ABSTRACT

DENNIS, KIMYA NURU. Black Political and Socioeconomic Status Attainment and the Direction of Lethal Violence: Comparing the Suicide of Young Black and White Males in U.S. Counties. (Under the direction of Charles R. Tittle and Patty L. McCall).

The stream of violence theory suggests that there are forces that generate impulses toward violence that can be expressed inwardly in the form of suicide or outwardly in the form of homicide. Whether violent impulses are expressed inwardly or outwardly is a factor of whether individuals can identify an external source at which to attribute their circumstances. Contemporary stream of violence research has examined variations in suicide and/or homicide among Blacks and whites. The present study presents a test of the suicide component of the stream of violence theory and focuses on variations in suicide among Blacks and whites in U.S. counties. This study contributes measures of Black political and Black socioeconomic status attainment to the direction of lethal violence process. Findings yield partial support for the stream of violence theory and the conditioning effects of the measures of Black political and socioeconomic status attainment on the relationship between deprivation and suicide. Findings reveal a positive conditioning effect of Black elected officials for young Black males and the total Black population in larger counties; a negative conditioning effect of Blacks in professional and managerial occupations for young white males and the total white population in larger counties; and a negative conditioning effect of Black elected officials for the total white population in smaller counties. There is evidence to suggest that the sense of frustration and violent impulses generated by economic deprivation are directed inward in the form of suicide for Blacks in counties with higher Black political

and socioeconomic status attainment and as a factor of the reduced availability of external sources at which to attribute the socioeconomic conditions of Blacks. In contrast, violent impulses are directed outward for whites in counties with higher Black political and socioeconomic status attainment as a factor of the ability of whites to locate external sources at which to attribute the socioeconomic conditions of whites.

Black Political and Socioeconomic Status Attainment and the Direction of Lethal Violence: Comparing the Suicide of Young Black and White Males in U.S. Counties

by
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DEDICATION

First, I dedicate this dissertation to my parents, Sarah Helen Bankhead Dennis and Rutledge Melvin Dennis, who have always been encouraging and stressed the importance of knowledge. This dissertation is also dedicated to my brothers, Shay T., Imaro Aki (Marlin), and Zuri Sanyika Dennis for their love and support. Last but not least, I also dedicate this dissertation to James Ward, his daughter Nia, and my nieces and nephews—Shay Joshua, Justin Shomar, Desiree, and Shaphan and Cierra.

BIOGRAPHY

Kimya Nuru Dennis was born and raised in Richmond, Virginia. She earned a Bachelor of Arts in political science with a criminal justice minor from The University of Richmond in 1999. She then pursued a Master of Science in criminal justice at Virginia Commonwealth University. In 2003, Kimya completed the Master of Science at which time she had begun a doctorate in sociology at North Carolina State University in Raleigh, North Carolina. She completed her doctorate in the spring of 2010 and will be joining the Department of Sociology at Salem College in Winston-Salem as an assistant professor in fall 2010.

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Chapter 1: Introduction

The notion that suicide and homicide are different manifestations of the same causal process is articulated as the "stream analogy," sometimes called the "stream of violence theory" (Henry and Short 1954; Unnithan, Huff-Corzine, Corzine and Whitt 1994; He, Cao, Wells and Maguire 2003; Wu 2003). Stream analogy suggests that various social forces, economic and status deprivation, in particular, generate impulses toward violence that can be expressed inwardly or outwardly, depending on whether individuals can identify an external source at which to attribute their circumstances. Those who can identify an external oppressor have a tendency to express outward violence, usually in the form of homicide, and those who cannot identify an external oppressor will attribute causality for their circumstances to themselves. This is theorized to create a tendency toward suicide.

The stream of violence argument is often used to account for differences in homicide and suicide rates among those in various social groups (Unnithan et al. 1994; He et al. 2003; Wu 2003). For example, the lower suicide rates among Blacks in the U.S. compared to whites is often explained by the stream analogy. Because Blacks may attribute causality for their economic deprivation to dominant whites, they will, presumably, express violent impulses outward in the form of homicide. The present study is a partial test of the stream of violence theory that focuses on variations in suicide among Blacks and whites in U.S counties.

For centuries, suicide and homicide have been considered, respectively, as murder of the self and murder of another. Studies of possible links between suicide and homicide rates began in Europe and predate Durkheim's *Le Suicide* (1897). Forms of the stream analogy were most notably expounded by Enrico Morselli (1879) and Enrico Ferri (1882) (Unnithan et al. 1994; Wu 2003; He et al. 2003). Using ecological data, Morselli found that certain conditions generate anger and violent coping mechanisms. Such violent coping mechanisms are most likely expressed as suicide among higher status groups and in cultures that discourage outward expressions of aggression while simultaneously encouraging inward expressions of aggression (Whitt 1994a; He et al. 2003; Wu 2003). Ferri, in turn, suggested that suicide and homicide are reversions to earlier stages of evolution. He presented an outline of stream analogy as two different causal processes: "forces of production" that generate the stream (the total amount of lethal violence) and "forces of direction" that alternate the current of lethal violence between suicide and homicide (Whitt 1994a). The models proposed by Ferri and Morselli have guided subsequent stream analogy research. However, the biological explanations that are characteristic of disciples of Cesare Lombroso (including Morselli and Ferri) have been abandoned in favor of social explanations, such as that offered by Emile Durkheim in *Le Suicide* (Unnithan and Whitt 1992; Corzine, Huff-Corzine, Whitt and Unnithan 1994; Unnithan et al. 1994).

Durkheim's work (1897) has served as the main foundation for the sociological study of suicide and it has advanced a tradition by which suicide and homicide have been studied as distinct phenomena. Durkheim examined the conditions that create an imbalance in social

integration and social regulation. His ideas suggested an inverse suicide-homicide relationship, but his research showed that both increased during economic downturns. Moreover, Durkheim posited that suicide and homicide can be mutually exclusive, respond similarly under the same conditions, and respond differently under the same conditions (Quinney 1965). Durkheim also contended that suicide and homicide can coexist and this was particularly the case for anomic suicide and homicide. Anomic suicide was theorized to stem from a decrease in social regulation, but a decrease in social regulation was not found to explain homicide (Durkheim 1897, 1951; Whitt 1994a; Wu 2003). Therefore, Durkheim found that suicide and homicide may not be generated by the same causal factors and his findings seemed to refute the assumption of stream analogy that suicide and homicide are *different* manifestations of the *same* causal conditions (Whitt 1994a; He et al. 2003; Wu 2003).

Durkheim's work overshadowed prior emphases on stream analogy, leading to a divergence between studies of suicide and studies of homicide (He et al. 2003). But, his analysis was not without critics. The first criticism claims that he did not devote the same depth to the analysis of homicide as he gave to the suicide analysis (Wu 2003). Second, it was said that his findings did not truly refute stream analogy (Franke, Thomas and Queenen 1977; Messner and Rosenfeld 2001; Wu 2003). It was argued that had he conducted a more detailed homicide analysis, he may have found that conditions of anomie explain increases in both suicide and homicide (Franke et al. 1977; Messner and Rosenfeld 2001; Wu 2003). Furthermore, Franke et al. (1977) and Unnithan et al. (1994) suggest that suicide and

homicide can simultaneously increase under the same conditions (Franke et al. 1977; Unnithan et al. 1994). Such observations rejuvenated stream analogy as scholars tried to explain potential exceptions to the typical inverse suicide-homicide relationship (He et al. 2003; Wu 2003).

Renewed Interest in the Stream of Violence

Although Durkheim's work slowed research on the connection between suicide and homicide, it clearly did not completely stifle such research or debate about the issue (Henry and Short 1954; Gold 1958; Quinney 1965). Two celebrated studies (Henry and Short 1954; Unnithan et al. 1994) helped to sustain interest in the stream of violence approach. Henry and Short (1954) explained variations in suicide rates relative to homicide rates among low status and high status groups. They drew on the Freudian concept of frustration-aggression, arguing that unemployment generates aggregate levels of frustration. They argued that the strength of the relational system, similar to Durkheim's constructs of social integration and social regulation, directs violent impulses inward or outward. Their measures of strength of the relational system were divorce rate and status group membership. Henry and Short (1954) found that suicide and homicide are inversely related and that both respond to frustration, as measured by unemployment rates. The consistently higher suicide rate of high status groups was explained as due to a weakened relational system and freedom from external regulation. In their models, family dissolution was taken to indicate weakened involvement in social relations, as well as from external restraints. This freedom was said to increase the legitimacy and tendency towards internal attribution of causality and suicide

(Lester 1984; Lester 1985; Stack 1997). The consistently higher homicide rates among low status groups were interpreted to result from a strong relational system and external constraints over behavior. This lack of freedom from societal constraints requires lower status persons to conform to the demands and expectations of others. Therefore, those in subordinate positions, or in intense social relationships, have less control over their own actions and circumstances. This lack of control makes it less difficult to attribute causality for frustrations to others because circumstances are perceived to be outside of one's control (Henry and Short 1954; Palmer 1972).

Criticisms of Henry and Short's study quickly materialized. Gold (1958), for instance, proposed that it is socialization toward aggression rather than the strength of the relational system that explains the direction of lethal violence. He contended that patterns of socialization determine whether aggression is manifested inwardly or outwardly, despite societal constraints. Higher status individuals do not necessarily have fewer external constraints on aggressive behavior than do individuals of lower social status. Instead, according to Gold, higher status people learn during childhood to control their impulses while those of lower status do not. Gold (1958) found that middle class parents tend to talk to children and to reward good behavior. Lower class parents, on the other hand, were more likely to spank or threaten to spank their children (Gold 1958; Kohn 1977). As a result, children from lower class backgrounds are socialized to possess an "action tendency" (aggression) towards others. This "action tendency" is a potential explanation of why those with lower class standing have a greater propensity for homicide than suicide. Race and

gender effects were also found. Nonwhites, especially males, showed a greater inclination for aggression towards others, which Gold interpreted as a product of their socialization. Thus, socialization toward aggression is an alternative explanation of Black/white differences in homicide and suicide rates offered in contrast to that proposed by Henry and Short (1954).

The second important post-Durkheimian stream of violence study was that by N. Prabha Unnithan and colleagues (Unnithan et al. 1994). In cross-national and cross-sectional analyses, Unnithan and associates developed a revised attribution theory incorporating the social psychological process of perceived control over one's circumstances, and focusing on internal or external attribution of causality. According to their argument, variations in suicide rates relative to homicide rates are due to varying patterns of frustration and attribution (Unnithan et al. 1994). Internal attribution is considered as attributing causality for circumstances to oneself while those who engage in external attribution attribute causality to external sources. Unnithan and colleagues proposed that frustration has a greater effect on suicide in cultural contexts where people are challenged to take responsibility for their own circumstances. They argue that frustration has a greater effect on homicide in environments where people are encouraged to attribute causality for their circumstances to others, which is perceived to result from an absence of control over one's conditions of life.

Unnithan and associates (1994) found that suicide and homicide are inversely related. Income inequality (household and individual income) and economic development (Gross Domestic Product) influence the direction of violence but do not affect the total volume of lethal violence. Instead, homicide was found to be positively related to income inequality

while suicide was positively, but curvilinearly, related to economic development. Thus, their research provides only partial support for the stream of violence interpretation. Further, a regional effect was found in the higher homicide rate for the South. This was interpreted as a result of cultural, structural, and historical factors that arguably make external aggression more acceptable in the South and increase external attribution by southerners (Unnithan et al. 1994).

The work by Unnithan and colleagues once again stimulated interest in the stream analogy and generated a number of responses. He et al. (2003) criticized Unnithan et al. (1994) for presenting their study as a test of the frustration-aggression hypothesis despite omitting unemployment rate and divorce rate as indicators (which are key forces of production and direction in Henry and Short's (1954) analysis). By omitting these key variables in favor of economic development and income inequality, the analysis allegedly becomes a test of the attribution thesis rather than a test of the frustration-aggression hypothesis. In an effort to improve the work of Unnithan et al., He et al. (2003) measured components of frustration-aggression and attribution using: income inequality, economic development, divorce rates, and unemployment rates. Yet, in this fuller test, findings mirrored those of Unnithan et al. (1994). Economic development and income inequality were found to direct lethal violence but not to generate it. Hence, support was provided for stream analogy but less support was found for Henry and Short's argument because the divorce rate was found to be a salient force of production but not a force of direction.

Wu (2003) followed the admonition of Unnithan and colleagues for stream of violence researchers to control structural forces of production as well as both structural and cultural forces of direction. In a study of U.S. counties, Wu (2003) measured structural inequality and deprivation as forces of production, and immigration and racial segregation as forces of direction. Partial support was found for the stream analogy. Infant mortality, a measure of deprivation, was the most significant force of production, but with regard to the direction of lethal violence, racial antagonism was shown to have only a weak effect on the tendency of suicide over homicide (He et al. 2003).

Later, Wu (2004) conducted county-level bivariate and multivariate analyses to test three explanations for the relationship between social deprivation and lethal violence. The first, the attribution hypothesis (Henry and Short 1954; Unnithan et al. 1994), explains that internal and external attributions of causality shape the direction and target of aggression and lethal violence. The second—the socialization hypothesis (Lane 1979) addresses environments that suppress outward expressions of frustration. The third explanation is the social disorder hypothesis (McKenna, Kelleher and Corcoran 1997), which proposes that social disorders such as unemployment and family dissolution increase both suicide and homicide, thereby creating a positive suicide-homicide relationship under those specific conditions. Wu (2004) employed the percentage of immigrants, racial residential segregation, and relative deprivation as measures of likely attribution. Higher percentages of immigrants, relative deprivation, and racial residential segregation were considered to be indications of resource competition and inequality. Percentage of college educated residents

and the percentage of professional workers were taken as measures of socialization. Social disorder was measured using the divorce rate and percentage of female headed households. Bivariate analyses revealed a positive relationship between suicide and homicide. However, the multivariate analysis showed an inverse suicide-homicide relationship, and there were higher homicide rates but lower suicide rates in counties with higher immigration, relative deprivation, and racial residential segregation. Therefore, findings were interpreted as support for the attribution hypothesis in which suicide supposedly increases with internal attribution of causality for socioeconomic conditions whereas homicide increases with the availability of external sources at which to attribute causality.

The findings of early and more recent stream of violence research highlight some inconsistencies in the factors that produce and direct lethal violence among general populations and among status groups. There is greater consensus regarding the role of economic conditions as forces that produce the total amount of lethal violence, but less agreement has been reached concerning which factors direct lethal violence to take the form of either suicide or homicide. In the following pages, I review the literature concerning (1) economic forces thought to affect aggression and violent impulses; and (2) the structural and cultural forces that seem to direct these impulses. In addition, I spell out the propositions, findings, and contributions of the present study to suicide and stream analogy research.

Status Groups and the Stream of Violence

A major focus of the stream of violence theory in contemporary social science is to explain differences in suicide rates among status groups and, in particular, why Blacks and

whites may respond differently to similar levels of frustration. In general, Blacks in the U.S. register lower suicide rates than whites even when similar risk factors, such as age, are taken into account. The main explanation for that difference, drawing on Durkheim, has focused on protective factors. The disadvantaged position of Blacks and the socioeconomic disparity between Blacks and whites have persisted despite civil rights legislation (South 1984; Wilson 1987; Massey and Denton 1993; Joe 2006). Such disadvantage and inequality presumably forced Blacks to develop tight knit family and community bonds.

This "enclave mentality" presumably affects suicide potential in three ways. First, tight knit social institutions are said to provide social support to help individuals deal with disadvantage (South 1984; Sampson 1987; Burr, Hartman and Matteson 1999). Second, Black communities supposedly encourage their residents to avoid high aspirations. If one believes that little can be expected, there is less basis for disappointment (Breed 1966; MacLeod 1995). Of course, crediting low suicide rates to low aspirations is consistent with Durkheim's proposition that poverty reduces suicide because its socially integrative effect constrains high aspirations and reduces anomie (Durkheim 1897/1951; Burr et al. 1999). The third reason Black subcultures may help keep suicide rates low is their promotion of shared beliefs that outcomes are beyond a person's control, often due to external oppressors (Lefcourt 1982; Wilson 1987; Bernard 1990; Anderson 1999; Riskind, Long, Williams and Wright 2000; Ajzen 2002; Spann, Molock, Barksdale et al. 2006).

While Blacks presumably are insulated from suicide by tight knit communities promoting low aspirations, whites are not. Better socioeconomic conditions and

opportunities for mobility encourage higher aspirations among whites. And, since whites have a greater sense of control over their own destinies, they may internalize any frustrating circumstances (Heider 1958; Berkowitz 1962). Thus, Blacks, protected from suicide, may tend toward homicide as they express frustration/aggression resulting from external circumstances and oppressors, whereas whites tend toward suicide in the face of these external circumstances (Gibbs 1997; Spann et al. 2006; Fitzpatrick, Piko and Miller 2008; Joe, Canetto, and Romer 2008; Molock, Matlin, Barksdale et al. 2008; Wingate, Bobadilla, Burns et al. 2005).

Although Blacks usually exhibit lower suicide rates than whites, there are some conditions in which Black suicide rates increase relative to whites such as when Blacks experience increases in status and socioeconomic circumstances (Henry and Short 1954; Whitt 1994b). Such circumstances provide occasions to test the implications of the stream of violence argument. For example, civil rights legislation was successful in increasing opportunities for some Blacks, contributing to the rise of a Black middle class (South 1984; Wilson 1987). Greater opportunities for mobility and the emergence of a Black middle class prompted many Blacks to flee from the persistent poverty in inner cities and move to the suburbs (South 1984; Wilson 1987; Sampson 1987; Peterson and Krivo 1993; Krivo and Peterson 1996). The flight of middle class Blacks to suburbs may have produced some social isolation for Blacks, in general, because traditional institutions in Black communities were unable to meet the needs of an increasingly geographically and socioeconomically mobile Black population (Gibbs 1997; Willis, Coombs, Cockerham and Frison 2002; Fernquist

2004; Joe 2006; Rockett, Samora and Cobran 2006). With the rise of the Black middle class, Blacks generally should have been less able to attribute causality for their disadvantage to whites. Therefore, if the stream of violence theory is correct, Black suicide rates should have risen to reflect a decreased tendency to attribute causality for socioeconomic conditions to a racially discriminatory society. But, the increased isolation from community bonds faced by Blacks fleeing to the suburbs may explain some of the effect of the attribution process. Moreover, given that the percentage of Blacks rising into the middle class is relatively small, the impact of the attribution of causality on Black suicide rates may be minimal in comparison to the effect of a decline in protective factors caused by weaker community effects. Therefore, it is not entirely clear how to interpret a rise in Black suicide.

There has been a rise in suicide rates among Blacks, particularly manifested in younger generations. Joe (2006) proposed that younger generations of Blacks are more exposed than their predecessors to environments that foster poor mental and emotional health, and that these younger Blacks lack the protective factors that were available to older generations of Blacks. Therefore, according to Joe, younger generations of Blacks are potentially more susceptible to psychological distress and more likely to internalize this distress. There may also be a generational shift toward greater internal loci of control, as younger generations of Blacks come to perceive that their own efforts and investments dictate the outcomes in their lives (Kessler and Neighbors 1986; Joe 2006). Hence, if the stream of violence theory is correct, documented increases in suicide among younger generations of Blacks result from an increase in the general status of Blacks. Most recent

generations of Blacks should be more likely to direct violent impulses inward in response to what are perceived as individual failures.

In review, the stream of violence argument proposes that if Blacks can be shown to have gained in status in a particular context or period of time, their suicide rates should have increased also. On the other hand, if Black status has demonstrably declined under various conditions, then their suicide rates should have correspondingly decreased. Finally, when Black suicide rates rise or fall, scholars can look for evidence of a corresponding rise or fall in status markers. For example, if the violent impulses generated by deprivation produce more suicides among lower status groups and if suicide among Blacks increases, one should also observe an increase in educational and occupational attainment and prestige among the general Black population. But, further research is needed to address some unanswered questions regarding the economic indicators that generate violent impulses as well as the status markers that direct violent impulses for Blacks and whites.

The Present Study

This dissertation presents a unique test of one aspect of the stream of violence theory. It focuses on variations in suicide among Blacks and whites in U.S. counties. Following the logic of the stream of violence theory, Blacks should have lower suicides in counties with few Black power holders and/or where few Blacks occupy high status positions. That is because in such counties Blacks can identify an external, oppressive source, such as racial discrimination, at which to attribute causality for their economic troubles. In those instances, the violent impulses generated by economic deprivation will be externally directed, leading

Blacks to commit homicide rather than suicide. However, whites should have higher suicides in these counties because of an inability to attribute causality for their circumstances to external oppressors. In this regard, it should be noted that the stream of violence argument does not assume that externally directed violent impulses will necessarily be aimed at the identifiable oppressors themselves. Presumably, external oppressors are power holders who may be inaccessible and have the capacity to respond or retaliate to acts against them (Bernard 1990). Therefore, aggressors will choose among more visible and accessible targets and, preferably, targets for which violence should have fewer repercussions. This often implies homicide against other members of one's own status group.

The stream of violence theory implies that general economic deprivation typically produces frustration and violent impulses, thereby increasing the total amount of lethal violence. Although the extant research is contradictory regarding the direction of the socioeconomic status and suicide relationship, it is still possible that the stream of violence implication is correct. However, the effect may be more complicated than is usually assumed by the measurements used. Violent impulses may stem from absolute deprivation, relative deprivation, or both. But, no matter the source, these violent impulses may result in inwardly or outwardly directed violence. In the present study, Black elected officials and Blacks in professional and managerial occupations are measures of Black empowerment and of Black socioeconomic status attainment, as well as key indicators of whether an external target of attribution and aggression can be identified. It is proposed that in counties with low percentages of Black elected officials and Blacks in professional and managerial occupations,

Blacks will find external sources accountable for their economic deprivation and will not attribute causality for their plight to themselves, thereby resulting in lower levels of suicide among Blacks.

Contributions of the Present Study

The stream of violence theory suggests that violent impulses are generated by various conditions, mainly economic deprivation or inequality. Different studies suggest that both deprivation and inequality lead the disadvantaged victims to search for sources to attribute causality for their circumstances and often identify those in power (Whitt 1994b). For example, in a study of the restrictive political system of communist East Berlin, Oettingen and Seligman (1990) found that residents blamed the oppressive political system for their impoverished condition and for the existing inequality between themselves and the Berliners on the other side of the Berlin Wall. This was interpreted to reflect the perception of East Berliners that their conditions were beyond their personal control. The same kind of sentiment has been documented for Southern Italian peasants (Banfield 1958). They, too, felt a sense of powerlessness and a lack of control over their own destiny, which discouraged the peasants from mobilizing as a community.

Such work highlights the potential impact of political representation. However, scant previous research on the political prospects of low status groups has dealt with lethal violence (for an exception, see Jacobs and Wood 1999) and certainly not with details about suicide among Blacks and whites. Black political representation, in particular, may be an important consideration in explaining the lethal violence outcomes for Blacks and whites.

First, Black political representation has the potential to foster Black trust in local officials while generating white distrust (Gilliam 1990; Emig, Hesse and Fisher 1996). For example, in Mobile, Alabama a large proportion of key position holders are Black. Emig et al. (1996) found that both Blacks and whites in Mobile were politically active, though Blacks were even more politically active and were more trusting of the political process. Blacks also felt that elected officials who are Black felt a connection to other Blacks through common experiences with discrimination, and were more sensitive to Blacks' needs (Emig et al. 1996; Cobb and Jenkins 2001). Whites, though remaining active in the community, nevertheless, showed a tendency to distrust the local government, feeling that it did not respond to the needs of whites (Emig et al. 1996). Similarly, Jacobs and Wood (1999) found a decrease in the killing of whites by Blacks in cities with greater Black political influence. This decrease in Black interracial homicide was partially attributable to having a Black mayor in office. Having a Black mayor seemed to reduce Black perceived powerlessness, frustration, and external impulses toward violence. However, the authors of the study did not measure the effect on suicide. Had the above described research been conducted on lethal violence rates rather than interracial homicide rates it might have shown that Black political representation lowered the perceived availability of external targets for Blacks to attribute causality for their circumstances. Perhaps it would have also led to elevated levels of inwardly directed aggression, producing increased suicide among Blacks. The opposite effect might have been found for whites.

The second reason to consider the impact of political representation on variations in suicide is the increase in Black political representation at the local and the national levels over the past few decades (Bositis 2000). In addition, current Black elected officials are more likely to hold a college degree, whereas previous generations were more likely to have firsthand knowledge of the Civil Rights Movement (Bositis 2000). Such generational differences in political representation mirror generational variations in the mobility of Blacks, and may be associated with variations in suicide among Blacks and whites. Thus, a higher percentage of political representatives who are Black may have an impact on the ability of Blacks and whites to identify external oppressors, theoretically directing lethal violence inward for Blacks and outward for whites.

Similar to political representation, occupying higher ranking and more prestigious occupations is an indication of socioeconomic standing, and may also impact the direction of violent impulses among Blacks and whites. The occupational mobility of Blacks has increased in recent decades, producing an increase in the percentage of Blacks who are members of the middle class (Westcott 1982; Oliver and Glick 1982; Lemelle 2002).

The greater the extent to which Blacks actually achieve the highest status level (not simply average mobility), the greater the chances that Blacks who are aware of these advances will perceive that they are empowered to control their own destinies. One interpretation of the effect of civil rights legislation on Black mobility is that whites were more willing to "share" mobility and power with Blacks (Lemelle 2002). However, according to the "racial threat hypothesis," whites are likely to oppose Black mobility if it

threatens the distribution of wealth and power in an area (Hajnal 2001). Therefore, the perception that whites are "sharing" can encourage whites to attribute their economic disadvantages and frustrations to the increasing political and labor force advances of Blacks, leading to increasing competition with Blacks for occupational and social positions. Directing attribution outwardly, implying enhanced potential for aggression can also be manifest in whites' efforts to suppress Black aspirations for power and authority (Hajnal 2001). Thus, Black empowerment may be met with increased external aggression and violence on the part of whites. Nevertheless, if the stream of violence argument is correct, in counties with larger proportions of Blacks in higher ranking occupations, Blacks should be less able to identify white external oppressors at which to attribute causality for any remaining deprivations (Bobo and Gilliam 1990; Jacobs and Woods 1999). Under conditions of increasing Black power, whites should have more visible external oppressors. So, theoretically, Blacks in such counties should exhibit higher suicides and whites should register lower suicides.

Despite some recent changes, elected officials who are Black represent a small proportion of total elected officials in a majority of counties (Bositis 2000), and Blacks represent a small proportion of the total professional and managerial occupational holders (Conley and Young 2005). As a result, the majority of counties still can be characterized as having low Black empowerment and low Black socioeconomic status attainment. It is likely that Black residents in these counties are economically deprived and are at economic disadvantage relative to whites (Wilson 1987; Massey and Denton 1993; Joe 2006).

However, in those counties with relatively higher Black political representation and Black occupational status attainment, Blacks should show an increased tendency to attribute causality for socioeconomic deprivation and social inequities to their own failure to grasp the available opportunities (Bobo and Gilliam 1990). Whites in such counties, though, should be able to more readily identify threats to labor market opportunities and political power at which to attribute their declining advantages.

Hypotheses

Hypothesis One: High levels of Black empowerment and Black socioeconomic status attainment are positively associated with Black suicides in counties with high levels of socioeconomic deprivation. In the analysis this translates to positive interactions between Black deprivation and Black elected officials, and between Black deprivation and Blacks in higher ranking occupations.

Hypothesis Two: High levels of Black empowerment and Black socioeconomic status attainment are negatively associated with white suicides in counties with high levels of socioeconomic deprivation. This will be indicated by negative interactions between white deprivation and Black elected officials, and between white deprivation and Blacks in higher ranking occupations.

Based on the prior literature and the logic of the stream of violence argument, the two main hypotheses are: (1) socioeconomic deprivation has a positive interaction with Black elected officials and with Blacks in higher ranking occupations in the prediction of Black suicide; but (2) socioeconomic deprivation has a negative interaction with Black elected officials and with Blacks in higher ranking occupations in predicting white suicide. Deprivation presumably generates frustration and violent impulses, while Black elected officials and Blacks in higher ranking occupations direct the violence in the direction of suicide among Blacks, but not in the direction of suicide among whites. A greater impact of

these measures of Black empowerment and Black socioeconomic status attainment on suicide is predicted in high deprivation counties because high deprivation generates stronger violent impulses. The direction of the stronger violent impulses will be determined by the percentage of Black elected officials and the percentage of Blacks in higher ranking occupations in the county.

One problem is that overall deprivation in a county may affect Black and white suicide differently. If it is mainly whites who are deprived then Black political representation and Blacks in higher status occupations should direct violent impulses externally resulting in lower suicide for whites. The stream of violence should be expressed as homicide or other forms of external violence among whites because of the ability to attribute causality for the circumstances of whites to the socioeconomic advancement of Blacks. However, lower incidents of Black suicide are predicted in counties with low Black deprivation and where Black political representation and occupational status attainment are low. Low Black deprivation should generate weaker violent impulses and those impulses should be more easily directed toward external oppressors.

But, in almost all situations in which economic deprivation is high, minorities suffer most (Wilson 1987; Massey and Denton 1993). So, it is a reasonable assumption that deprivation will lead to a rise in Black suicide in conditions of high Black attainment and power. High Black deprivation generates strong violent impulses, and in counties with high Black attainment and power, the stream of violence should be directed inward as Blacks are less able to locate external oppressors. Moreover, deprivation that is suffered mainly by

Blacks implies higher socioeconomic advantage among whites. Therefore, white suicides should decrease with Black political representation and occupational status attainment because disadvantaged whites can then attribute causality for their socioeconomic conditions to external threats—as suggested by the advancement of Blacks.

Chapter 2: Data and Methods

This study examines the relationship between deprivation and Black political representation and occupational status attainment on race-specific, county-level counts of suicide for Black and white males ages 15 to 34, with supplemental analyses for the total population of Blacks and whites provided in Appendices B and C. The data used in these analyses are extracted from the National Vital Statistics Center for Disease Control Mortality Statistics, The Joint Center for Political and Economic Research, and the U.S. Census Bureau's Population and Housing Statistics and Census of Government publication for all U.S. counties with at least five percent Black residents in 1999, 2000, 2001, and 2002. Complete data are available for 1,134 U.S. counties. Before the required file manipulation for the New York observations, which is discussed further below, data were available for 1,139 counties.

Unit of Analysis

The county is chosen as the unit of analysis because counties are the smallest and most homogenous spatial and political units for which adequate data are available. Because of issues of confidentiality, suicide data cannot be readily obtained for political/ecological units smaller than counties. Yet, counties are large enough to include sufficient incidents of suicide, which is generally a rare event. In addition, counties are more likely to exhibit "community dynamics" than are states (Messner 1982; Kowalski, Faupel and Starr 1987; Kleck and Chiricos 2002). Finally, although there is a small but growing body of predominantly state-level and cross-national lethal violence research, studies of county-level

lethal violence are relatively scarce (Kowalski et al. 1987; Wu 2003; Wu 2004); therefore, this study will fill a knowledge gap by exploring the nature of suicide behavior in U.S. counties.

Data Subsets: LE100K and GT100K

Counties in the present study range in population size from as small as 1,904 residents to as large as 9,519,338 residents. Such a wide range in population sizes can lead to the large counties having an "undue influence" on the dependent variable. In addition, collinearity was found between population size and suicide counts, particularly for the most populated counties. This correlation was so high that population measures captured most of the unexplained variance and left only a small amount of unexplained variance in the suicide counts for the remainder of the regressors. This issue was addressed by creating two data subsets: (1) counties with populations less than or equal to 100,000 (N=787) and (2) counties with populations greater than 100,000 (N=314). Further analyses determined that this strategy resolved collinearity concerns for the majority of the regression models.

Besides the obvious expectation that there will be greater numbers of suicides where there are greater numbers of persons, the high correlation between incidents of suicide and population size is also understandable given the debate in previous research over whether correlates of suicide vary by population size. Although the present study uses suicide counts instead of rates, some studies have found higher rates of suicide and homicide in larger counties. Those elevated rates are thought to be influenced by structural conditions, including social isolation and economic deprivation (Kowalski et al. 1987).

Ellison, Burr and McCall's (1997) study of metropolitan areas reported a consistent positive relationship between population size and suicide rates, but other research examining the relationship at the city level has found no consistent evidence of an association between population size and suicide rates (McCall and Tittle 2007). Such findings fail to support the notion that greater anonymity and social isolation exist in more urban settings, thereby enhancing the chances of suicide. Therefore, in addition to the creation of two datasets comprised of county populations of less than or equal to 100,000 (LE100K) and greater than 100,000 (GT100K), the following population bases are controlled for the age-sex-race specific models: (1) the population count for Black males ages 15 to 34 and (2) the population count for white males ages 15 to 34.[1] This population control is partly in response to the increase in suicide rates for youth and young adults (Stockard and O'Brien 2002) and among Black males ages 15 to 34 (Burr et al. 1999) that has caused concern and sparked research in age- and age-sex-race specific correlates of suicide. Moreover, youth and young adults ages 15 to 34 are more likely to be subjected to economic and life stresses. Weakened family structure, in particular, and other stresses are more evident in years when people transition from school to the labor force and from family living to independent living (Hamermesh and Soss 1974; Kowalski et al. 1987; Holinger et al. 1994; Stockard and O'Brien 2002). Huff-Corzine et al. (1991) found a positive relationship between the percent of the population aged 20 to 34 and the suicide-homicide ratio for Blacks. However, those authors warn against the ecological fallacy of assuming that a correlation between age at the

[1] Population counts were divided by 1,000 to create a metric that is more appropriate for interpreting unstandardized beta coefficients.

aggregate-level and suicide translates to an individual-level effect of a particular age group being more susceptible to suicide.

The population bases controlled for the (supplemental analyses) race specific models are: (1) the population count for Blacks over the age of 5 and (2) the population count for whites over the age of 5. The race-specific population provides a control for those over the age of 5 and addresses the demographic artifact of high fertility rates in the Black community. Blacks, like those in lesser socioeconomic circumstances in general, have higher fertility rates than whites. Since children almost never commit suicide, the overabundance of those under the age of 5 in the Black population artificially deflates Black suicide rates. This effect is neutralized in the general Black and white suicide models by using the suicide counts for ages 5 and older.

The size of the Black population has been found in previous research to be positively correlated with Black suicide rates (the present study uses suicide counts) in urban counties (Kowalski et al. 1987). Urban counties with higher percentages of residents who are Black have been found to exhibit greater structural disadvantage for Blacks, as well as greater disparity between Blacks and whites (Stack 1980a; Kowalski et al. 1987; Wu 2003, 2004). Similarly, the percent of whites in the county population has been found to be inversely related to both the impoverishment of an area and the odds of white suicide in low income areas (Fernquist and Cai 2000). Therefore, the present study controls for the age-sex-race specific population in the analyses of Black and white males ages 15 to 34; and for the race specific population in the supplemental analyses of the total Black and white populations.

Dependent Variables

Suicide data were retrieved from the National Vital Statistics Center for Disease Control Mortality Statistics. Because suicide is a rare event, using four year totals increases the suicide counts of sparsely populated counties and increases the counties in the analyses for which nonzero suicide data are available.[2] The summed suicide counts across 1999, 2000, 2001 and 2002 are used for the population of Black males ages 15 to 34 and white males ages 15 to 34; and for the supplemental race-specific analyses of the total population of Blacks and whites. The age-sex-race specific suicide counts are based on the race-sex specific population ages 15 to 34.[3] The following shows how the age-sex-race specific counts of suicides were computed for this analysis:[4]

Black Male Suicide Count Ages 15-34 = ∑ BM suicides for ages 15 to 34 from 1999 to 2002

White Male Suicide Count Ages 15-34 =∑ WM suicides for ages 15 to 34 from 1999 to 2002

As previously noted, suicide counts are used instead of suicide rates. The problem with using rates as both dependent and independent variables is that the denominators are

[2] Clifton Forge, Virginia is the only county with a minimum five percent Black population that is not represented in all four years of the suicide data. Clifton Forge was originally omitted from the suicide data but this case has been retained because suicide counts are provided for two of the four years for Clifton Forge—1999 and 2000—both report no suicides.

[3] The general suicide counts for each race are based on the race-specific population ages 5 and older.

[4] *Race Specific Counts of Suicide:* **Total Black Population Suicide Count =** ∑ B suicides for 1999 to 2002; and **Total White Population Suicide Count =**∑ W suicides for 1999 to 2002.

either the same or highly correlated. In either case, the correlations between rates or ratios are often spurious. The correlations may be spurious stemming from "mathematical necessity" rather than relationships that are valid and interpretable (Cohen and Cohen 1983:73-75). Only under some specific circumstances are the correlations not spurious – the coefficient of variation of the numerator is substantially higher than that of the denominator (Cohen and Cohen, 1983: 75). Using counts of suicide for the dependent variable removes the population denominator. In such circumstances it is important to control for population size by including it as an independent variable. Models with counts as independent variables and a rate as a dependent variable are difficult to interpret and give much of the explanatory power essentially to the population size. Under the current formulation in which population size is an independent variable, other variables may compete with it to explain the variation in the dependent count variable (number of suicides).

Analyses for Black and white males ages 15 to 34 permit tests of the stream of violence argument, and were supplemented with replicated analyses for the Black and white populations (see Appendices B and C). The analyses were conducted on young Black and white males because prior research has focused on the lethal violence for the 15 to 34 age range; and, presumably, ages 15 to 34 are especially critical for Black males because of strains related to a variety of life transitions. Researchers argue that suicide rates for this age group may be higher in areas with greater levels of economic and social frustration and weakened social integrative and protective factors (Hamermesh and Soss 1974; Kowalski et al. 1987; Holinger, Offer, Barter and Bell 1994; Stockard and O'Brien 2002). Moreover,

Blacks have historically lower suicide rates than whites and the reported rise in Black suicide rates was particularly found among Black males ages 15 to 24. According to the Center for Disease Control and Prevention, from 1980 to 1993 the suicide rate for Black males ages 15 to 24 increased by 63%, from 12.3 to 20.1 per 100,000. That remarkable occurrence generated interest in economic and social correlates of Black suicide (Burr et al. 1999; Fitzpatrick et al. 2008).

The supplemental analyses of suicide for the total Black population and total white population were conducted to provide comparisons with the age-sex-race analyses in the present study. In addition, comparisons can be made with prior research that has focused on variations in suicide across racial groups.

The limitations of suicide data are widely documented (Douglas 1967; Hamermesh and Soss 1974). Essentially, there is greater likelihood for suicide to be undercounted than over-counted. Factors such as community stigma associated with suicide, coroner detail, and the nature of record keeping can affect the reliability of official suicide data. The Black community, in particular, is known to stigmatize suicide, often denying its occurrence. This has contributed to coroner misclassification of Black suicides as unexplained deaths, homicides, or accidents and to the underreporting of Black suicides in official suicide data (Hamermesh and Soss 1974; Burr et al. 1999). Such potential errors have led to a debate as to whether Black youth suicide rates actually increased in the 1990s. Some contend that the jurisdictions in question adopted better documentation and reporting practices. If that is the case, then those changes may have reduced the disparity between the incidents of Black

suicide relative to white suicide (Mohler and Earls 2001; Rockett et al. 2006).

This study follows extant research in taking official suicide data at face value. As previously noted, some assume underreporting of suicide by race and, for similar reasons, perhaps by gender (Canetto and Sakinofsky 1998). Nevertheless, most scholars regard findings of suicide studies to be reasonably reliable (Burr et al. 1999). Because of potential errors, however, all scholars agree that findings should be evaluated and interpreted with caution, as was done in the present study.

Measures of Economic Deprivation

A key variable proposed to generate a stream of violence is socioeconomic deprivation (Wu 2003, 2004; Kubrin, Wadsworth and DiPietro 2006). The conditioning effects of economic deprivation posited in the hypotheses are examined through race-specific deprivation indices. These variables used to measure this concept are derived from 2000 U.S. Bureau of Census sources and include: (1) Black family median income and white family median income for persons 15 years and older with income, (2) percentage of Black residents and white residents 25 years and older without a high school diploma, (3) percentage of Blacks and whites below the Federal poverty line, and (4) the 2000 Gini coefficient for income inequality. Median family income and income inequality, as measured by the Gini index (Burkey 2006), are incorporated as indicators of absolute and relative deprivation, respectively, and used to address potential inconsistencies in the effect of deprivation on suicide (Burr et al. 1999; Miller 2005; Kubrin et al. 2006). Absolute deprivation and relative deprivation are considered distinct concepts and are usually

measured separately, although a strong relationship between poverty and inequality has been established in ecological studies (Land, McCall and Cohen 1990; Young and French 1996; Burr et al. 1999; Miller 2005; Kubrin et al. 2006). Land et al. (1990) contend that absolute deprivation and relative deprivation are typically so highly correlated that they are not empirically distinct. They cite ecological areas characterized by both high absolute and relative deprivation as culprits for the inconsistent effects of absolute and relative measures on homicide rates in most of the related literature. Suicide rates have been found to increase with absolute deprivation (Kubrin et al. 2006); and have also been found to increase with relative deprivation (Burr et al. 1999; Miller 2005).

Measures of Black Empowerment and Socioeconomic Status Attainment

Black empowerment and socioeconomic status attainment are operationalized using two measures. The first, the percentage of elected municipal, judicial, and law enforcement officials who are Black, is derived from the Joint Center for Political and Economic Research 2000 Black Elected Officials (BEO) data. An additional measure is the percentage of Blacks who are in managerial and professional occupations (Krivo and Peterson 1996) which is derived from the 2000 U.S. Bureau of the Census.

Black Elected Officials (BEO)

The percentage of elected officials who are Black is used instead of the count of elected officials who are Black in order to standardize for the size of the Black population in each county. The measure is computed using the count of Black elected officials divided by

the total number of elected officials reported in the U.S. Bureau of the Census 1992 Census of Government Number 2, Popularly Elected Officials.

The Black elected official data are collected annually by the Joint Center for Political and Economic Research. A variety of data collection techniques are used, including telephone interviews with Black elected officials, interviews with government representatives, and interviews with state and local boards of elections officials. Once newly elected Black officials are identified they are placed in the Joint Center's Black Elected Officials database and organized by state, the District of Columbia, and the U.S. Virgin Islands (Bositis 2000). The county-level BEO data for the present study were retrieved from The Joint Center and provide the number of Black elected officials for 2000.

Two additional data preparation steps were taken to identify all counties for which data were collected. First, 211 previously unidentified BEO counties were brought into the database using the states in the BEO data and matching them with the zip code, state, and county identifiers from city-data.com and MuniNetGuide.com sources. Second, because New York City has a complex political system, the New York City area BEO data represent five counties that have been aggregated. Corresponding Census data for these five counties have also been aggregated so that the Black Elected Officials data will complement the U.S. Bureau of the Census 1992 Census of Governments Number 2, Popularly Elected Officials data that are used to compute the percentage of Black elected officials. The suicide data and the 2000 U.S. Bureau of the Census of Population data for these five counties are also aggregated for the other measures included in the analysis, to make the geographic coverage comparable to this New York City area BEO measure.

The Census of Governments data used for the denominator are collected at five year intervals. Publication Number 2 contains the number of popularly elected officials by government type and type of office. The 1992 data are the most recently available Census of Governments data that could be accessed. The total number of elected officials is assumed to have remained relatively constant since 1992. Census of Government data relevant to this analysis are the total elected officials in the county (county executive, members of county government boards, other county bodies, county officials) plus the total municipal, judicial and law enforcement officials.

This study proposes that the percentage of elected county municipal, judicial, and law enforcement officials who are Black is an improvement upon previous measures of Black empowerment, which have usually been simply whether the mayor of the city or chief executive officer for a unit is Black (Bobo and Gilliam 1990; Emig et al. 1996). Various kinds of officials intervene in or affect the lives of Blacks, not just chief executive officers (Emig et al. 1996). Hence, Black perceptions of control over their circumstances are more likely to be captured by including the "everyday" exercisers of power. Moreover, counties with larger Black populations have a greater probability that some of these Blacks will hold elected offices, so it is appropriate to use percent of office holders who are Black as a measure of Black empowerment.

Although the Joint Center for Political and Economic Research employs a number of checks in collecting the Black Elected Officials (BEO) data, as described above, and has recently identified previously unidentified Black elected officials, there are still potential errors in the data. For instance, some of the county names in their data archive were

misspelled or abbreviated so it was unclear what county was being referenced. There were also locales that were not listed in the 2000 U.S. Bureau of the Census or in any other list of counties, making it impossible to assign FIPS codes to them so they could be merged with the other variables used in this analysis. Moreover, 22 counties and independent cities in Virginia do not appear in the municipal or county Black Elected Officials data. The data for these 22 counties and independent cities are fragmented, making it uncertain whether the Virginia independent city data were combined with data from a surrounding county and reported as county data.

The problem of non-response in collection of data by the Joint Center is a major issue as well. There is an important difference between an absence of Black elected officials and a lack of response. However, there is no published documentation from The Joint Center to assist in making this distinction. The Joint Center has advised through direct correspondence that only a small number of Black elected officials are missed for a given roster year. Previously unidentified Black elected officials are often subsequently identified and updated in the roster. According to the Joint Center, it is best to assume that missing counties do not have Black elected officials. Therefore, the 22 counties in Virginia and 307 additional counties have been assigned zero values for Black elected officials.

Blacks in Higher Ranking Occupations

The percentage of Blacks in professional and managerial occupations is derived from the 2000 U.S. Bureau of Census data for Black males and females with occupations in three categories: managerial, business, and financial operations; professional and related; and

healthcare practitioners and technical. These occupational categories are generally considered to be higher ranking in terms of education level, skill set, and power and prestige (Treiman 1977). Black occupancy in these positions is measured as the percentage of Blacks in professional and managerial occupations, which is calculated as the number of Black males and females 16 years old and over in managerial and professional occupations divided by the Black population ages 16 years and older. There are some missing values in these data, concentrated mainly in counties where the percentage of Black residents is small. The U.S. Bureau of the Census did not report data for a specific race and ethnic group if the population of that group is less than 50.

The remaining explanatory and control variables included in these analyses are the race-specific measures of Black unemployment and white unemployment, total Southern born residents and the percentage of suicides committed with a firearm—the latter two of which are not race-specific and represent the entire county population.

Control Variables

The control variables used in this study were collected from the 2000 U.S. Bureau of the Census, National Vital Statistics Center for Disease Control and the 2000 U.S. Bureau of the Census Population and Housing Statistics. Only 2 of the original 11 control variables were retained because of high variance inflation factor (VIF) scores among variables such as percent single parent households and divorce, indicating problems with multicollinearity.[5] In

[5] Removing percent divorced as a control variable due to issues of collinearity (high VIF) with the population base is a limitation of the present study because divorce has been found in previous research to be a key factor

addition to the variables controlling for regional influence (total Southern born) and accessibility to firearms (percent suicides committed using a firearm), Black unemployment and white unemployment, originally collected as measures of economic deprivation, were included as control variables (discussed below).

Southern Born

The measure of Southern born residents is derived from the 2000 U.S. Bureau of the Census on the birthplace of county residents. There are a number of reasons to control for the influence of Southern region. Whites in the South traditionally exhibited suicide rates two to three times higher than Blacks. As previously noted, Blacks' religious and community ties are often considered to be protective factors that are more pronounced in the South than in the North (Warshauer and Monk 1978; Willis 2003; Wingate et al. 2005). In the past twenty years, the Black suicide rate has increased, particularly in the South, and has moved closer to the suicide rate of whites. More recently, the white suicide rate is only one and a half times that of the Black suicide rate (Willis 2003; Wingate et al. 2005). In addition, the South has experienced the largest increase in Black elected officials over the years and in 2000 had the greatest percent of its officials being Black than any other region (Bositis 2000). The higher homicide rates relative to suicide rates in the South is the source of continued debate over the relative effect of structural factors, such as income inequality, and cultural factors, such as the Southern subculture of violence (Hackney 1969; DuCette, Wolk

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in suicide. The other control variables excluded from the analyses are total county population, percent single parent residents, percent Black residents, percent white residents, percent residents ages 15 to 34, percent residents age 65 and older, race-specific percent divorced, and percent male residents.

and Friedman 1972; Huff-Corzine et al. 1986). But, it may also be accounted for by the stream of violence theory.

Previous researchers have proposed that higher homicide rates in the South are a carryover from The Civil War that expresses the South's unique history of slavery and culture of honor (Nisbett and Cohen 1996). The Southern culture of honor has been interpreted as affecting attribution patterns, showing resentment of the South's dependency on the North after the Civil War, and as reflecting the acceptability of violence in response to threats to one's honor or perceptions of disloyalty (Wolfgang and Ferracuti 1967; Hackney 1969; Huff-Corzine et al. 1991). The war and the heritage of slavery presumably contribute to the perception that external environments are hostile and responsible for the conditions of individuals and groups (Hackney 1969; Huff-Corzine et al. 1991). Such perceptions of threatening environments that are beyond one's control have been linked to angry aggression, outward blameworthiness, and violence (Hackney 1969). The Southern culture of violence is a potential explanation for the higher homicide rates of whites in the South, as compared to the homicide rates of whites in other regions. Such regional variations support the stream of violence assertion that the availability of external targets to blame leads to external expressions of violence (or homicide).

One criticism of the southern subculture of violence theory is that it is difficult to test without being tautological (Bernard 1990). Research has addressed the difficulty in measuring "Southernness" and the structural and cultural correlates of the social psychological attribution process. Common controls for the effect of southern region are

percent born in the South (Huff-Corzine et al. 1986), the "Southernness" index introduced by Gastil (1971), and a dummy variable for states located in the south (Hackney 1969; Nisbett and Cohen 1996). However, there is still debate over whether these measures capture regional culture and attribution style or other cultural and structural effects (Huff-Corzine 1986; Loftin and Hill 1974; Parker and Pruitt 2000; Ellison, Burr and McCall 2003). Huff-Corzine et al. (1986) contends that, despite its critics, percent southern born should be used in future research. According to them, percent southern born has a more precise meaning than Gastil's "Southernness" index and can be based on reliable data from the Census. Moreover, they argue that percent southern born supports Gastil's assertions that the cultural transmission of standards of violence occurs through family socialization and region of birth, rather than peer group socialization and region of residence (Gastil 1971; Blumenthal, Kahn, Andrews and Head 1972; Huff-Corzine 1986). However, Land et al. (1990) found that Gastil's "Southerness" index, the south dummy variable (Hackney 1969), and percent southern born are highly correlated and there is little to gain from choosing one measure over the others. A southern measure is employed in the present study because southern region might bear on the stream of violence theory. Percent southern born is the measure chosen in an attempt to capture the effects of "southerness" because it may be conceptually distinct, even if it is somewhat empirically indistinct, from alternative measures.

Firearm Suicides

The percent of suicides committed by firearm is included as a proxy for firearm availability and is computed as the total number of suicides by firearm, divided by the total

number of suicides, and multiplied by 100. These data are derived from the National Vital Statistics for 1999-2002, based on the total county population. Kleck (2004) found percent of suicides with a firearm to be a statistically significant proxy for firearm availability. Firearms are the most lethal method and a facilitating factor for suicide and homicide (Kaplan and Geling 1998; Krug, Powell and Dahlberg 1998; Joe 2006). Furthermore, firearm suicides are increasing among Black males (Joe 2006). The increased use of this lethal method for suicide and homicide is correlated with income inequality and residence in disadvantaged neighborhoods for persons under the age of 35 (Miller 2005; Joe 2006).

Sample Characteristics

Table 1a presents the descriptive statistics for the sample of counties with populations less than or equal to 100,000. Smaller population counties represent the majority of counties in this study (n=787). Not shown in Table 1a, there are 507 counties with zero suicides from 1999 to 2002 for young Black males and 141 counties with zero suicides for young white males.[6] For the remainder of the counties, the maximum total number of young white male suicides is 16 and the maximum for young Black males is 10 suicides. The average number of suicides for Black males is 1.6 and the average for white males is 3.3—two times larger than Blacks suicide counts.[7] The minimum value of Black elected officials and Blacks in

[6] There are 348 smaller population counties with zero suicides for the total Black population, and 17 smaller population counties with zero suicides for the total white population.

[7] Table 1a shows a minimum value of 1 for total Black population and .5 total white population suicides, which are added constants. The maximum value for total Black population suicide is 13 (average of 2 suicides) and, for total white population suicide, 66 (average of 14 suicides).

professional and managerial occupations (Black occupation) is zero and .08, respectively. Therefore, there are counties where there were no Black elected officials in 2000; and there are counties where there were essentially no Blacks in professional and managerial occupations in 2000. The highest value of Black elected officials for the remaining counties is approximately 74% (an average of 8% for all smaller counties); and the highest value of Blacks in professional and managerial occupations is approximately 29% (with an average of 7%).

Table 1a: Descriptive Statistics for the Less Than or Equal to 100,000 Population Dataset (LE100K) N=787

Variable	Description	Minimum	Maximum	Mean	Std Dev
Dependent Variables					
Suicide Total Blacks	Total suicides Blacks ages 5 and older	1	13	2.36	1.825
Suicide Black Males 15-34	Total suicides Black males ages 15 to 34	1	10	1.58	.943
Suicide Total Whites	Total suicides whites ages 5 and older	.50	66	14.07	12.03
Suicide White Males 15-34	Total suicides white males ages 15 to 34	.50	16	3.31	3.06
Population Controls					
Total Blacks	Total population of Blacks ages 5 and older/1,000**	163	53014	6576.99	6327.70
Black Males 15-34	Total population of Black males ages 15 to 34/1,000**	70	44468	5048.88	4963.70
Total Whites	Total population of whites ages 5 and older/1,000**	759	81636	22028.09	18184.26
White Males 15-34	Total population of white males ages 15 to 34/1,000**	299	81235	13287.78	11701.25
Deprivation					
Black Deprivation	Black Deprivation Index (Summed Average Weighted Z-scores):	-1.94	1.77	.069	.521
	Gini 2000;	.314	.605	.453	.039
	Percent Blacks in poverty;	0	100	31.56	10.31
	Percent Blacks ages >=25 no high school;	3.49	82.54	39.71	10.22
	Black family median income ages >=15 with income	8.74	11.36	10.14	.283
White Deprivation	White Deprivation Index (Summed Average Weighted Z-scores):	-1.24	2.03	.081	.438
	Gini 2000;	.314	.605	.453	.039
	Percent whites in poverty;	2.27	39.88	11.78	4.07
	Percent whites ages >=25 no high school;	4.12	52.41	24.23	6.28
	White family median income ages >=15 with income	9.85	11.35	10.67	

**Divided by 1,000 to provide more readily interpretable unstandardized beta coefficients

Table 1a Continued: Descriptive Statistics for the Less Than or Equal to 100,000 Population Dataset (LE100K) N=787

Variable	Description	Minimum	Maximum	Mean	Std Dev
Black Empowerment					
Black Elected Officials	Percentage of Black Elected Officials: (Total Black Elected Officials/total Elected Officials)*100	0	73.81	7.57	10.68
Black Occupation	Percentage Blacks in Professional and Managerial Occupations: (Total Black professionals/Black population ages 16 and older)*100	.08	28.67	6.93	3.44
Controls					
Total Southern	Total residents born in the Southern U.S.	1718	87397	26852.34	19203.40
Black Unemployment	Percentage unemployed Blacks ages 16 and older in labor force	0	100	12.52	7.44
White Unemployment	Percentage unemployed whites ages 16 and older in labor force	.39	44.01	4.63	2.22
Suicides with Firearm	Percentage of Suicides Committed with a Firearm: (Total suicides with firearm/total suicides 1999-2002)*100	0	100	70.97	19.17

**Divided by 1,000 to provide more readily interpretable unstandardized beta coefficients

The descriptive statistics for the sample of counties with populations greater than 100,000 is presented in Table 1b (n=314). In these larger and more urban counties the minimum values for the suicide counts are low. Not shown in Table 1b, there are 29 counties with zero suicides from 1999 to 2002 for young Black males; and no counties with zero suicides for young white males.[8] The highest number of young Black male suicides is 130, with an average of 9 suicides among these larger counties, and 554 for young white male suicides with an average of 37 suicides—four times higher than those for Blacks.[9] There are counties with zero Black elected officials and the minimum percentage of Blacks in professional and managerial occupations (Black occupation) is 4.2. The maximum value of Black elected officials is 170 (an average of 7—about the same as for smaller population counties), and the maximum value of the percent of Blacks in professional and managerial occupations (Black occupation) is 36 (an average value of 14—two times larger than for smaller counties).

Comparing the mean values for Black deprivation for smaller and larger counties, we find a slightly higher value for smaller counties, .0686, than for larger counties, -.1899. The mean value of white deprivation for smaller counties is .0806 and for larger counties is -.2226. These figures indicate that deprivation is worse for Blacks and whites in smaller than larger counties and that Blacks fare worse than whites with regard to deprivation in larger

[8] For larger counties, there are 8 counties that report zero suicides for the total Black population; and no counties that report zero suicides for the total white population.

[9] For larger counties, the minimum for total white population suicide is 27. The maximum value for total Black population suicide is 349 (average 21); and for total white population suicide is 2366 (average 166).

counties but the level of deprivation among whites in smaller counties is higher than the level of deprivation among Blacks in smaller counties.[10]

[10] Deprivation measures are weighted indexes representing the summed z-scores of the race-specific component variables divided by 4 (number of deprivation measures). Therefore, the mean should be close to zero.

Table 1b: Descriptive Statistics for the Greater Than 100,000 Population Dataset (GT100K) N=314

Variable	Description	Minimum	Maximum	Mean	Std Dev
Dependent Variables					
Suicide Total Blacks	Total suicides Blacks ages 5 and older	1	349	20.63	38.37
Suicide Black Males 15-34	Total suicides Black males ages 15 to 34	1	130	9.16	15.11
Suicide Total Whites	Total suicides whites ages 5 and older	27	2366	165.67	220.54
Suicide White Males 15-34	Total suicides white males ages 15 to 34	3	554	37.28	50.35
Population Controls					
Total Blacks	Total population of Blacks ages 5 and older/1,000**	5219	2097530	82426	172325
Black Males 15-34	Total population of Black males ages 15 to 34/1,000**	3554	1439712	57251.34	113419
Total Whites	Total population of whites ages 5 and older/1,000**	38075	4320074	311715	419987
White Males 15-34	Total population of white males ages 15 to 34/1,000**	27220	4676302	214312	374046
Deprivation					
Black Deprivation	Black Deprivation Index (Summed Average Weighted Z-scores):	-1.56	1.41	-.190	.445
	Gini 2000;	.342	.542	.439	.035
	Percent Blacks in poverty;	6.31	43.37	23.87	7.68
	Percent Blacks ages >=25 no high school;	5.52	55.76	25.96	8.06
	Black family median income ages >=15 with income	9.88	11.15	10.42	.257
White Deprivation	White Deprivation Index (Summed Average Weighted Z-scores):	-1.29	1.28	-.223	.385
	Gini 2000;	.342	.542	.439	.035
	Percent whites in poverty;	2.19	27.83	8.21	3.23
	Percent whites ages >=25 no high school;	5.45	30.55	15.08	4.85
	White family median income ages >=15 with income	10.55	11.64	10.94	.193

**Divided by 1,000 to provide more readily interpretable unstandardized beta coefficients

Table 1b Continued: Descriptive Statistics for the Greater Than 100,000 Population Dataset (GT100K) N=314

Variable	Description	Minimum	Maximum	Mean	Std Dev
Black Empowerment					
Black Elected Officials	Percentage of Black Elected Officials: (Total Black Elected Officials/total Elected Officials)*100	0	170.37	7.41	16.63
Black Occupation	Percentage Blacks in Professional and Managerial Occupations: (Total Black professionals/Black population ages 16 and older)*100	4.20	35.81	13.52	5.14
Controls					
Total Southern	Total residents born in the Southern U.S.	43114	4813087	310707	424977
Black unemployment	Percentage unemployed Blacks ages 16 and old in labor force	2.75	18.96	10.71	3.12
White unemployment	Percentage unemployed whites ages 16 and older in labor force	1.65	9.07	4.34	1.28
Suicides with Firearm	Percentage of Suicides Committed with a Firearm: (Total suicides with firearm/total suicides 1999-2002)*100	17.69	88.24	54.55	12.43

**Divided by 1,000 to provide more readily interpretable unstandardized beta coefficients

Preliminary Analyses

Nonlinear Relationships

Based on extant research, Black family median income and white family median income measures were expected to have a nonlinear relationship with suicide, and require natural logarithmic transformations (see Kowalski et al. 1987). Bivariate scatterplots between the dependent variables and each independent variable were reviewed to determine which variables required logarithmic (log) transformation and whether natural logarithmic (natural log) transformation was appropriate (Land et al. 1990). The univariate distributions for Black family median income and white family median income were skewed and nonlinear relationships were found between these independent variables and Black suicides as well as white suicides. Therefore, Black family median income and white family median income variables were log transformed to meet the OLS assumption of linear relationships between the dependent variable and independent variables. Logarithmically transforming these skewed independent variables creates a more normal frequency distribution of those variables, a more linear relationship between those variables and the dependent variable, and improves the fit of the data (Neter, Kutner, Nachtsheim and Wasserman 1989).

Collinearity and the Partialing Fallacy

Having multiple indicators of a concept in a model can create statistical problems such as multicollinearity, especially in aggregate level analyses. Also, given that collinearity can compromise the reliability of parameter estimates (Neter et al. 1989), the collinearity of

Black elected officials and Blacks in higher ranking occupations with measures of deprivation may be a problem. One would anticipate that areas with large minority populations would be characterized with higher economic deprivation and also be more likely to have a higher percentage of Black elected officials. Researchers have found that many structural indicators tend to be highly intercorrelated, making reliable statistical estimation difficult. It can sometimes also lead to the "partialing fallacy" when the substantive effects of independent variables on the dependent variable are interpreted (Baller, Anselin, Messner, Deane and Hawkins 2001). Gordon (1968) proposed that even if the independent variables are not highly correlated, there still may be a "partialing fallacy" that results in unreliable coefficients and weak relationships between the independent variables and the dependent variable. Even among somewhat highly correlated independent variables, such as those with bivariate correlations ranging between .5 to .75, all of the variance in the dependent variable may be attributed to one explanatory variable that is more highly correlated with the dependent variable than the other explanatory variables. However, because the independent variables are highly correlated, the unique effects of the explanatory variables cannot be partialed out.

One important safeguard to minimize issues of multicollinearity is to select independent and control variables on the basis of theory rather than by the simple availability of data (Gordon 1968). Moreover, it is important to avoid the "partialing fallacy" by conducting principal components analyses. When such factor analyses indicate high

interrelations, shared regressor space can be reduced by forming composite factor based scales if theoretically meaningful.

Principal Components Analysis

Researchers have found that ecological level variables, such as median income and educational attainment, tend to be highly correlated, especially at higher levels of aggregation (Wilson 1987). Some variables in this study are highly correlated because, despite conceptual distinctions, they are empirically indistinct. One such aggregate association that has been found in urban ecological studies is the "concentration of poverty," which accounts for collinearity among conceptually distinct measures, such as the percentage of Blacks and single parent households, which are highly correlated with indicators of economic deprivation (Wilson 1987; Land et al. 1990). For example, economically deprived areas are likely to have a high percentage of Black residents and single parent households. Therefore, some variables are included in these analyses as indices/scales and are based on theory, on measures in previous research, and on standard criteria for factor analysis: relative eigenvalues, differences in magnitudes of adjacent eigenvalues, and factor loadings (Smith 2002).

Principal components analysis is employed to account for shared variance among the regressors based on the largest amount of variation explained at the line where the most data points are located (Kim and Mueller 1978). Common factors contribute to the covariance among the variables and if there is no correlation between the variables there will be no principal component. A set of observed variables is transformed into another set of

uncorrelated variables, based on shared factors, from which it will be determined that the independent variables are indicators of a latent construct (Kim and Mueller 1978).

To devise the Black deprivation and white deprivation indices, it was assumed that a number of indicators would be represented in a single factor for each race. A principal components analysis resulted in four reliable deprivation measures that loaded .40 or higher (Kim and Mueller 1978; Miles-Doan 1998). The z scores for the remaining items were computed to standardize the variables in preparation for constructing a factor based scale. The mean of the standard score (mss) was created by dividing the sum of the z scores by the total number of items in the index (4). This produced a scale with a mean of zero and a standard deviation of one for Blacks and whites.

Table 2 displays the principal components for the Black and white deprivation indices. The Black deprivation measures are (1) Black family median income; (2) percentage of Black residents 25 years and older without a high school diploma; (3) percentage of Blacks below the Federal poverty line; and (4) the 2000 Gini coefficient for income inequality. The white deprivation index consists of: (1) white family median income for persons 15 years and older with income; (2) percentage of white residents 25 years and older without a high school diploma; (3) percentage of whites below the Federal poverty line; and (4) the 2000 Gini coefficient for income inequality. The eigenvalues for the Black and white deprivation indices are 2.52 and 2.39, respectively. Black unemployment and white unemployment were removed from the deprivation indices because of low factor loadings (.457 and .374, respectively) and included as control variables.

Table 2: Principal Components for Z-scored Measures in Deprivation Indices

	Black	White
Black Deprivation Measures		
Black poverty	.92	
Gini 2000	.64	
Black family median income	-.95	
Blacks no high school diploma	.60	
White Deprivation Measures		
White poverty		.85
Gini 2000		.44
White family median income		-.91
Whites no high school diploma		.81
Eigenvalue	2.52	2.39

Preliminary diagnostics revealed a low correlation (-.021) between the percentage of Black elected officials and percentage of Blacks in professional and managerial occupations in the large population dataset and even lower (.004) in the small population dataset. Therefore, Black elected officials and Blacks in professional and managerial occupations potentially capture distinct processes, the effects of which should be examined separately. Instead of creating a Black empowerment index by combining these two variables, models were estimated for each measure separately, the first with the percentage of Black elected officials and the second with the percentage of Blacks in professional and managerial occupations.

The bivariate correlations among the dependent and independent variables are shown in Tables 3a-3b for young Black males and young white males for the two population datasets (correlations for the total Black population and total white population are shown in Appendix A Tables 5a-5b). The highest correlations for young Black males in smaller

counties are among the population base and the count of suicide (.539); and percent Southern born and the population base (.611). For young white males in the dataset of smaller population counties, the population base is correlated with suicide at .800; and percent Southern born is correlated with the suicide count (.779) and with the population base (.888).

For young Black males in the larger county dataset, population is highly correlated with the suicide count (.934); and percent Southern born is correlated with the suicide count at .734 and with the population base at .783. Population is highly correlated with the suicide count for young white males in this dataset at .929; and percent Southern born is correlated with the suicide counts at .859 and with the population base at .909.

Table 3a: Correlations between Variables for the Less Than or Equal to 100,000 Population Dataset (Young Black and Young White Males) N=818

	1	2	3	4	5	6	7	8
(1)Suicide Black Males 15-34								
(2)Black Male 15-34 Population	.539*							
(3) Black Deprivation	.077*	.119*						
(4) Black Elected Officials	.255*	.400*	.399*					
(5)Black Occupation	.067**	.124*	-.352*	.004				
(6)Black Unemployment	.002	.050	.394*	.112*	-.239*			
(7)Total Southern	.311*	.611*	-.232*	-.039	.333*	-.025		
(8) Firearm Suicide	-.010	.001	.189*	.108*	-.086*	-.009	-.066	
	1	2	3	4	5	6	7	8
(1)Suicide White Males 15-34								
(2)White Male 15-34 Population	.800*							
(3) White Deprivation	-.271*	-.356*						
(4) Black Elected Officials	-.179*	-.247*	.262*					
(5)Black Occupation	.279*	.381*	-.336*	.004*				
(6)White Unemployment	.039	.041	.300*	-.057	-.173*			
(7)Total Southern	.779*	.888*	-.267*	-.039	.333*	.002		
(8) Firearm Suicide	-.119*	-.152*	.209*	.108*	-.086*	-.028	-.066	

* p < .05;
**p<.10

Table 3b: Correlations between Variables for the Greater Than 100,000 Population Dataset (Young Black and Young White Males) N=315

	1	2	3	4	5	6	7	8
(1)Suicide Black Males 15-34								
(2)Black Male 15-34 Population	.934*							
(3) Black Deprivation	.250*	.226*						
(4) Black Elected Officials	.495*	.456*	.309*					
(5)Black Occupation	.109**	.166*	-.355*	-.021				
(6)Black Unemployment	.108**	.065	.479*	.068	-.520*			
(7)Total Southern	.734*	.783*	.131*	.060	.223*	.060		
(8) Firearm Suicide	-.114*	-.168*	-.059	.192*	-.292*	-.075	-.270*	

	1	2	3	4	5	6	7	8
(1)Suicide White Males 15-34								
(2)White Male 15-34 Population	.929*							
(3) White Deprivation	.193*	.285*						
(4) Black Elected Officials	-.020	-.048	.317*					
(5)Black Occupation	.189*	.267*	-.209*	-.021				
(6)White Unemployment	.081	.119*	.481*	-.020	-.400*			
(7)Total Southern	.859*	.909*	.276*	.060	.223*	.072		
(8) Firearm Suicide	-.208*	-.347*	-.088	.192*	-.292*	-.115*	-.270*	

* $p < .05$,
**$p<.10$

Winsorizing Variables

Larger population size counties have more suicide observations to contribute to the outcome variable and can have an undue influence on the dependent variables. This issue of unduly influential cases was addressed in the present study through the creation of the LE100K and GT100K data subsets, grand mean centering all of the independent variables, and winsorizing all but one of the dependent and independent variables.[11] Grand mean centering (subtracting the variable mean from each value) reduces multicollinearity by shifting the scale of the variables, resulting in a mean of 0 (Jaccard, Turrisi and Wan 1990). Winsorizing reduces the standard error and the potential for unduly influential outliers based on extreme cases at the minimum and/or maximum ends of the variable distributions. Winsorizing does not delete the outlier cases but instead pulls them in and includes the lowest and/or highest cases into the newly winsorized minimum and/or maximum value range. This prevents a misleading fit of a regression line that has been disproportionately pulled toward outlying observations (Ethington et al. 2002).

Method of Analysis

Ordinary Least Squares Regression

Ordinary Least Squares (OLS) multiple regression techniques were employed to estimate the amount of variation in the dependent variable explained by each independent

[11] The dependent variable of suicide for the total Black population in the LE100K data subset was not winsorized because frequency distributions did not reveal outlier cases.

variable while the effects of the other independent variables are held constant. In the course of conducting the OLS analyses, regression diagnostics were performed to determine whether assumptions of homoscedasticity were met and whether there were outlier cases. To produce accurate estimates of standard errors, and hence reliable regression coefficients and accurate tests of hypotheses, OLS regression relies on the assumption of uncorrelated error terms across observations. The violation of the OLS assumption of equal error variance (homoscedasticity) is manifested when the residual error variance is not constant for the independent variable (Neter et al. 1989). Heteroscedasticity occurs when the dependent variable is not normally distributed. Preliminary analyses revealed normal distribution of the dependent variable and the range in county population sizes and suicide counts did not warrant the use of weighted least squares (WLS) regression (Neter et al. 1989). In addition, a large proportion of zero suicide cases resulted in a skewed distribution and prior suicide research found the negative binomial variant of Poisson regression to be more appropriate for analysis of rare events (Burr et al. 1999; Osgood 2000; Kubrin et al. 2006). The OLS assumptions of homoscedasticity and normal distribution were met in the present study. In the early stages of the present study, analyses were conducted with logged versions of the dependent variables. Therefore, constants of 1 and .5 were added to the 4 year totals of Black suicide counts and white suicide counts, respectively, to enable a comparison between the race-specific groups based on similar statistical methods.[12]

[12] Constants were added to the zero sums of the four year total counts of suicide and not to the zero cases prior to obtaining the four year total. Therefore, the minimum value for Black and Black male suicide is 1 and the minimum value for white and white male suicide is .5.

Model Estimation

A series of OLS regression models were estimated separately for suicide counts for Black males ages 15 to 34 and for white males ages 15 to 34, as well as for the Black and white populations (see Appendices B and C). Each set of models was estimated for (1) counties with less than or equal to 100,000 population (LE100K) and (2) those with greater than 100,000 population (GT100K). Tables 4a and 4b display the parameter estimates for the Black male ages 15 to 34 suicide counts analyses for the GT100K and LE100K subsets; and Tables 4c and 4d present the parameter estimates for the white male ages 15 to 34 suicide counts analyses for the GT100K and LE100K subsets. In the supplemental analyses, the variance among Blacks and whites explained by the regressors are shown in Appendices B and C Tables 6a-6d. Each table contains 11 models. Model 1 is the population baseline model; the main effect of deprivation is added in model 2; and Models 3 and 4 present the main effects of Black elected officials and Blacks in higher ranking occupations, respectively. Models 5a through 5d introduce each of the three interaction terms, separately, and in a combined model. And, Models 6 through 8 add the remaining control variables.

The central focus of the present study is the effect of the multiplicative interaction terms between deprivation and Black elected officials and Blacks in higher ranking occupations while controlling for the remaining variables in the equations. Although theoretically, they are not hypothesized to have independent effects on suicide, the measures of Black empowerment and deprivation are also entered separately in the models to obtain accurate estimates of the interaction term. Correct interpretation of the effect of the

interaction term requires that each of the variables comprising the interaction term be included in the models (Aiken and West 1991). Aiken and West also recommend that main effects for Black elected officials, Blacks in higher ranking occupations, and deprivation be assessed without the interaction term being included.

The interaction term between Black elected officials and deprivation as well as Blacks in higher ranking occupations and deprivation are tested in the OLS regression models, in which a multiplicative term for deprivation and Black elected officials is used in model 5a, and a multiplicative term for deprivation and Blacks in higher ranking occupations is used in model 5b. In addition, a third interaction is examined in Model 5c to determine if Black elected officials is a force that directs lethal violence and affects the relationship between Blacks in higher ranking occupations and suicide. Model 5c presents the multiplicative term for Blacks in higher ranking occupations and Black elected officials. Model 5d includes all of the interaction terms.

Within model and cross-coefficient comparisons may be made by using standardized regression coefficients to assess which independent variable explains more variation in the dependent variable. The standardization of regression coefficients is necessary for across-coefficient comparisons within the same model because a unit change in deprivation is a different value than a unit change in Black empowerment, for example. Standardized coefficients are measured in standard deviations and are interpreted as one standardized unit or one standard deviation change in the independent variables that generate a change in the dependent variable (Schroeder, Sjoquist and Stephan 1989). Statistically significant

interaction terms in the theoretically predicted direction provide supporting evidence for the stream of violence theory and are presented in Tables 4a and 4c; and in Figures 1 through 4.[13]

[13] The statistically significant interactions for the total Black population and total white population suicide analyses are presented in Tables 6a through 6d; and in Figures 5-10 (see Appendices B and C).

Chapter 3: Results of the Tests of the Conditioning Effects of Black Political and Occupational Status Attainment

In the present test of the stream of violence theory, U.S. counties that are considered high Black empowerment and socioeconomic status attainment counties in this study are those that have a higher percentage of Black elected officials and/or of Blacks in managerial and professional occupations. Among Blacks, a positive interaction of deprivation and Black empowerment and socioeconomic status attainment on Black suicide is hypothesized. In counties with high deprivation, the impact of Black empowerment and socioeconomic status attainment on Black suicide is predicted to be higher because deprivation generates high tendencies toward violence. Whether the stream of violence leads toward suicide or toward homicide (and other forms of violence) presumably depends on Black empowerment and socioeconomic status attainment. Increased Black political representation and occupational status attainment pose a challenge to traditional structures of white advantage. As a result, Blacks may be unable to locate external oppressors and external sources at which to attribute causality, leading to an increase in Black suicide as Blacks attribute causality for their economic circumstances to themselves.

Conversely, to the extent that Black empowerment and socioeconomic status attainment implies a loss of white advantage, a negative interaction is expected for the white suicide models. In high deprivation counties, violent impulses for whites should be directed outwardly as Black political and socioeconomic status attainment increases. Whites should be more likely to attribute causality for their deprived conditions to Blacks in positions of

power. Counties with lower deprivation generate lower violent impulses, but to the extent that violent impulses are generated, they should be directed outwardly for whites in counties with high Black empowerment and socioeconomic status attainment rather than inwardly.

This chapter presents the results of the OLS regression with estimates of the effects of deprivation, Black political representation and occupational status attainment on Black and white suicides for U.S. counties with populations greater than 100,000 and less than or equal to 100,000 (Tables 4a-4d; see Appendices B and C Tables 6a-6d). Consistent with the stream of violence theory, a positive interaction is predicted between deprivation and Black political representation as well as between deprivation and Black occupational status attainment for young Black male suicide; and, in the suicide analysis for the total Black population (see Appendix B), a positive interaction is predicted between deprivation and Black political representation as well as between deprivation and Black occupational status attainment for Black suicide. As for white suicide, the hypotheses derived in earlier chapters lead one to expect a negative interaction between deprivation and Black political representation and between deprivation and Black occupational status attainment for young white male suicide, and for the analysis of suicide for the total white population (see Appendix C). County measures of Black deprivation and white deprivation are incorporated in the present study to account for the differential effects of deprivation on Blacks and whites. The impact of such Black political representation and Black occupational status attainment are predicted to be greater on suicide in high deprivation counties because, according to the stream analogy, high deprivation generates the strongest violent impulses

and frustrations over circumstances for which an internal or external source of attribution is sought.

As discussed in the previous chapter, the full sample has been split into two, using the 100,000 population cut-off, because of the extreme differences between the small and large population counties in the frequencies of suicides. In essence the large counties become statistically unduly influential in the analysis, making the results unstable, so the sample is split into two samples. A hierarchical modeling approach is taken in which Model 1 is the demographic control for the population subset; Models 2 through 4 introduce the main effects of the variables of primary theoretical interest: deprivation and the county percentage of Black elected officials and Blacks in professional and managerial occupations. Models 5a through 5c examine the conditioning effects separately by including each interaction term; Model 5d simultaneously examines the conditioning effects; and Models 6 through 8 control for the effects of additional variables that are thought by some to affect suicide: unemployment, southern born, and firearms as a facilitating factor.

The following presents the results of the analyses of young Black and white male suicides (Tables 4a-4d; Figures 1-4), in addition to an overview of the results for the total Black and total white populations (see Appendices B and C Tables 6a-6d and Figures 5-10).

Suicide Counts of Black Males Ages 15 to 34 for Counties with Populations Greater than 100,000

Table 4a displays the regression estimates for suicide counts of Black males ages 15 to 34 in counties with populations greater than 100,000. Model 1 includes the demographic control for the total number of Black males ages 15 to 34 in the county. As expected, there are higher counts of young Black male suicide in counties with larger populations of young Black males. This is a very strong relationship, as can be seen in the table wherein, even with all of the variables in the model (Model 8), the standardized coefficient for the young Black male population control is .785, a decline from .934 in Model 1 that includes no competing variables in the model.

Table 4a: Unstandardized (and Standardized) Regression Coefficients for Black Males Ages 15 to 34 Suicide Counts for Counties with Populations Greater than 100,000 (GT100K) N=314

	Model 1	Model 2	Model 3	Model 4	Model 5a	Model 5b	Model 5c	Model 5d	Model 6	Model 7	Model 8
Constant	8.197	8.197	8.197	8.197	8.069	8.174	8.188	8.084	8.089	7.991	8.010
Demographic Control											
Black males 15-34	.153* (.934)	.152* (.925)	.153* (.934)	.148* (.901)	.148* (.901)	.148* (.902)	.148* (.904)	.148* (.903)	.148* (.900)	.129*[a1] (.783)	.129*[a2] (.785)
Production and Direction											
Black deprivation		.946* (.041)	.608 (.027)	.215 (.009)	.152 (.007)	.224 (.010)	.126 (.006)	.113 (.005)	-.124 (-.005)	-.236 (-.011)	-.171 (-.008)
Black occupation			-.071 (-.036)	-.068 (-.035)	-.072 (-.037)	-.076 (-.038)	-.085** (-.043)	-.083 (-.042)	-.056 (-.028)	-.098 (-.051)	-.074 (-.038)
Black Elected Officials				.093* (.081)	.069* (.061)	.093* (.081)	.096* (.084)	.076* (.066)	.079* (.069)	.123* (.110)	.116* (.103)
Interaction Effects											
Black deprivation*BEO					.112* (.054)			.090 (.043)	.089 (.042)	.114* (.056)	.112* (.055)
Black deprivation*Blackoccup						-.030 (-.007)		-.007 (-.002)	-.002 (.000)	-.083 (-.021)	-.058 (-.015)
Blackoccup*BEO							-.010* (-.041)	-.006 (-.025)	-.006 (-.024)	-.001 (-.006)	-.001 (-.005)
Economic and Cultural Controls											
Black unemployment									.099 (.031)	.071 (.023)	.087 (.028)
Total Southern										.004*[a1] (.127)	.004*[a2] (.127)
Suicide with Firearm											.016 (.021)
AdjR2	.873	.874	.875	.879	.881	.879	.880	.881	.881	.879	.878

* p <.05;
**p<.10;
[a1] variance inflations for Black male 15-34 population and southern born 4.762 and 4.136, respectively;
[a2] variance inflations for Black male 15-34 population and southern born 4.789 and 4.136, respectively

Black deprivation, Black elected officials, and Blacks in higher ranking occupations are introduced in Models 2 through 4. In Model 2, the population base and Black deprivation have positive and significant associations with Black male suicide while Blacks in higher ranking occupations is nonsignificant. The population base maintains significance in Model 3 while Black deprivation loses statistical significance and Blacks in higher ranking occupations retains statistical nonsignificance. Thus, the main effects of deprivation and higher ranking occupations for Blacks are zero net of the effect of the number of Black males 15 to 34 in the county's population.

Model 4 reveals positive and statistically significant main effects for Black elected officials and the population base. So, of the three theoretically derived variables of interest—deprivation, occupational status attainment and Black elected officials—only the latter has a statistically significant main effect—and that effect is positive. Thus, counties with higher percentages of Black elected officials are associated with higher number of Black suicides. This is consonant with the general stream of violence argument of directing violence inward, but one objective of the present study is to examine the extent to which the effect of deprivation on suicide varies by Black political representation and Black occupational status attainment. That is, Black suicides may not generally be influenced by Black deprivation, Blacks in higher ranking occupations, and Black elected officials. However, the effect of Black deprivation may be moderated by Blacks in higher ranking occupations and Black elected officials; and there may be a moderating effect of Black elected officials on Blacks in higher ranking occupations.

To address the conditioning effects of Black political representation and occupational status attainment a series of regression models was examined with product or interaction terms for Black deprivation and Black elected officials, for Black deprivation and Blacks in higher ranking occupations, as well as for Blacks in higher ranking occupations and Black elected officials (Models 5a through 5d). Model 5a examines the interaction of deprivation and Black elected officials, and Model 5b examines the interaction of deprivation and Blacks in higher ranking occupations. In Model 5a we find a statistically significant interaction of deprivation and Black elected officials, in addition to the positive and significant main effects of Black elected officials. One could say that there is a synergistic relationship (the main effects and the product term have the same sign) between deprivation and Black elected officials, in that the presence of both stimulates higher counts of suicide among Black males ages 15 to 34 than if each variable had only an independent main effect. The measure of Black elected officials interacts with Black deprivation to increase suicide for Black males ages 15 to 34. In the context of a higher percentage of Black elected officials, net of the other variables in the model, the number of suicides among Black males ages 15 to 34 is higher.

The interactive relationship between Black deprivation and Black elected officials can be seen in Figure 1. Here, in the prosperous counties (one standard deviation below the mean), there is no relationship between Black elected officials and Black male suicide (ages 15 to 34). However, when deprivation is high (one standard deviation above the mean), there is a positive slope between Black elected officials and Black male suicide (ages 15 to 34).

So, in general, the higher the deprivation in the county, the stronger the positive association between the percent of Black elected officials and young Black male suicides.

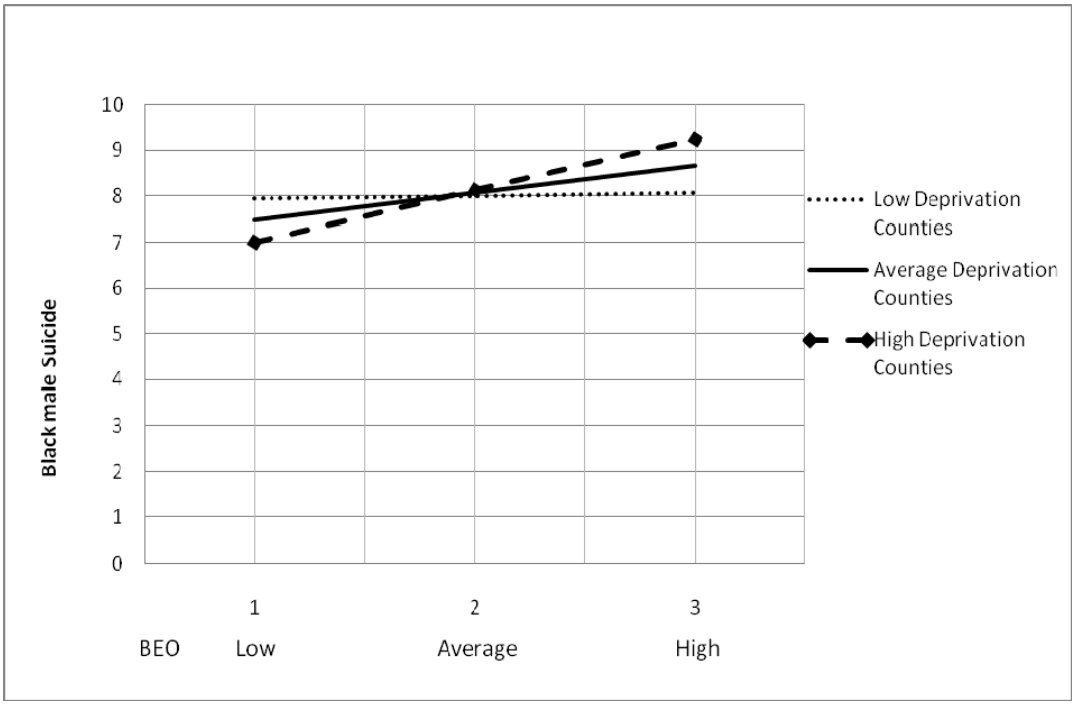

Figure 1: Black Male Suicide by Black Deprivation and Black Elected Officials GT100K

This interaction is not only a synergistic one, but can be described as "crossed at the mean." That is, the lines in the figure "cross" in the middle where BEO is average. Only in high deprivation counties (above average in deprivation), as the number of Black elected officials increases above the mean, does the expected number of suicides for young Black males rise above the average (above the intercept). When the number of Black elected officials decreases below the mean, the expected number of young Black male suicides falls below the average. While all interactions are "crossed" at some point in their distributions, this one is crossed at the mean. Therefore, the effect of Black elected officials is tipped at the

mean of Black elected officials. This interaction supports the stream of violence hypothesis in which the inability to locate external sources of attribution for one's economic circumstances results in internal attribution and an increase in suicides, but only in counties with average or above average deprivation.

The interaction of deprivation and Blacks in higher ranking occupations is not significant in Model 5b (where the interaction of deprivation and Black elected officials is omitted). Therefore, the effect of deprivation is not moderated by the percentage of Blacks in professional and managerial occupations, as hypothesized. However, a third interaction is examined in Model 5c to see if the variables thought to moderate or redirect the effect of deprivation may themselves affect each other. That is, we further explore Black elected officials as a force that directs lethal violence, as it affects the relationship between Blacks in higher ranking occupations and suicide. The result (see Figure 2) is a negative and statistically significant product term indicating a reductive or buffering effect of Blacks in professional and managerial occupations on the impact of Black elected officials on young Black male suicide. Higher percentage of Blacks in professional and managerial occupations reduces the positive coefficient for Black elected officials (by -.010 for a one unit increase in Black elected officials).

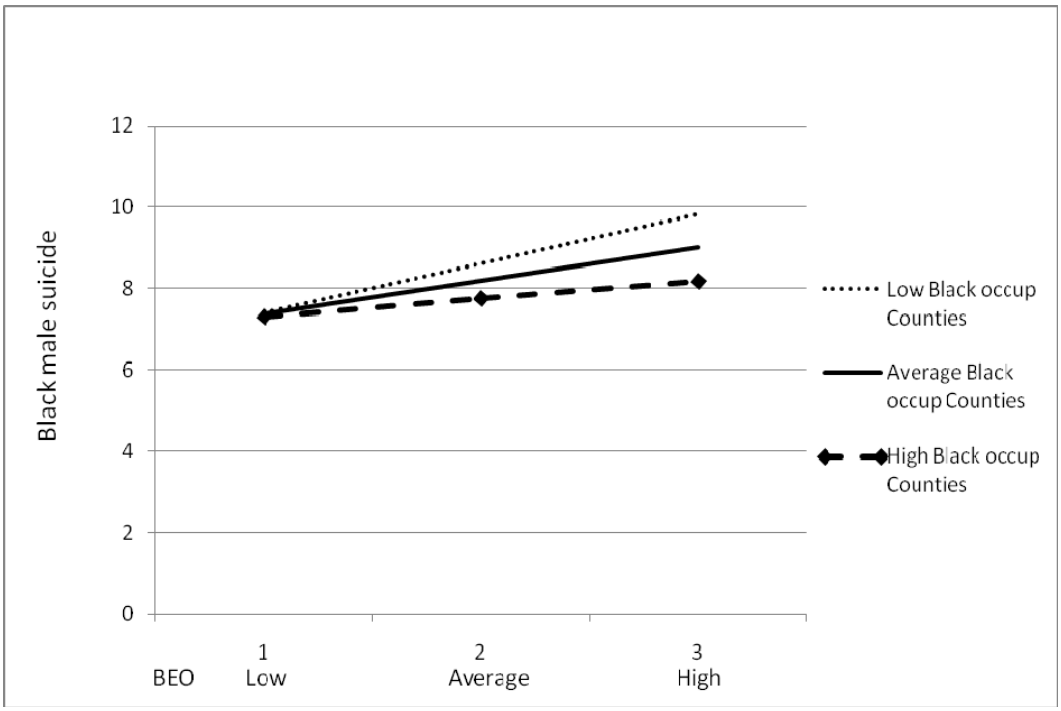

Figure 2: Black Male Suicide by Black Occupation and Black Elected Officials GT100K

Summarizing the effects of the interaction terms in these models, the positive, significant interaction in Model 5a can be interpreted as a synergistic effect in the predicted direction. It suggests that the percentage of Black elected officials has an incremental effect on the direction of violent impulses in the form of suicide in high deprivation counties. In Model 5b, Blacks in higher ranking occupations does not have an interaction with deprivation, so the stream of violence hypothesis is not supported there. As for an interaction between the two hypothesized moderator variables, there is a negative, significant interaction in Model 5c between Black elected officials and Blacks in higher ranking occupations. This is interpreted as a buffering effect of Blacks in higher ranking occupations on the Black elected officials and suicide relationship – it is reduced. Where there are higher percentages

of Black elected officials in counties with relatively high percentages of Blacks in higher ranking occupations, there are lower counts of suicide than would be expected if Black elected officials only had a main effect. Therefore, the effect of Black elected officials on suicide (while always positive between plus and minus one standard deviation of occupational status attainment) is lower in counties with higher percentages of Blacks in professional and managerial occupations (i.e., the slope is flatter).

Moreover, since interaction terms speak equally to the effects of each variable they are composed of, the increase in Black male suicides for counties with higher percentages of Black elected officials is reduced somewhat when there are higher percentages of Blacks in professional and managerial occupations. This finding in Model 5c generally runs counter to what has been hypothesized because the results suggest that success does not breed suicide in all instances, rather high percentages of Blacks in professional and managerial occupations suppresses the routing of violence toward suicide through Black elected officials. In addition, the main effect of Black elected officials maintains statistical significance in Model 5c while Blacks in higher ranking occupations becomes negative and statistically significant. The percentage of Blacks in higher ranking occupations approached statistical significance in the earlier models. In Model 5d, an attempt is made to estimate the effects of all three product terms at the same time. Bear in mind that testing all three puts each interaction term in competition with the others, reducing the chances that any one of them will reach statistical significance. The significant interaction effects and Blacks in higher ranking occupations are reduced to statistical nonsignificance when the product terms are

simultaneously controlled while the main effects of the population base and Black elected officials maintain statistical significance. The high degree of correlation among interaction terms makes it difficult for any one of them to claim statistical significance.

The effects of other variables proposed by various differing perspectives to have an influence on Black suicides are controlled in Models 6 through 8. Black unemployment, total Southern born, and the percentage of suicides with a firearm are systematically introduced into Model 5d, creating Models 6 through 8. Black unemployment is not significant in any of the models. In Model 7 we find a positive and significant effect for total southern born, a positive and significant interaction of Black elected officials and deprivation, and positive and significant main effects for the population base and Black elected officials. Thus, a suppression effect of southern born is found in this model as the interaction of Black elected officials with deprivation regains statistical significance (see Figure 3). The direction and significance of the relationships in Model 7 are maintained in Model 8 despite the introduction of an additional control variable, firearm suicide, which we would generally expect to be correlated with the age-sex-race specific dependent variable, but which is not statistically significant in this model.

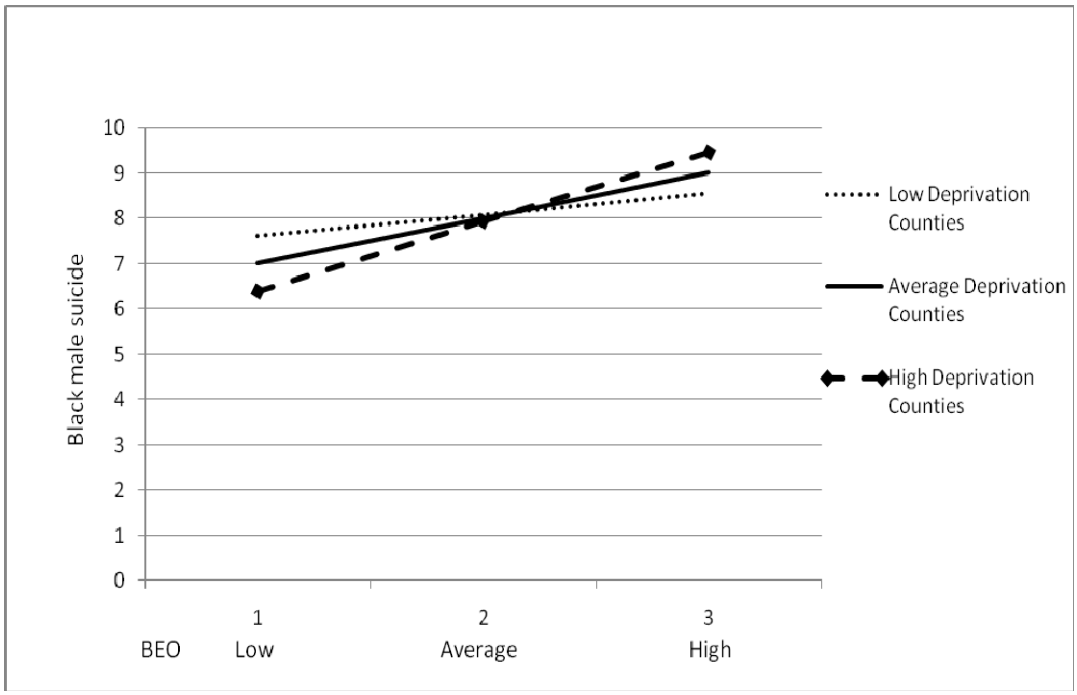

Figure 3: Black Male Suicide by Black Deprivation and Black Elected Officials GT100K (Model 8)

Based on Model 8, where all of the variables have been entered, there is evidence to suggest that Black deprivation and Black elected officials combine to result in relatively high suicides among Black males 15 to 34. Further, suicide is higher where there are more Southern born residents. The first of these findings is consistent with the predictions of the present study and the stream analogy. Applying the stream analogy, high deprivation generates high economic frustrations and violent impulses among Black males ages 15 to 34. The preference for suicide is increased as Black males see greater Black political representation and feel less inclined to attribute a lack of opportunity for their socioeconomic conditions. The strength of the associations (Adjusted R^2) in the full Model 8 is .878, which indicates the variables in the full model explain approximately 88% of the variance in suicide

for Black males ages 15 to 34. This explained variance is lower than previous models and greater than the baseline Model 1 (.873) by only less than 1%. Thus, all of the variables added in the models beyond the population base add little to the predictive power of the analysis. That is, the explained variance has only slightly increased from the baseline Model 1 to the full Model 8, and there is somewhat less support than an advocate of the stream analogy might hope, since the effects observed here are small. The highest standardized coefficient in Table 4a beyond the control for the Black male population is Southern born at .127. Also, in Model 5c there is evidence that the percentage of Black elected officials has a reduced effect on young Black male suicide with higher percentages of Blacks in professional and managerial occupations in a county. However, that effect disappears in the other models.

Support for the stream of violence theory is also weak in the analysis of suicide for the total Black population in county populations greater than 100,000 (see Appendix B Table 6a). In addition to the significance of the Black population across models, there is a positive effect of Black elected officials across models. The percentage of Blacks in higher ranking occupations is only significant in Model 7. This analysis reveals support for one of the hypothesized interactions and partial support for the stream of violence theory with a positive, significant interaction of Black deprivation and Black elected officials (see Appendix B Figure 5). However, this interaction is only significant when the positive, significant effect of Southern born is controlled in Model 7 and firearm suicide is added in Model 8.

The following is a discussion of young Black male suicide for counties with populations less than or equal to 100,000 (Table 4b) along with a comparison of Tables 4a and 4b.

Suicide Counts of Black Males Ages 15 to 34 for Counties with Populations Less than or Equal to 100,000

The results of the young Black male analysis for the population less than or equal to 100,000 are presented in Table 4b. The findings from the analysis of these counties are quite different than those from the large counties. First, the constant is about 1.6 whereas for the large counties it is around 8, indicating that the average number of Black male suicides among 15 to 34 year olds is higher in the large population counties controlling for other variables in the model. Second, standardized coefficients for the population of 15 to 34 year old Black males is weaker among this subpopulation, with values of .539 in Model 1 and as low as .506 in Models 5c and 5d. As a consequence, only 28% of the variance is explained in young Black male suicides. No support is found for the hypotheses regarding the stream of violence theory. In fact, the positive, significant effect for the population control for the total number of Black males ages 15 to 34 is the only significant effect across the eight models. Not surprisingly, there are higher counts of suicide among Black males ages 15 to 34 when there are more Black males ages 15 to 34 living in a county.

Table 4b: Unstandardized (and Standardized) Regression Coefficients for Black Males Ages 15 to 34 Suicide Counts for Counties with Populations Less than or Equal to 100,000 (LE100K) N=817

	Model 1	Model 2	Model 3	Model 4	Model 5a	Model 5b	Model 5c	Model 5d	Model 6	Model 7	Model 8
Constant	1.579	1.579	1.582	1.581	1.583	1.590	1.581	1.585	1.584	1.584	1.587
Demographic Control											
Black males 15-34	.122 * (.539)	.122* (.537)	.121* (.533)	.118* (.517)	.118* (.517)	.117* (.514)	.115* (.506)	.115* (.506)	.115* (.507)	.117* (.513)	.116* (.511)
Production and Direction											
Black deprivation		.024 (.013)	.023 (.013)	-.011 (-.006)	-.011 (-.006)	-.005 (-.003)	-.005 (-.003)	-.002 (-.001)	.028 (.015)	.024 (.013)	.031 (.017)
Black occupation			.002 (.006)	.000 (.001)	.000 (.001)	.007 (.026)	.008 (.030)	.012 (.042)	.011 (.041)	.012 (.042)	.012 (.043)
Black Elected Officials				.005 (.048)	.005 (.050)	.004 (.044)	.005 (.049)	.004 (.043)	.004 (.039)	.004 (.037)	.004 (.038)
Interaction Effects											
Black deprivation*BEO					.000 (-.005)			.001 (.007)	.001 (.010)	.001 (.010)	.001 (.009)
Black deprivation*Blackoccup						.015 (.040)		.009 (.026)	.009 (.025)	.010 (.026)	.011 (.029)
Blackoccup*BEO							.002 (.053)	.002 (.047)	.002 (.051)	.002 (.050)	.002 (.046)
Economic and Cultural Controls											
Black unemployment									-.007 (-.038)	-.007 (-.037)	-.006 (-.036)
Total Southern										-4.096E-7 (-.008)	-5.060E-7 (-.010)
Suicide with Firearm											.000 (-.016)
AdjR^2	.290	.289	.284	.285	.284	.285	.286	.284	.284	.283	.281

* p <.05

For young Black males ages 15 to 34, the economic and political effects of interest are only found for larger and more urban counties (in Table 4a) than for smaller and more rural counties (in Table 4b), which comprise the majority of counties in this study (n=787). This can be expected partly because Blacks in professional and managerial occupations represent a small proportion of total holders of professional and managerial occupations in the smaller counties (Bositis 2000; Conley and Young 2005). Recall that, in the present study, larger counties have an average percent of Blacks in professional and managerial occupations of approximately 14%, which is twice that of smaller counties (see Tables 1a and 1b). However, the average percent of Black elected officials is about the same for smaller counties (8%) as for larger counties (7%).

The findings of this young Black male analysis contrast the findings in the analysis of suicide for the total Black population in counties with populations less than or equal to 100,000 (see Appendix B Table 6b). The total Black population analysis reveals negative, significant main effects of Black deprivation and Blacks in higher ranking occupations in Model 3. The negative effect of Blacks in higher ranking occupations is maintained in Model 4, when Black elected officials is controlled, but Black deprivation is reduced to nonsignificance. However, in contrast to the young Black male analysis, the analysis of total Black population suicide does not provide support for the hypothesis; but it does yield a conditioning effect of Black elected officials on the effect of higher Blacks in higher ranking occupations on suicide for the total Black population (see Appendix B Figures 6 and 7).

The following is a discussion of the suicide analysis for white males ages 15 to 34 for counties with populations greater than 100,000 (Table 4c) and a comparison with the young white male suicide models for county populations less than or equal to 100,000 (Table 4d).

Suicide Counts of White Males Ages 15 to 34 for Counties with Populations Greater than 100,000

The regression estimates for the suicide counts of white males ages 15 to 34 in counties with populations greater than 100,000 are displayed in Table 4c. Model 1 indicates a positive, significant demographic control of the total number of white males ages 15 to 34 in the county. This indicates that the more white males ages 15 to 34 living in a county, the higher counts of suicide there will be for white males ages 15 to 34. The significant main effect of the young white male population is maintained across models. This is a strong effect in that the standardized coefficient is .929 in Model 1, when there are no competing variables, and .955 in Model 8.

Table 4c: Unstandardized (and Standardized) Regression Coefficients for White Males Ages 15 to 34 Suicide Counts for Counties with Populations Greater than 100,000 (GT100K) N=314

	Model 1	Model 2	Model 3	Model 4	Model 5a	Model 5b	Model 5c	Model 5d	Model 6	Model 7	Model 8
Constant	34.133	34.133	34.133	34.133	33.987	33.855	34.116	33.783	33.753	33.745	33.831
Demographic Control											
White males 15-34	.156* (.929)	.160* (.951)	.165* (.985)	.168* (.998)	.168* (.999)	.169* (1.009)	.167* (.998)	.169* (1.008)	.170* (1.011)	.160*[a1] (.948)	.162*[a2] (.955)
Production and Direction											
White deprivation		-6.764* (-.077)	-9.372* (-.107)	-11.729* (-.134)	-12.003* (-.137)	-11.852* (-.136)	-11.870* (-.136)	-12.081* (-.138)	-11.127* (-.127)	-11.116* (-.128)	-10.649* (-.123)
Black occupation			-.628* (-.096)	-.678* (-.104)	-.683* (-.105)	-.811* (-.125)	-.701* (-.108)	-.812* (-.125)	-.872* (-.134)	-.863* (-.135)	-.555* (-.087)
Black Elected Officials				.259* (.068)	.232* (.061)	.259* (.068)	.267* (.070)	.245* (.065)	.226* (.060)	.202* (.054)	.105 (.028)
Interaction Effects											
White deprivation*BEO					.145 (.019)			.093 (.012)	.106 (.014)	.125 (.017)	.203 (.027)
White deprivation*Blackoccup						-.722** (-.042)		-.646 (-.038)	-.694 (-.041)	-.712 (-.043)	-.237 (-.014)
Blackoccup*BEO							-.019 (-.023)	-.009 (-.011	-.007 (-.008)	-.006 (-.007)	-.003 (-.004)
Economic and Cultural Controls											
White unemployment									-.657 (-.025)	-.568 (-.022)	-.047 (-.002)
Total Southern										7.088E-6[a1] (.065)	7.713E-6[a2] (.071)
Suicide with Firearm											.270* (.103)
AdjR^2	.862	.867	.875	.879	.879	.880	.879	.879	.879	.875	.882

* p <.05;
**p<.10;

Models 2 through 4 reveal the significant main effects of the three theoretically derived variables of interest—white deprivation, Blacks in higher ranking occupations, and Black elected officials. Net of the significant effect of the young white male population, there are negative statistically significant effects of white deprivation and Blacks in higher ranking occupations, and a positive statistically significant effect of Black elected officials. Therefore, as theoretically predicted, there are lower young white male suicides in counties with higher white deprivation and higher percentages of Blacks in professional and managerial occupations. The effect of Black elected officials is not in the expected direction and indicates an increase in young white male suicides when there are higher percentages of Black elected officials in the counties.

This analysis yields support for one of the hypothesized interaction terms and partial support for the stream of violence hypothesis in Model 5b because the interaction term of white deprivation and Blacks in higher ranking occupations is negative and statistically significant. This synergistic interaction is in the predicted direction and indicates a decrease in suicides for young white males in counties with higher white deprivation and higher percentages of Blacks in professional and managerial occupations (see Figure 4).

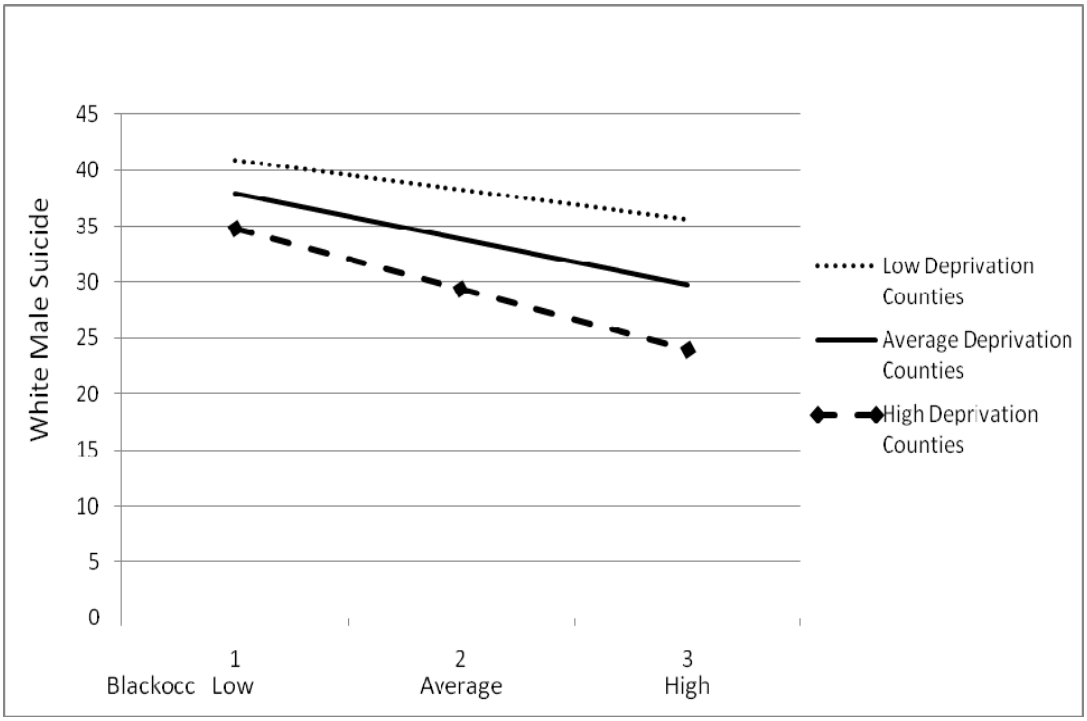

Figure 4: White Male Suicide by White Deprivation and Black Occupation GT100K

When we include all of the product terms in the model (5d), there is more competition among these variables to explain the variation in white suicides. What is found is that the interaction between white deprivation and Blacks in higher ranking occupations is reduced to statistical nonsignificance in Model 5d and in the remainder of the models.

However, other statistically significant effects are maintained throughout the models until Model 8 where firearm suicide is controlled, and the measure of Black elected officials loses statistical significance. Firearm suicide is positively predictive (statistically significant), and reduces the main effect of Black elected officials to statistical insignificance. The young white male population demographic, white deprivation and Blacks in higher

ranking occupations remain significant as in previous models in this table. Therefore, the prevalence of firearm suicide increases suicide for young white males, net of the effects of young white male population, white deprivation, and Blacks in higher ranking occupations; and regardless of the Black elected officials in the county. The positive effect of firearm suicide, net of other effects, is expected given the role of firearms as a facilitating factor for violence (Kaplan and Geling 1998; Krug, Powell and Dahlberg 1998) and greater firearm suicides for whites as compared to Blacks (Miller 2005; Joe 2006).

Therefore, young white males may be prone to outward expressions of frustration and anger in counties with higher white deprivation and higher percentages of Blacks in higher ranking occupations; but the effect of Black elected officials increases white suicide, contrary to the stream of violence hypothesis. Perhaps another mechanism is at work here in which whites become discouraged and attribute their failures to themselves when they see that Blacks have political success. The explained variance in the dependent variable is .882 in Model 8, which indicates the variables in the full model explains 88% of the variance in counts of suicide for white males ages 15 to 34, only a slight improvement from 86% in Model 1.

Similar to the young white male analysis, the analysis of total white population suicide for county populations greater than 100,000 (see Appendix C Table 6c) shows a negative, statistically significant effect of white deprivation in Models 6 and 7, and a positive and statistically significant effect of Black elected officials throughout the models. Also as in the white male analysis in Table 4c, the total white population analysis in Table 6c

provides support for the stream of violence through a negative interaction between white deprivation and Blacks in higher ranking occupations (see Appendix C Figure 8). However, contrary to the analysis in Table 4c, where the interaction between deprivation and Blacks in higher ranking occupations is only significant in Model 5b, the negative interaction of white deprivation and Blacks in higher ranking occupations in Table 6c maintains significance until firearm suicide is introduced in Model 8. On the whole, the analysis for the total white population provides more support for the stream of violence theory.

The following is a discussion of the analysis of suicide among white males ages 15 to 34 in counties with populations less than or equal to 100,000 (Table 4d), followed by a comparison of the relationships revealed in Table 4c and Table 4d.

Suicide Counts of White Males Ages 15 to 34 for Counties with Populations Less than or Equal to 100,000

The results of the young white male analysis for the population less than or equal to 100,000 are presented in Table 4d. The analysis reveals a moderate relationship between suicide and the variables in the models as they provide approximately 64%-66% of the explained variance in young white male suicide. However, the models yield no support for the hypotheses and stream of violence theory. The demographic control of the total number of white males ages 15 to 34 is significant across all of the models. This relationship is strong with standardized coefficients for the demographic control ranging from .800 to .821 in Model 1 through Model 6 and reduces to a moderate effect in Model 7 (.458) and Model 8 (.447).

Table 4d: Unstandardized (and Standardized) Regression Coefficients for White Males Ages 15 to 34 Suicide Counts for Counties with Populations Less than or Equal to 100,000 (LE100K) N=817

	Model 1	Model 2	Model 3	Model 4	Model 5a	Model 5b	Model 5c	Model 5d	Model 6	Model 7	Model 8
Constant	3.400	3.400	3.405	3.403	3.423	3.381	3.403	3.404	3.404	3.392	3.393
Demographic Control											
White males 15-34	.211* (.800)	.212* (.805)	.215* (.812)	.216* (.817)	.216* (.819)	.217* (.821)	.216* (.818)	.217* (.822)	.217* (.821)	.121*[a1] (.458)	.118*[a2] (.447)
Production and Direction											
White deprivation		.109 (.016)	.093 (.013)	.059 (.008)	.047 (.007)	.070 (.010)	.058 (.008)	.055 (.008)	.031 (.004)	-.050 (-.007)	-.018 (-.002)
Black occupation			-.023 (-.026)	-.026 (-.029)	-.024 (-.027)	-.042 (-.047)	-.032 (-.036)	-.044 (-.049)	-.044 (-.049)	-.049 (-.054)	-.050** (-.055)
Black Elected Officials				.007 (.020)	.010 (.032)	.008 (.024)	.007 (.021)	.012 (.037)	.012 (.038)	-.011 (-.034)	-.011 (-.034)
Interaction Effects											
White deprivation*BEO					-.020 (-.028)			-.021 (-.030)	-.021 (-.030)	-.014 (-.020)	-.015 (-.022)
White deprivation*Blackoccup						-.046 (-.032)		-.043 (-.029)	-.044 (-.030)	-.042 (-.028)	-.041 (-.028)
Blackoccup*BEO							-.002 (-.013)	-.001 (-.010)	-.001 (-.011)	-.005 (-.043)	-.006 (-.046)
Economic and Cultural Controls											
White unemployment									.015 (.009)	.044 (.025)	.042 (.024)
Total Southern										.060*[a1] (.378)	.061*[a2] (.386)
Suicide with Firearm											-.005 (-.029)
AdjR^2	.639	.639	.636	.636	.636	.636	.635	.636	.635	.660	.658

* p <.05;
**p<.10;
[a1] variance inflations for total white male 15-34 population and southern born 6.710 and 5.744, respectively;
[a2] variance inflations for total white male 15-34 population and southern born 6.797 and 5.787, respectively

Similar to the young Black male analyses, the economic and political effects of the variables of interest are only found for the suicide of young white males in larger and more urban counties (Table 4c). There is a nonsignificant effect of firearm suicide in Model 8 of Table 4d. There is a positive, significant effect of Southern born and a negative, statistically significant effect of Blacks in higher ranking occupations. However, while the young white male analysis for larger counties yields support for the present hypothesis, the young white male analysis for smaller counties yields no support.

In contrast with the young white male suicide analysis, the analysis of total white population suicide in counties with populations less than or equal to 100,000 (see Appendix C Table 6d) reveals significant main effects for the variables of theoretical interest—white deprivation has a positive, significant effect and Blacks in higher ranking occupations has a negative, significant effect. In addition, and also in contrast to the young white male analysis, there is partial support for the hypotheses in the form of a negative and statistically significant interaction between white deprivation and Black elected officials (see Appendix C Figures 9 and 10). This interaction is in the predicted direction and indicates a slight decrease in white suicide in counties with higher white deprivation and higher percentages Black elected officials.

The next chapter summarizes the findings from the analyses and assesses the extent to which support is found for the stream of violence theory in explaining variations in suicides across U.S. counties among young Black and young white males as well as among total Black and total white populations.

Chapter 4: Discussion and Conclusions

Henry and Short's (1954) stream of violence theory posits that economic deprivation, or inequality, are the main socioeconomic conditions that generate violent impulses. Violent impulses are directed internally or externally and are determined by one's ability to identify external sources of attribution for economic circumstances. Those who can identify an external oppressor have a tendency to express outward violence and those who cannot identify an external oppressor will attribute causality for their circumstances to themselves. Following this logic, Blacks should have lower suicides in counties with higher deprivation among Blacks and lower Black empowerment—measured as lower percentage of Black elected officials and lower percentage of Blacks in professional and managerial occupations. Blacks in such counties may be more able to locate external, oppressive sources of to attribute causality for their economic troubles, such as racial discrimination. However, whites in these counties should have higher suicides because of an inability to attribute their economic circumstances to external oppressors, such as exclusionary practices aimed at whites.

Criminological studies are relatively consistent regarding the role of economic deprivation on the production of violent impulses but there is a paucity of stream of violence research that explores the direction of violence. Research findings in stream of violence studies are less consistent regarding the socioeconomic factors that moderate the effect of economic deprivation through perceptions of inward or outward attribution and internal or external lethal violence. Therefore, the present study is a unique test of the suicide

component of the stream of violence theory and examines the impact of Black political representation and Black occupational status attainment on variations in young Black and white male suicides.[14] Research is scarce regarding the effect of Black empowerment and socioeconomic advancements on lethal violence, particularly suicide. This study contributes to extant research by examining the conditioning effects of Black political representation and Black socioeconomic status attainment on the direction of the violent impulses that are generated by deprivation. Black political and socioeconomic power is conceptualized as moderating the impact of economic deprivation on the lethal violence process. Specifically, the extent of county-level Black elected officials is a sociopolitical "force of direction," redirecting the stream of violence inward for Blacks and outward for whites. Likewise, the prevalence of Blacks in professional and managerial occupations is a socioeconomic "force of direction," that is also proposed to direct the stream of violence that is generated by economic deprivation.

Previous research suggests that political and socioeconomic processes have an effect on perceived powerlessness and the attribution of blame (Banfield 1958; Oettingen and Seligman 1990; and Jacobs and Wood 1999); and the socioeconomically disadvantaged tend to identify those in power as a source of attribution for their circumstances (Whitt 1994b). Blacks are disproportionately disadvantaged and underrepresented in political and socioeconomic systems, which presumably provide Blacks with external sources at which to attribute deprivation or inequality. However, there may be a generational shift as younger

[14] See Appendices B and C for analyses of suicide for the total Black and total white populations.

generations of Blacks feel a greater sense of control over the outcomes in their lives (Kessler and Neighbors 1986; Joe 2006). Among the explanations for this is the political and socioeconomic advancement of Blacks, given the growing proportion of Black elected officials and Black professional and managerial occupation holders in recent decades (Bositis 2000; Conley and Young 2005). Such political and socioeconomic advancement has a potential impact on both Black and white suicides because Black political and socioeconomic advances can foster Black trust in political and socioeconomic processes (Gilliam 1990; Emig, Hesse and Fisher 1996) and can also generate white distrust and threats to their political and economic advantage (Hajnal 2001). Drawing on stream analogy, high deprivation presumably *generates* higher levels of frustration and violent impulses, but external attribution of causality for one's economic deprivation *directs* those violent impulses either inwardly or outwardly. Multiplicative interaction terms are used herein to test the hypotheses representing the crux of the stream of violence argument. The hypotheses predicted a positive interaction between economic deprivation and measures of Black empowerment for Black suicide; and a negative interaction between economic deprivation and measures of Black empowerment for white suicide. The interactions between the measures of Black empowerment and Black and white deprivation were predicted to be greater in high deprivation counties. The violent impulses are directed inward, increasing Black suicides in counties with higher Black empowerment because Blacks are less able to attribute their economic circumstances to external sources, such as racial discrimination. However, high Black political representation and Black occupational status attainment were expected to direct violent impulses outward for whites, thereby decreasing white suicide, as

whites are able to recognize Black political and socioeconomic success and other external sources for which to attribute their economic circumstances.

It was predicted that, in counties with lower Black political representation and low Black occupational status attainment, Blacks are able to identify and hold accountable external sources for their economic deprivation. Therefore, there should be lower Black suicide in counties with lower Black political representation and lower Black occupational status attainment because violent impulses are directed outward for Blacks. Whites in these counties should have higher suicide because violent impulses are directed inward.

The present study examines variations in county-level counts of suicide (summed counts 1999-2002) for Black and white males ages 15 to 34, and for the total Black population and total white population (see Appendices B and C), in U.S. counties. Issues with collinearity, heteroskedasticity, and unduly influential outliers were addressed to meet OLS assumptions of homoscedasticity and normal distribution. Due to high collinearity of county population with suicide, two data subsets were created: (1) counties with populations less than or equal to 100,000 (N=787) and (2) counties with populations greater than 100,000 (N=314). Therefore, eleven OLS regression models were estimated to explain the variation in suicide counts for young Black males and young white males (and total Black and total white populations) for counties with less than or equal to 100,000 population (LE100K) and for those with greater than 100,000 population (GT100K).

Economic deprivation, as a force that generates frustration and violent impulses, was measured using Black and white deprivation indexes, which consist of: (1) Black and white

median family income; (2) percentages of Blacks and whites without a high school diploma; (3) percentages of Blacks and whites in poverty; and (4) the Gini coefficient for income inequality. The crux of the stream of violence argument is in the conditioning effects of two forces of direction: (1) county percentage of Black elected officials; and (2) county percentage of Blacks in higher ranking occupations. In addition, the following effects were controlled: (1) total Southern born; (2) percent suicides committed using a firearm; and (3) total unemployed Blacks and whites unemployed in addition to population totals for each group.

Partial Support for the Stream of Violence Theory

The findings of the present study yield mixed support for the stream of violence theory. Specifically, the series of regressions for young Black males in large, urban counties (GT100K) revealed a positive, statistically significant interaction of deprivation and Black elected officials. Therefore, the percentage of Black elected officials has a conditioning effect on the relationship between deprivation and young Black male suicide in larger counties; and there is higher young Black male suicide in high deprivation counties with a higher percentage of Black elected officials. However, the interaction between deprivation and Blacks in higher ranking occupations was nonsignificant. This is contrary to the hypothesis and indicates that the relationship between deprivation and young Black male suicide is not moderated by, and does not vary based on, the percentage of Blacks in professional and managerial occupations in larger counties. A test of the third interaction, for which a relationship was not predicted in the present study, resulted in a negative,

statistically significant interaction between Black elected officials and Blacks in higher ranking occupations. This interaction between the hypothesized moderator variables is interpreted as the conditioning effect of Black elected officials reducing the impact of Blacks in higher ranking occupations on young Black male suicide. Therefore, the greatest increase in young Black male suicides was found in counties with fewer Blacks in professional and managerial occupations. Conversely, the smallest increase in young Black male suicides was found in counties with more Blacks in professional and managerial occupations. This can be interpreted as counter to the stream of violence theory. A preliminary explanation for this finding, with implications for further research, is that Black political representation and Black occupational status attainment may be relatively dissimilar aspects of Black empowerment and socioeconomic status attainment; and therefore may have different effects on lethal violence.

In the young white male analysis for counties with populations greater than 100,000, we find lower young white male suicide counts in counties with higher white deprivation and higher percentages of Blacks in professional and managerial occupations. This is consistent with the stream of violence theory. The higher frustration generated by high white deprivation would be directed outward as young white males are more able to locate external sources to attribute causality for their circumstances in counties with higher percentages of Blacks in higher ranking occupations. For example, young white males in these counties might be attributing their economic troubles to a perceived occupational success of Blacks in

professional and managerial (higher paying) occupations at the cost of the socioeconomic status of whites in the county.

Partial support for the hypothesized interactions and the stream of violence theory was also found in the analyses of the total Black and total white populations detailed in Appendices B and C. In the total Black population suicide analysis for populations greater than 100,000 we find a positive, significant interaction between Black elected officials and Black deprivation. Therefore, there are more suicides among the total Black population in counties with higher Black deprivation and higher percentages of Black elected officials. This supports the stream of violence theory and is consistent with the previously discussed findings for the young Black male population. Blacks in these counties may feel that more Black elected officials provide a platform for the economic, political, and social concerns of Blacks in the county. Also consistent with the theory are the results of the total white population suicide analysis for populations greater than 100,000. Here, we find that suicides for the white population are lowest in counties with high white deprivation and greater percentages of Blacks in higher ranking occupations. As previously discussed, this effect was also found for young white males in larger counties.

The bulk of the significant interactions in the young Black male and young white male analyses, as well as for the total Black population and total white population suicide analyses, were found for counties with populations greater than 100,000. The analyses of young Black and young white males in counties with populations less than or equal to 100,000 yield no support for the hypothesized interaction terms and the stream of violence

theory. Moreover, the analysis of the total Black population for counties with populations less than or equal to 100,000 yields no support for the hypothesized interactions, but a positive and significant conditioning effect of Black elected officials on the relationship between Blacks in higher ranking occupations on suicide.

However, the suicide analysis for the total white population in smaller counties yields support for one of the hypothesized interactions and partial support for the stream of violence theory. As theoretically predicted, there is a negative and statistically significant interaction of white deprivation and Black elected officials. This conditioning effect of Black elected officials indicates that there are lower suicide counts among the total white population in higher deprivation counties with greater percentages of Black elected officials. In smaller counties, Black political representation may be particularly visible and influential regarding the attribution process for whites. Therefore, whites in smaller counties with more Black elected officials may attribute their socioeconomic conditions outwardly, perhaps to shifting county-level politics and racial politics that potentially impact various aspects of residents' lives.

In summary, a number of intriguing findings emerge from this study. First, significant interactions in the hypothesized directions were found for young Black male suicides (positive moderating effect of Black elected officials) and young white male suicides (negative moderating effect of Blacks in higher ranking occupations) in larger counties. In addition, significant interactions in the hypothesized directions were found for suicide counts among the total Black population in larger counties (positive moderating effect of Black

elected officials); for suicide among the total white population in larger counties (negative moderating effect of Blacks in higher ranking occupations); and for suicide among the total white population in smaller counties (negative moderating effect of Black elected officials). Second, there is also mixed support for the stream of violence theory given that stronger conditioning effects were found in counties with populations greater than 100,000 than for populations less than or equal to 100,000. There seem to be conditions unique to urban county contexts that are consistent with the direction of lethal violence as delineated by the stream of violence theory—at least relative to suicides. Perhaps a minority population threshold or a "critical mass" must be met before these mechanisms elicit these outcomes. Further, in large population counties where upwardly mobile Blacks exit urban centers, the breakdown of organized social support mechanisms may have contributed to higher suicide among the economically deprived Blacks who remain in the urban centers.

And, lastly, *both* of the hypothesized moderator variables were not found to have conditioning effects across models. Rather, *either* Black elected officials *or* Blacks in professional and managerial occupations have a conditioning effect on the deprivation-suicide relationship for most of the analyses, but not *both* Black elected officials *and* Blacks in professional and managerial occupations.

Of course, even partial support for the hypotheses does not necessarily substantiate the stream of violence arguments more so than other theoretical explanations for suicide. The lethal violence process is complex and scholars have examined a number of potential explanations for suicide, such as mental health and psychological stress; social status and

social integration; and a number of economic correlates (Gibbs 1997; Spann et al. 2006; Fitzpatrick et al. 2008; Joe et al. 2008; Molock et al. 2008; Wingate et al. 2005). There are a number of factors related to suicide and therefore there are alternative explanations for the findings of a negative interaction effect between deprivation and the measures of Black empowerment for white suicides and a positive interaction effect for Black suicides that cannot be ruled out with the data in the current study. One such explanation concerns "protective factors" relative to mental and emotional factors that are related to suicide, which may have a greater impact on the direction of violent impulses than Black empowerment and Black socioeconomic status attainment. The social status of whites is conducive to social isolation and, therefore, potential exposure to mental and emotional factors related to self-harm and suicide, such as hopelessness and depression (Willis et al. 2002). Therefore, suicide among whites may increase with greater susceptibility to feelings of hopelessness and depression, but decrease with more resources to address such feelings. In a similar fashion, self-defense tactics of low aspirations as well as weaker family and religious institutions may overshadow the stream of violence influence for whites. On the other hand, Blacks in low income areas may be more vulnerable to stressors and more susceptible to a number of factors related to self-harm and suicide. Moreover, Blacks are potentially at a disadvantage regarding access to medical resources (Kessler and Neighbors 1986; Willis et al. 2002; Kaslow, Sherry and Bethea et al. 2005; Spann et al. 2006; Fitzpatrick et al. 2008). Therefore, the lack of access to self-defense tactics and "protective factors" during times of mounting stressors and frustrations may explain an increase in suicide among Blacks regardless of Black empowerment (Wingate et al. 2005).

Further, a negative interaction between deprivation and Black elected officials and/or Blacks in higher ranking occupations for white suicides was proposed to result from external attribution of causality for the economic conditions of whites. There can be fear among whites that social and economic resources are being redistributed and "shared" with Blacks (Hajnal 2001). Yet, the external violence of whites (including white-on-Black violence) may not result from the external attribution of causality, but may instead be a response to a perceived sense of threat and an attempt to constrain the mobility of Blacks (Hajnal 2001).

Interpretation of Counter Findings

Some support for the hypothesized relationships were found in the present study because all of the significant, hypothesized interactions were in the predicted directions. However, some of the hypothesized interactions were nonsignificant in a number of the analyses, which yields no support for the positive moderating effect of Black elected officials and/or Blacks in higher ranking occupations on Black suicides, and the negative moderating effect on white suicides in high deprivation counties. Therefore, for those analyses, there are no significant effects of Black empowerment on suicides among young Black and white males, as well as among the total populations of Blacks and whites.

One alternative explanation for the absence of a significant effect among Blacks might be that deprivation and inequality overwhelm the social psychological impact of the visibility of Blacks in political and occupational realms (Fernquist and Cai 2000). The political visibility of Blacks may have a low impact on the conditions of Blacks and whites (Headley 1985; Bobo and Gilliam 1990). While some evidence suggests that Black political

representation can positively shape the perceptions of race and the voting practices of some whites, other whites may choose to ignore local politics in areas with high Black political representation (Hajnal 2001). Blacks, too, can choose not to pay attention to local politics and be unresponsive to the prevalence of Black elected officials. Furthermore, evidence suggests that Black occupational status attainment may be met with greater exposure to discriminatory and exclusionary responses from whites, thereby enhancing the influence of deprivation and inequality (Gibbs and Martin 1964; Cole and Omari 2003). Thus, ironically, increasing Black empowerment and socioeconomic status attainment may not reduce Blacks' identification of external sources of oppression. Moreover, conditions of deprivation and inequality may be attributed to ineffective elected officials, even Black ones, therefore avoiding the self-attribution that might lead to increased suicide among Blacks (Headley 1985; Hajnal 2001; Wadsworth and Kubrin 2004; Harris, Sinclair-Chapman and McKenzie 2005).

In addition, the direction of the violent impulses among whites in counties with low deprivation may be less dependent upon Black empowerment and socioeconomic status attainment. Given lower white deprivation and lower levels of frustration may make the visibility of Black elected officials and Blacks in higher ranking occupations irrelevant because there are relatively weak impulses toward violence among whites, in the first place. However, there is also the potential for white suicide to increase in high deprivation and in high Black empowerment and high Black socioeconomic status counties. Black political representation and higher occupational status that have no bearing on the condition of Blacks

and whites in a county may make it difficult for whites to attribute their circumstances to the, perceivably ineffective, sources of Black empowerment and socioeconomic status.

Furthermore, religious denomination and religiosity have been found to have integrative and socially regulative effects on suicide that may overshadow the social psychological processes inherent in the stream of violence explanation (Joe et al. 2008; Molock et al. 2008; Wingate et al. 2005). Scholars have found an inverse relationship between suicide and orthodox religious beliefs, religious devotion, and religious homogeneity (Ellison et al. 1997; Neelman 1998; Tubergen, Grotenhuis and Ultee 2005). Through social integration and regulation, religion and religiosity provide sources for social support or tools to socialize people to the belief that suicide is an unacceptable alternative to hardships. But, due to data limitations, these religion factors were not taken into account in this study.

Finally, following the arguments by Gold (1958), contrary findings may be accounted for by racial differences in socialization toward aggression. If the general Black culture contains a theme of externalized aggression and violence, for whatever reason, whereas the general white culture is more conducive to internalized aggression and violence, then no matter what the political or economic situation, Blacks will still exhibit higher outwardly directed aggression and lower suicide. So, according to Gold, it was not likely that the present findings would provide support for the stream of violence argument. However, mixed support was found for the stream of violence. The contention in the present study is that the findings should carry moderate weight in the evaluation of the stream of violence, as

well as represent additional evidence to be considered in context with other explanations for variations in lethal violence.

Limitations of the Present *Study*

This study was designed to overcome several weaknesses in previous research, although there remain some limitations in this research. First, there are widely documented limitations of suicide data. Suicide is underreported and undercounted and this is considered to be the case particularly for Black suicide (Douglas 1967; Hamermesh and Soss 1974). Questions persist regarding whether the reduced disparity between Black suicide and white suicide in recent decades was due to an increase in Black suicide or better reporting and documenting of Black suicides (Mohler and Earls 2001; Rockett et al. 2006). This study follows extant research in taking official suicide data at face value and regards these findings as reasonably reliable (Burr et al. 1999). Therefore, the findings should be evaluated and interpreted with caution with consideration to potential undercount errors.

Divorce has been found in previous research to have an effect on lethal violence through social integration (Henry and Short 1954) and social disorder (Wu 2004). However, divorce was removed as a control variable due to issues of collinearity with the population control for the target population base. The effect of divorce appears to be captured by the effects of the population base and the remainder of the variables in the models.

Implications for Future Research

The stream analogy is rooted in the social-psychological process of frustration and violent impulses, and the perceived availability of external sources at which to attribute their socioeconomic conditions. As addressed in previous research, this process of perception and interpretation is difficult to capture. The present study tests one aspect of the stream of violence—suicide—with particular attention to significant interactions between deprivation and Black political representation and Blacks in higher ranking occupations. Conducting analyses with multiplicative interaction terms is the most effective method to determine whether Black political and/or Black occupational status attainment condition the effect of deprivation on suicide, therefore, directing the stream of violence inward versus outward.

However, there are inconsistent moderating effects of Black elected officials and Blacks in higher ranking occupations across analyses. The percentage of Black elected officials was found to have a moderating effect for young Black male suicides and total Black population suicides in larger counties (and total white population suicides in smaller counties) whereas the percentage of Blacks in higher ranking occupations was found to have a moderating effect for young white male suicides and total white population suicides in larger counties. These findings suggest that Black political representation may resonate more with Blacks in larger counties (and whites in smaller counties) as a factor of the perceived visibility and effectiveness of Black elected officials. Black occupational status attainment seems to resonate more with whites in larger counties and may be a result of perceived shifts in socioeconomic conditions and challenges to the traditional occupational status quo.

Therefore, Black elected officials and Blacks in higher ranking occupations have different impacts across race (and population size) that highlight the differential impact on the attribution of causality and the direction of lethal violence. There is a need to further research the differential impact on the attribution process across race and whether the availability of external sources at which to attribute causality are a factor of the visibility and/or the effectiveness of Black elected officials and/or Blacks in higher ranking occupations.

In addition, research should examine the nature of the buffering effects of the measures of Black empowerment and socioeconomic status attainment that are hypothesized to direct lethal violence. The present study found a buffering effect of Black elected officials on the impact of Blacks in higher ranking occupations on suicide for young Black males in larger counties; whereas Black elected officials did not reduce the effect of Blacks in higher ranking occupations on suicides among the total Black population in smaller counties. More research is needed to understand Black political representation and Black occupational status attainment and how Black and white residents perceive such representation and attainment.

Furthermore, Black political representation and Black occupational status attainment perhaps measure two different aspects of Black empowerment and socioeconomic status attainment. Therefore, Black elected officials and Blacks in higher ranking occupations may vary across race and county contexts and have different types of impacts on the direction, and possibly on the production, of lethal violence. Understanding these contexts of Black empowerment and socioeconomic status attainment can provide insight on how Blacks and

whites differently cope with conditions of deprivation, resulting in variations in lethal violence. As previously discussed, effective coping mechanisms can include resources for mental and emotional health and opportunities to realize empowerment and socioeconomic status attainment. Future research should elaborate on how Black political representation and Black occupational status attainment condition the effects of these coping mechanisms, in addition to how Black political and occupational representation condition the effect of deprivation on suicide.

The present study contributes to previous research by examining measures of Black empowerment and socioeconomic status attainment as factors that direct lethal violence. Partial support was found for the stream of violence theory in examining one aspect of the stream of lethal violence, suicide, and factors associated with higher incidents of suicide and, conversely, with lower incidents of suicide. The implication of the latter is that frustration and violent impulses are manifested outward as homicide as well as inward in the form of suicide. The contribution of the present study to the body of lethal violence and stream analogy research is in the role of Black empowerment and Black socioeconomic status attainment in the direction of lethal violence process. Future research should consider how these same processes may also influence homicides among these populations.

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APPENDICES

APPENDIX A

Correlations for the total Black population and total white population are in Tables 5a-5b. The highest correlations for the total Black population in smaller counties are among the population base control and the count of suicide (.709); and Southern born and the population base control (.601). For the total white population, the population base control is correlated with suicide at .911, Southern born is correlated with the suicide count at .852, and the population base at.925.

For the total Black population in the larger county dataset, population is highly correlated with the suicide count at .962, Southern born is correlated with the suicide count at.778 and the population base control at.794. Population is highly correlated with the suicide count for the total white population at .927; and Southern is correlated with the count of suicide at .844 and with the population base control at .898.

With regard to concerns about collinearity, the correlations between the population base and percent Southern born are high. Correlations range in values between a low of .60 for the Black population in the smaller counties and a high of .925 for the white population in the larger counties.

Table 5a: Correlations between Variables for the Less Than or Equal to 100,000 Population Dataset (Total Black and Total White Populations)

	1	2	3	4	5	6	7	8
(1)Suicide Total Black Population								
(2)Black Population	.709*							
(3) Black Deprivation	.079*	.166*						
(4) Black Elected Officials	.313*	.471*	.399*					
(5)Black Occupation	.100*	.183*	-.352*	.004				
(6)Black Unemployment	-.011	.020	.394*	.112*	-.239*			
(7)Total Southern	.394*	.601*	-.232*	-.039	.333*	-.025		
(8) Firearm Suicide	.015	.050	.189*	.108*	-.086*	-.009	-.066**	
	1	2	3	4	5	6	7	8
(1)Suicide Total White Population								
(2)White Population	.911*							
(3) White Deprivation	-.299*	-.382*						
(4) Black Elected Officials	-.209*	-.245*	.262*					
(5)Black Occupation	.284*	.379*	-.336*	.004				
(6)White Unemployment	.015	.007	.300*	-.057	-.173*			
(7)Total Southern	.852*	.925*	-.267*	-.039	.333*	.002		
(8) Firearm Suicide	-.088*	-.132*	.209*	.108*	-.086*	-.028	-.066**	

* $p < .05$,
*$p<.10$

Table 5b: Correlations between Variables for the Greater Than 100,000 Population Dataset (Total Black and Total White Populations)

	1	2	3	4	5	6	7	8
(1)Suicide Total Black Population								
(2)Black Population	.962*							
(3) Black Deprivation	.240*	.240*						
(4) Black Elected Officials	.463*	.435*	.309*					
(5)Black Occupation	.109**	.138*	-.355*	-.021				
(6)Black Unemployment	.113*	.099	.479*	.068	-.520*			
(7)Total Southern	.778*	.794*	.131*	.060	.223*	.060		
(8) Firearm Suicide	-.139*	-.173*	-.059	.192*	-.292*	-.075	-.270*	
	1	2	3	4	5	6	7	8
(1)Suicide Total White Population								
(2)White Population	.927*							
(3) White Deprivation	.220*	.207*						
(4) Black Elected Officials	-.011	-.082	.317*					
(5)Black Occupation	.172*	.294*	-.209*	-.021				
(6)White Unemployment	.090	.029	.481*	-.020	-.400*			
(7)Total Southern	.844*	.898*	.276*	.060	.223*	.072		
(8) Firearm Suicide	-.233*	-.395*	-.088	.192*	-.292*	-.115*	-.270*	

* $p < .05$;
**$p<.10$

APPENDIX B

Suicide Counts of the Total Black Population for Counties with Populations Greater than 100,000

Table 6a displays the regression estimates for suicide counts for the total Black population in counties with populations greater than 100,000. Model 1 includes the demographic control for the Black population (over the age of five) in the county. Consistent across every analysis in the present study, and not surprisingly, there is a strong, positive relationship between the population base and suicide throughout the models in Table 6a; therefore there are higher counts of suicide for the total Black population in counties with larger Black populations. The main effect of Black deprivation is nonsignificant across models whereas the main effect of Black elected officials is positive and statistically significant across all models. The main effect of Blacks in higher ranking occupations is only significant in Model 7, when total Southern born is controlled, and this is a negative effect. Interestingly, counties with greater percentages of Blacks in higher ranking occupations, when controlling for Southern born residents, have a lower number of Black suicides. In addition, the only statistically significant interaction is that of Black deprivation and Black elected officials, which is positive and significant when Southern born residents and firearm suicides are controlled (Models 7 and 8). This partially supports the hypotheses and the stream of violence theory.

Table 6a: Unstandardized (and Standardized) Regression Coefficients for Black Suicide Counts for Counties with Populations Greater than 100,000 (GT100K) N=314

	Model 1	Model 2	Model 3	Model 4	Model 5a	Model 5b	Model 5c	Model 5d	Model 6	Model 7	Model 8
Constant	18.213	18.213	18.213	18.213	18.053	18.203	18.201	18.092	18.098	17.863	17.874
Demographic Control											
Total Blacks >5	.217* (.962)	.217* (.960)	.218* (.966)	.213* (.945)	.213* (.945)	.213* (.945)	.214* (.946)	.213* (.945)	.213* (.944)	.188*[a1] (.823)	.188*[a2] (.824)
Production and Direction											
Black deprivation		.507 (.009	-.058 (-.001)	-.733 (-.013)	-.809 (-.014)	-.729 (-.013)	-.839 (-.015)	-.866 (-.015)	-1.109 (-.020)	-1.364 (-.025)	-1.327 (-.024)
Black occupation			-.118 (-.025)	-.119 (-.025)	-.124 (-.026)	-.122 (-.025)	-.139 (-.029)	-.131 (-.027)	-.103 (-.021)	-.227* (-.048)	-.213 (-.046)
Black Elected Officials				.155* (.055)	.125* (.045)	.155* (.055)	.159* (.057)	.134* (.048)	.138* (.049)	.238* (.087)	.234* (.085)
Interaction Effects											
Black deprivation*BEO					.141 (.028)			.112 (.022)	.110 (.022)	.186* (.037)	.185* (.037)
Black deprivation*Blackoccup						-.012 (-.001)		.018 (.002)	.023 (.002)	-.193 (-.020)	-.179 (-.018)
Blackoccup*BEO							-.013 (-.021)	-.008 (-.013)	-.008 (-.013)	.003 (.005)	.003 (.005)
Economic and Cultural Controls											
Black unemployment									.103 (.013)	.057 (.008)	.066 (.009)
Total Southern										.011*[a1] (.134)	.011*[a2] (.134)
Suicide with Firearm											.009 (.005)
AdjR^2	.926	.926	.926	.928	.929	.928	.928	.928	.928	.929	.929

* p <.05;
[a1] variance inflations for total Black population and southern born are 4.752 and 4.248, respectively;
[a2] variance inflations for total Black population and southern born are 4.772 and 4.248, respectively

Figure 5 displays the nature of the relationship between this interaction and the Black suicide counts for the full model (Model 8), and reveals that Black suicides are highest in counties with higher deprivation that also have higher percentages of Black elected officials. Therefore, controlling for the effects of Southern born and firearm suicides, the relationship between deprivation and suicide is different in counties with higher percentages of Black elected officials, as compared to counties with lower percentages of Black elected officials. This is partially consistent with the stream of violence theory because this supports only one of the two hypothesized interaction effects, and there is a moderating effect of Black elected officials only in the last two models. Therefore, there is only a moderating effect of Black elected officials on the relationship between deprivation and suicide when controlling for Southern born residents and firearm suicides. The coefficient for the control, Southern born, is also positive and statistically significant.

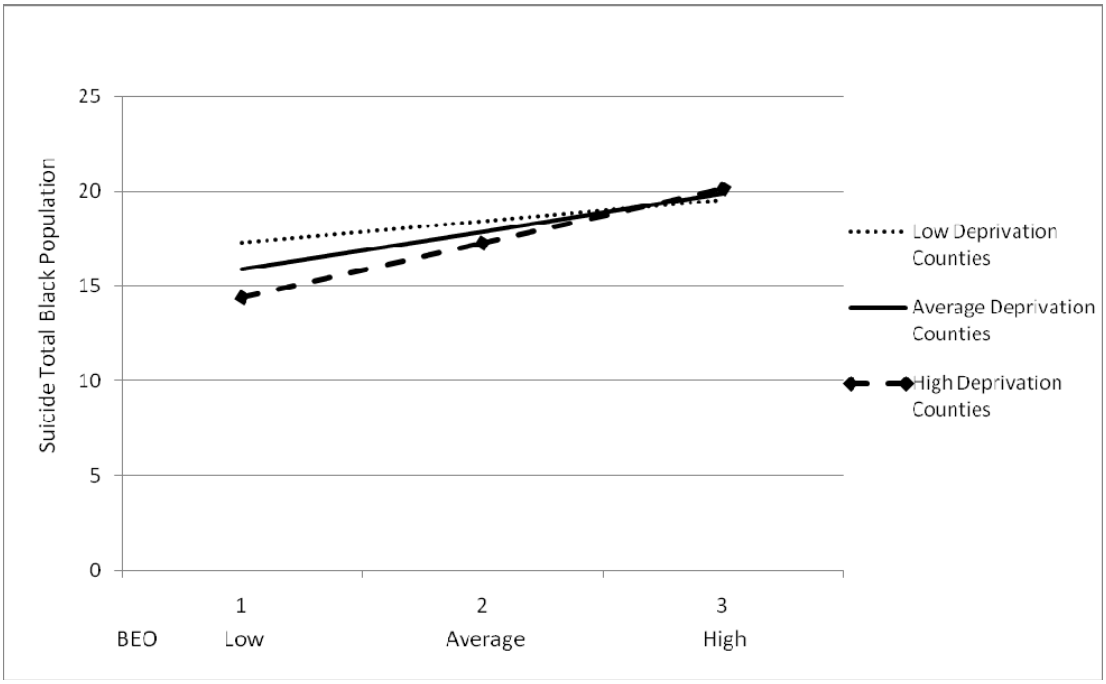

Figure 5: Suicide Total Black Population by Black Deprivation and Black Elected Officials GT100K

The strength of the associations (Adjusted R^2) in the full Model 8 is .929, which indicates the variables in the full model explain approximately 93% of the variance in suicide for Blacks. This explained variance is only slightly larger than the explained variance in Model 1 (.926) and the remaining models. Therefore, there are observed effects consistent with the stream of violence theory, but the effects are small. The highest standardized coefficient in Table 6a other than Black population is Southern born at .134.

Comparing these findings with those of the young Black male suicide analysis for larger counties (Table 4a), the young Black male analysis also yields a small explained variance in suicide for the variables in the model beyond the population base. Consistent with one of the hypothesized interactions and the stream of violence theory, results for both

the total Black population and young Black male analyses suggest that Black deprivation and Black elected officials combine to result in higher suicides for Blacks and young Black males. This interaction is significant in Models 5a, 7 and 8 for young Black males; and, for the analysis of total Black population suicides, is only significant when controlling for Southern born and firearm suicides in Models 7 and 8.

The following provides a discussion of the suicide analysis for the total Black population in counties with populations less than or equal to100,000 (Table 6b) and a comparison with the young Black male suicide analysis (Table 4b).

Suicide Counts of the Total Black Population for Counties with Populations Less than or Equal to 100,000

The results of the total Black population suicide analysis for county populations 100,000 or less is presented in Table 6b. The analysis reveals a moderate relationship between the explanatory variables and Black suicide counts as they only explain approximately 50% of the variance in Black suicide. The population control for Blacks over the age of five is positive and statistically significant. The analysis also reveals negative, significant main effects of Black deprivation and Blacks in higher ranking occupations in Model 3 whereas there were no significant main effects for these variables of interest in the young Black male analysis (Table 4b). The negative effect of Blacks in higher ranking occupations is maintained in Model 4 when Black elected officials is controlled, but Black deprivation is reduced to statistical nonsignificance.

This analysis does not yield support for the stream of violence theory in terms of the hypothesized interactions. Instead, a positive interaction was found between the two moderator variables—Black elected officials and Blacks in higher ranking occupations (Figure 6). This interaction reveals that there are more suicides among the total Black population in counties with a higher percentage of Blacks in high ranking occupations and with greater percentages of Black elected officials. This indicates that the relationship between Blacks in higher ranking occupations and suicide varies based on the proportion of Blacks serving as elected officials in a county and vice versa, the relationship between Black elected officials and Black suicide varies with the percentage of Blacks in professional and

managerial occupations. Figure 7 displays this interaction for the full model (Model 8) which shows, as stated above, that the relationship between the percentage of Blacks in higher ranking occupations and Black suicide is greater with the conditioning effect of Black elected officials. Further, this is a statistically significant interaction even when controlling for Southern born residents and firearm suicides (Model 8).

Table 6b: Unstandardized (and Standardized) Regression Coefficients for Black Suicide Counts for Counties with Populations Less than or Equal to 100,000 (LE100K) N=803

	Model 1	Model 2	Model 3	Model 4	Model 5a	Model 5b	Model 5c	Model 5d	Model 6	Model 7	Model 8
Constant	2.387	2.387	2.384	2.384	2.395	2.407	2.384	2.398	2.395	2.399	2.405
Demographic Control											
Total Blacks >5	.220 * (.709)	.222* (.716)	.227* (.728)	.229* (.735)	.228* (.733)	.227* (.728)	.223* (.717)	.223* (.715)	.223* (.714)	.249* (.800)	.250* (.801)
Production and Direction											
Black deprivation		-.142 (-.039)	-.221* (-.060)	-.198 (-.054)	-.195 (-.053)	-.183 (-.050)	-.174 (-.048)	-.167 (-.046)	-.113 (-.031)	-.212 (-.058)	-.206 (-.056)
Black occupation			-.031* (-.056)	-.030* (-.055)	-.029 (-.052)	-.011 (-.020)	-.004 (-.007)	.004 (.008)	.003 (.006)	.010 (.018)	.010 (.017)
Black Elected Officials				-.003 (-.017)	-.001 (-.006)	-.004 (-.020)	-.003 (-.013)	-.003 (-.014)	-.003 (-.017)	-.012 (-.059)	-.012 (-.059)
Interaction Effects											
Black deprivation*BEO					-.006 (-.019)			.000 (-.002)	.000 (.001)	.002 (.008)	.003 (.008)
Black deprivation*Blackoccup						.039 (.053)		.022 (.003)	.021 (.029)	.024 (.032)	.026 (.035)
Blackoccup*BEO							.006* (.083)	.006* (.074)	.006* (.078)	.005* (.070)	.005* (.067)
Economic and Cultural Controls											
Black unemployment									-.012 (-.033)	-.007 (-.019)	-.006 (-.018)
Total Southern										-.011* (-.109)	-.011* (-.113)
Suicide with Firearm											-.002 (-.019)
$AdjR^2$	.502	.503	.504	.503	.503	.504	.507	.507	.507	.511	.509

* p <.05

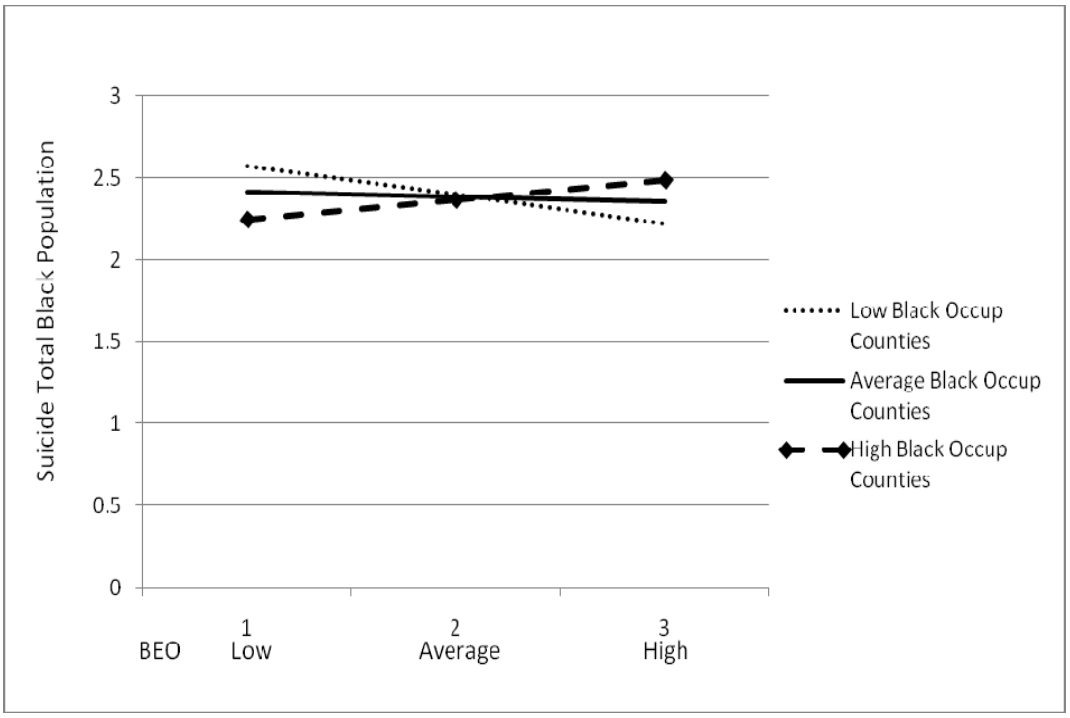

Figure 6: Suicide Total Black Population by Black Occupation and Black Elected Officials LE100K

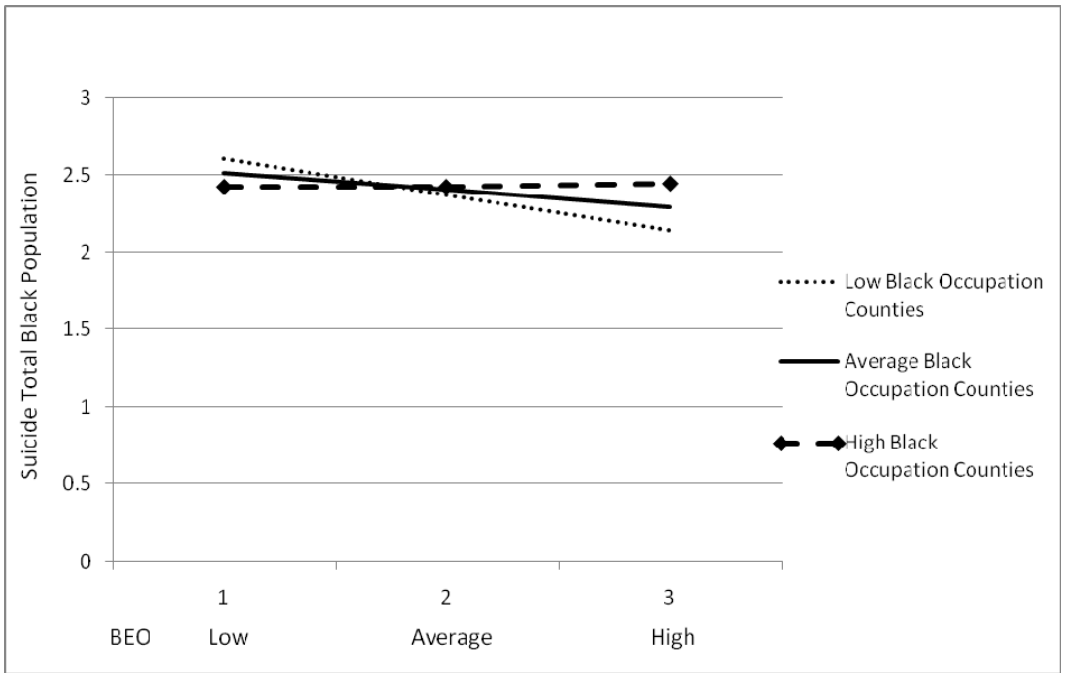

Figure 7: Suicide Total Black Population by Black Occupation and Black Elected Officials LE100K (Model 8)

Neither the young Black male analysis (Table 4b) nor the total Black population analysis for smaller counties yield support for the hypothesized interactions and the stream of violence theory. However, the total Black population analysis does reveal a positive, significant interaction of Blacks in higher ranking occupations with Black elected officials.

The following is a discussion of the total white population suicide analysis for counties with populations greater than 100,000 (Table 6c) and a comparison with the young white male analysis (Table 4c).

APPENDIX C

Suicide Counts of the Total White Population for Counties with Populations Greater than 100,000

The regression estimates for suicide counts for the total population of whites in counties with populations greater than 100,000 are displayed in Table 6c. In addition to the significant effects of the white population control variable, this analysis shows a negative, statistically significant effect of white deprivation in Models 6 and 7 when unemployment and Southern are controlled, and a positive and statistically significant effect of Black elected officials across all models. Further, the main effects of deprivation (although nonsignificant until Models 6 and 7) and Blacks in higher ranking occupations are negative, as is the interaction of deprivation and Blacks in higher ranking occupations.

This analysis also provides support for one of the hypotheses, and partial support for the stream of violence theory, with a negative interaction between white deprivation and Blacks in higher ranking occupations. As theoretically predicted, there are lower numbers of white suicides in counties with higher white deprivation and with higher percentages of Blacks in professional and managerial occupations (Figure 8). Therefore, the relationship between white deprivation and suicide is conditioned by the percent of Blacks in higher ranking occupations in the county. This significant interaction is consistent with the stream of violence theory because the effect of white deprivation on suicide, as conditioned by the effect of the percent of Blacks in professional and managerial occupations, is more

substantial than the effect of white deprivation alone on suicide. This synergistic interaction maintains a statistically significant negative effect until firearm suicide is introduced in Model 8 at which point it becomes statistically nonsignificant.

Table 6c: Unstandardized (and Standardized) Regression Coefficients for White Suicide Counts for Counties with Populations Greater than 100,000 (GT100K) N=314

	Model 1	Model 2	Model 3	Model 4	Model 5a	Model 5b	Model 5c	Model 5d	Model 6	Model 7	Model 8
Constant	151.940	151.940	151.940	151.939	151.347	150.227	151.952	149.548	149.732	149.701	150.181
Demographic Control											
Total Whites >5	.552* (.927)	.549* (.921)	.572* (.960)	.580* (.974)	.581* (.975)	.589* (.990)	.580* (.975)	.591* (.993)	.590* (.991)	.589*[a1] (.996)	.631*[a2] (1.067)
Production and Direction											
White deprivation		11.696 (.030)	-.527 (-.001)	-11.909 (-.030)	-12.991 (-.033)	-12.313 (-.031)	-11.808 (-.030)	-12.838 (-.033)	-19.954* (-.051)	-20.314* (-.052)	-17.549 (-.045)
Black occupation			-3.239* (-.110)	-3.497* (-.119)	-3.519* (-.119)	-4.329* (-.147)	-3.479* (-.118)	-4.323* (-.147)	-3.932* (-.133)	-3.926* (-.136)	-2.052* (-.071)
Black Elected Officials				1.297* (.076)	1.186* (.069)	1.298* (.076)	1.291* (.075)	1.152* (.067)	1.290* (.075)	1.287* (.076)	.784** (.046)
Interaction Effects											
White deprivation*BEO					.590 (.017)			.598 (.018)	.511 (.015)	.289 (.008)	.888 (.026)
White deprivation*Blackoccup						-4.445* (-.058)		-4.855* (-.063)	-4.570* (-.059)	-4.513* (-.060)	-1.635 (-.022)
Blackoccup*BEO							.015 (.004)	.088 (.023)	.075 (.020)	.067 (.018)	.100 (.027)
Economic and Cultural Controls											
White unemployment									4.593 (.039)	4.293 (.037)	8.061* (.069)
Total Southern										-1.967E-6[a1] (-.004)	-2.352E-5[a2] (-.048)
Suicide with Firearm											1.812* (.153)
AdjR^2	.859	.860	.869	.874	.874	.876	.874	.876	.877	.872	.888

* p <.05;
**p<.10;
[a1] variance inflations for total white population and southern born are 6.435 and 6.088, respectively;
[a2] variance inflations for total white population and southern born are 6.752 and 6.207, respectively

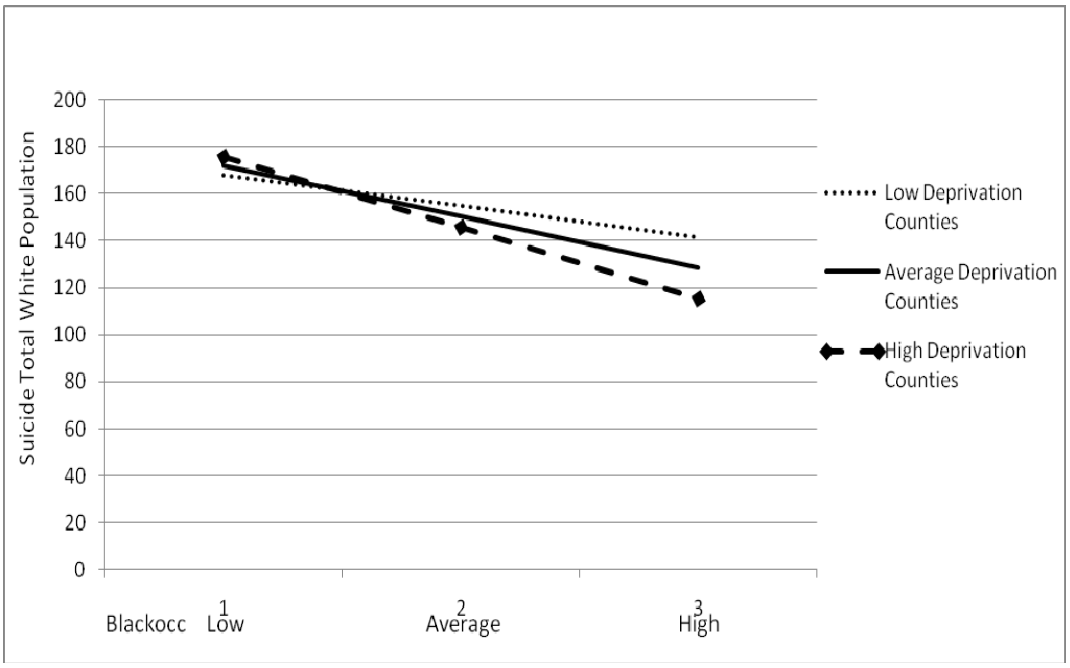

Figure 8: Suicide Total White Population by White Deprivation and Black Occupation GT100K

Compared to the analysis for young white males (Table 4c), there is only a negative and statistically significant effect of white deprivation for the total white population when unemployment and Southern born are controlled in Models 6 and 7. The young white male and total white population suicide analyses both yield support for one of the hypothesized interactions and partial support for the stream of violence theory because there is a negative and statistically significant interaction of white deprivation and Blacks in higher ranking occupations. However, this interaction effect is significant until firearm suicide is controlled in the total white population suicide analysis, and only significant in Model 5b for the young white male analysis.

The following describes the results of the total white population suicide analysis for counties with populations less than or equal to 100,000 (Table 6d) and a comparison with the young white male analysis (Table 4d).

Suicide Counts of the Total White Population for Counties with Populations Less than or Equal to 100,000

The results of the total white population suicide analysis for the subset of counties with populations less than or equal to 100,000 are presented in Table 6d. In addition to the significant effect of the population control, this analysis shows significant main effects for two of the variables of theoretical interest—white deprivation has a positive, significant effect across all models, and Blacks in higher ranking occupations has a negative, significant effect across all models. Although the main effect of Black elected officials is nonsignificant, there is a negative and statistically significant interaction between white deprivation and Black elected officials. Figure 9 displays the interaction effect in Model 5a, and Figure 10 displays the interaction effect in Model 8. This interaction is in the predicted direction and reveals a decrease in white suicide in high deprivation counties with higher percentages of Black elected officials as compared to the low deprivation counties. Therefore, the relationship between white deprivation and white suicide is conditioned by the effect of Black elected officials, and the effect of white deprivation on suicide varies based on the percentage of Black elected officials in the county.

Table 6d: Unstandardized (and Standardized) Regression Coefficients for White Suicide Counts for Counties with Populations Less than or Equal to 100,000 (LE100K) N=818

	Model 1	Model 2	Model 3	Model 4	Model 5a	Model 5b	Model 5c	Model 5d	Model 6	Model 7	Model 8
Constant	14.017	14.017	14.024	14.020	14.118	14.109	14.019	14.202	14.200	14.202	14.223
Demographic Control											
Total Whites >5	.592*	.607*	.619*	.621*	.623*	.620*	.621*	.621*	.624*	.632*[a1]	.637*[a2]
	(.911)	(.933)	(.952)	(.955)	(.957)	(.952)	(.954)	(.954)	(.959)	(.971)	(.980)
Production and Direction											
White deprivation		1.594*	1.361*	1.275*	1.220*	1.232*	1.280*	1.181*	1.454*	1.477*	1.364*
		(.057)	(.048)	(.045)	(.043)	(.044)	(.045)	(.042)	(.052)	(.052)	(.049)
Black occupation			-.212*	-.220*	-.211*	-.156*	-.189*	-.145*	-.146*	-.145*	-.146*
			(-.060)	(-.062)	(-.060)	(-.044)	(-.054)	(-.041)	(-.041)	(-.041)	(-.042)
Black Elected Officials				.017	.037	.013	.016	.032	.029	.032	.034
				(.013)	(.029)	(.010)	(.013)	(.025)	(.023)	(.025)	(.027)
Interaction Effects											
White deprivation*BEO					-.098*			-.096*	-.097*	-.099*	-.100*
					(-.035)			(-.035)	(-.035)	(-.036)	(-.036)
White deprivation*Blackoccup						.185		.179	.193	.195	.195
						(.032)		(.031)	(.034)	(.034)	(.034)
Blackoccup*BEO							.008	.001	.002	.003	.003
							(.017)	(.002)	(.005)	(.006)	(.006)
Economic and Cultural Controls											
White unemployment									-.168	-.171	-.161
									(-.024)	(-.025)	(-.023)
Total Southern										-.007[a1]	-.013[a2]
										(-.012)	(-.020)
Suicide with Firearm											.011
											(.016)
AdjR^2	.829	.832	.832	.832	.833	.833	.832	.834	.834	.834	.832

* p <.05;
[a1] variance inflations for total white population and southern born 11.972 and 10.224, respectively;
[a2] variance inflations for total white population and southern born 12.026 and 10.226, respectively

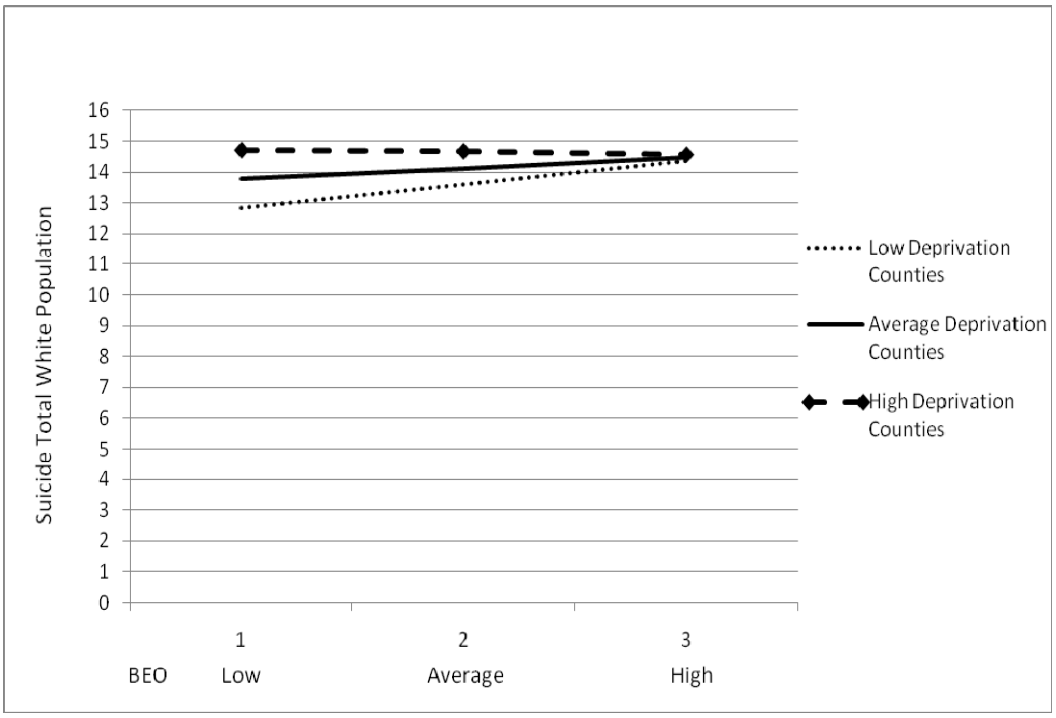

Figure 9: Suicide Total White Population by White Deprivation and Black Elected Officials LE100K

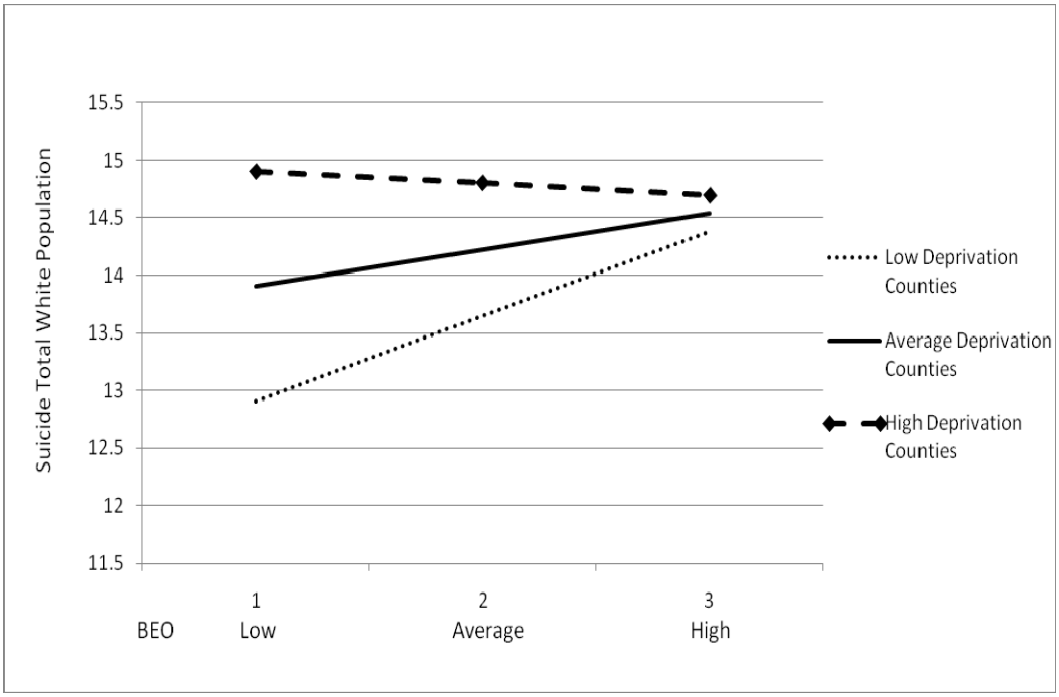

Figure 10: Suicide Total White Population by White Deprivation and Black Elected Officials LE100K (Model 8)

In contrast to the young white male analysis (Table 4d), there is a positive and significant main effect of white deprivation (which is not significant in the young white male analysis) and a negative main effect of Blacks in higher ranking occupations (which is only significant in Model 8 in the young white male analysis). Also in contrast to the young white male analysis, the negative, significant interaction of white deprivation and Black elected officials in the white analysis yields support for one of the hypothesized interaction effects, and partial support for the stream of violence theory. However, the small county data does not provide support for the hypotheses when examining the young white male suicide counts.