.035	.012	.027	.014	.027	.014	.029	.010	.021
Public Order	1980	.011	.021	.011	.020	.012	.034	.012	.033	.010	.018	.010	.018
	1990	.010	.019	.010	.018	.011	.031	.013	.034	.011	.026	.012	.023
Substance-Related	1980	.012	.028	.011	.022	.012	.049	.011	.033	.012	.032	.011	.036
	1990	.011	.024	.011	.027	.011	.031	.012	.037	.012	.039	.011	.029