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## A Partial Test of an Integrative Control Model: Neighborhood Context, Social Control, Self-Control, and Youth Violent Behavior\*

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**Abstract.** *This study assesses an integrated control model to account for adolescent violent behavior. Neighborhood context is hypothesized to reduce informal social control mechanisms, thus affecting violent behavior primarily through informal social controls. These informal social controls are taken from social bond theory and self-control theory. Youth residing in disorganized neighborhoods, having weak social bonds, and reporting a lack of self-control should also be more likely to associate with groups having deviant definitions. The model hypothesizes that adolescent violent behaviors result from weakened social controls due to the environment in which they reside. This hypothesis is tested within the context of a full structural equations model, and it is only partially supported as little of the effect of neighborhood disorganization on violence is empirically channeled through the informal social control measures. Overall, the results indicate that, at least in these data, social disorganization and control theories mostly operate independently.*

**Keywords:** social disorganization; social control; self-control; neighborhood context; violence

### Introduction

Neighborhood research shows violence to be endemic in some neighborhood contexts (e.g., Wilson, 1987, 1996; Osgood and Chambers, 2000; Morenoff, Sampson, and Raudenbush, 2001; Baumer et al., 2003). This research is grounded in the social disorganization tradition, which proposes that neighborhood characteristics influence the behavior of individuals in various ways. For example, socially-disorganized areas should exhibit decreased social control and an increase in an individual's association with deviant peers as compared to more organized areas (Shaw and McKay, 1969; Bursik and Grasmick, 1993). This study follows this line of reasoning by testing an integrative control model to explain youth violence. The model is pieced together from previous theoretical work, namely that of Kornhauser (1978) and Bursik and Grasmick (1993), and puts forth several theoretical assumptions that are linked to provide a conceptual diagram for understanding youth violence. The conceptual model is designed to answer two primary questions: (1) Does neighborhood context affect informal social controls? (2) Does the effect of neighborhood context on violence work primarily through informal social controls? The model is also designed to link the informal social controls in a manner consistent with theory. Thus, several ancillary questions are also asked to illuminate possible processes

as related to the model tested in this study: (1) Do family attachment, commitment, and involvement affect levels of self-control? (2) Does self-control affect school attachment, commitment, and involvement? (3) Do neighborhood context and informal social controls influence the types of groups that some youth hang out with? The linkages between the theories and their individual effects on youth violence are tested with a cross-sectional sample of high school youth. In the next section, I briefly describe the theories that provide the foundation on which the model is constructed.

### Theoretical Foundations for the Integrated Control Model

#### *Social Disorganization Theory*

The relationship between social-ecological characteristics and human behavior has long held a prominent place in criminological inquiry, as empirical studies date back at least to 19th century Europe (see Vold, Bernard, and Snipes, 1998:28-31). In the United States, ecological studies rose to prominence in what is commonly called the Chicago School of Human Ecology, in which some researchers emphasized the role of neighborhood characteristics in the production of problematic behaviors (e.g., Park, Burgess, and McKenzie, 1928; see Vold et al., 1998:117-120). This genre of research, which is often

\* Acknowledgment is extended to Dr. Arthur Cosby at the Social Science Research Center for the use of these data, and his support of this project. The author also thankfully acknowledges the suggestions of the editors and reviewers for the final product.

**Editors' note:** After this manuscript was accepted for publication, we were saddened to learn of the author's death. We extend our condolences to Dr. Vowell's family, friends, colleagues, and students.

referred to as social disorganization theory, proposes that the neighborhood context influences human behavior in that informal social controls are weakened in areas exhibiting such things as poverty, higher crime rates, family instability, residential mobility, and deteriorated housing (Shaw and McKay, 1969; also see Bursik and Grasmick, 1993). As a result, these areas are in a relative state of disarray. Further, residents in these neighborhoods experience higher levels of stress in relation to some other neighborhoods (see Agnew, 1999). Wilson (1987:58) refers to this social condition as a “concentration of effect,” which is the confluence of social problems within any given geographical area.

Shaw and McKay’s landmark study (1969) paved the way for further ecological research that connected crime and delinquency rates to census indicators (e.g., Sampson and Groves, 1989; also see Vold et al., 1998:149-153; Osgood and Chambers, 2000; Morenoff et al., 2001; Baumer et al., 2003), though there are some departures from this specification (Elliot, Huizinga, and Ageton, 1985; Vowell and Howell, 1998). However, some researchers assert that the use of census data is problematic, as this fails to directly connect aggregated measures to individual behaviors (Sampson and Groves, 1989; Baumer et al., 2003; also see Pratt, Turner, and Piquero, 2004, for a similar discussion). Nevertheless, some ethnographic studies do provide insights into those individual-level processes so frequently assumed in aggregate-level studies (e.g., Wilson, 1987, 1996; Anderson, 1999). Some other researchers also point to social-control mechanisms that intervene between traditional social disorganization variables and crime, thus social disorganization partially operates through informal social controls at the individual level (Sampson and Groves, 1989; Bursik and Grasmick, 1993; Pratt et al., 2004). In other words, a general criticism of the social disorganization perspective is that the traditional use of aggregate measures limits inferences about individual-level processes. On the other hand, individual-level measures of the neighborhood context provide for a direct connection to informal social controls such as those articulated in social bond/control and self-control theories. In fact, Bursik and Grasmick (1993:13-18) draw on the work of Hunter (1985) to discuss at length the various types of social control mechanisms operating within neighborhoods, and how these work to prevent crime. For example, family social control falls within the description of private social control and the school falls within the area of parochial social control (see Hunter, 1985). To further this vein of reasoning, aspects of the social bond as related to the family and school are discussed in the next section.

### *Social Bond Theory*

Social control theories have a sociological history as enduring as social disorganization. A prominent and widely-recognized version of social control is Hirschi’s (1969:16-30) social bond theory. This social bond has four dimensions—attachment, commitment, involvement, and belief—which restrain individuals from satisfying their natural appetites for pleasure. Attachment to society begins with positive social interaction with significant others such as family members, and it is later reinforced by positive friendships in other social circles, such as those found at school. Among some people, violence endangers these valued relationships, as it might result in a loss of respect and friendship. Attached individuals are also sensitive to how their behavior may affect others. Moreover, attachment also extends to social units such as church, school, or work. Involvement is time spent at conventional activities that might otherwise be spent at nonconventional activities. Commitment is also time spent at conventional activities, but occurs over some period of time, often with the intent of achieving some goal (e.g., an education). Belief centers on an adherence to rules and regulations as appropriate mechanisms to guide behavior.

### *Self-Control Theory*

The parental attachment aspect of the social bond is linked to the development of self-control, which is established early in life, primarily through parental disciplinary practices and supervision (Gottfredson and Hirschi, 1990:97-100). In other words, parents who supervise their children closely are able to recognize problematic behaviors in their children therefore discipline them accordingly (also see Akers and Sellers, 2004). Self-control is not an all-or-none personality type; people fall somewhere along a continuum from low to high self-control. Among other things, low self-control individuals tend to seek immediate gratification, and to be impulsive, physical rather than mental, self-centered, and generally insensitive to the feelings of others (Gottfredson and Hirschi, 1990:89-91). For example, children attached to parents, peers, and teachers are sensitive to how their behavior can be harmful to others, and children committed to their studies do not mind doing mental work. Though Gottfredson and Hirschi (1990) focus on self-control as the most proximate factor to crime and deviance, they also assert that this personality trait is established early in life, remains relatively stable, and is certainly in place by the time children enter high school. In fact, children

lacking self-control may find the school environment unpleasant, and certainly low self-control could interfere with forming bonds to school. Therefore, though low self-control should be more proximate to violence, other factors—attachment, commitment, and involvement with family—are causally prior to the development of self-control. Thus, any effect of the family on violence should ultimately be channeled through levels of self-control. Low self-control also has the potential to adversely affect school relationships, but in the end negate any direct effects of school on violence.

A number of researchers have linked social bond (e.g., Torstensson, 1990; Junger-Tas, 1992; Costello and Vowell, 1999) and self-control theories (e.g., LaGrange and Silverman, 1999; Nakhaie, Silverman, and LaGrange, 2000) to delinquency. There has been less research specifically linking social and self-control to violent behavior. However, Bernberg and Thorlindsson (1999) showed family and school bonds reduced violent behavior among a sample of Icelandic youth. Similarly, Nakhaie, Silverman, and LaGrange (2000) found that social bonds reduced violent behavior in a sample of juveniles. Their research is notable to the task at hand because they found evidence that self-control and social control produced interactive and independent effects on violence. Similarly, Wright et al. (1999) also found evidence that social bonds and self-control had independent effects on crime in young adulthood, even while controlling for low self-control in childhood. Their research also noted that social bonds mediated the effects of self-control, indicating that perhaps self-control is not some fixed personality quality, but subject to change during the life course. LaGrange and Silverman (1999) found that several different measures of self-control predicted violence. Sellers (1999) found that low self-control accounted for only a small portion of the variance in intimate violence among dating partners. Pratt and Cullen's (2000) meta-analysis of self-control theory showed consistent support for self-control theory as well as the general applicability of the theory across different measures of self-control and crime and deviance. Overall, empirical research shows support for both social bond and self-control theory, though there is also evidence to indicate that the two theories interact over the life course (Wright et al., 1999).

#### *Differential Association Theory*

Another genre of research focuses on how individuals come to define situations as appropriate for crime and deviance, and how these definitions are learned through social interaction with others (Sutherland, 1947:5-7).

Under this perspective, violence is probable when someone learns an excess of definitions favorable to violence over definitions unfavorable to violence. This social process also includes developing the techniques, rationalizations, motives, and attitudes favorable to violence in the context of the “duration, intensity, frequency, and priority” of social relationships (Sutherland, Cressey, and Luckinbill, 1992:89). Put simply, people learn through social interaction to respond to certain situations with violence; that is, through association with others, people learn how to fight and learn to define situations as appropriate for fighting. Once the learning of violence is in place, there may be factors, such as gangs and criminal activity, which instigate the act (see Sheldon, Tracy, and Brown, 2001), and these instigators of violence should be more prevalent in socially-disorganized areas than in other areas (Bursik and Grasmick, 1993).

Differential association has been supported by a number of empirical studies, and operationalized in a number of ways (Warr and Stafford, 1991; Alarid, Burton, and Cullen, 2000; Hartjen and Priyadarsini, 2003). For example, Warr and Stafford (1991) found partial support in that friends' behavior was more important than friends' attitudes on adolescents' behavior. They proposed imitation as a prominent method of learning deviance, and as a response to group pressure to conform. Both would be consistent with differential association. Hartjen and Priyadarsini (2003) found that measures representing differential association were equally effective in explaining delinquency among girls and boys. Alarid et al. (2000) found differential association predicted drug, property, and violent crime among an offending population. However, other theorists have compiled information from a variety of sources that supports the notion that violence is more acceptable among some groups than others (Wilson, 1987, 1996; Anderson, 1999), especially when there are values in place that literally demand a violent response to some real or perceived indiscretion (Wolfgang and Ferracuti, 1981; Anderson, 1999). Brezina and his associates' (2004) research supports this notion.

Because of some contentious statements that emphasize social control/bond or self-control theories over differential associations as causal factors in the etiology of criminal behavior (for example see Hirschi, 1969; Gottfredson and Hirschi, 1990), in the present study a variable is created based on an excess of definitions favorable to aberrant behaviors over definitions unfavorable to such behaviors. This variable is created as a control measure to be used in the final equation. This is a common method in many studies that examine the relative effects of one variable against those of a competing theory in order to

eliminate possible confounding effects (e.g., see Pratt and Cullen's 2000 review).

*The Potential Effects of Adverse Neighborhood Conditions on Social and Self-Control*

The characteristics of neighborhood disorganization can potentially disrupt or inhibit social relationships that often provide the foundation for social and self-control (Bursik and Grasmick, 1993; Pratt et al., 2004). In fact, socially-disorganized areas are characteristically deficient in terms of the quality of conventional activities, and there are also more opportunities to engage in nonconventional activities (Shaw and McKay, 1969; Wilson, 1987, 1996). Families living in these areas may also experience more financial stress or exposure to violence than their counterparts elsewhere, and such stress has the potential to affect family and school relations. Deteriorated areas also tend to be more likely to have a gang presence than those neighborhoods that are organized around conventional community institutions. Stable parental supervision patterns may also be lacking in disorganized neighborhoods, leaving children to learn from peers rather than from parents (Bursik and Grasmick, 1993; Anderson, 1999). In fact, Anderson (1999) describes at length the street socialization of some children into deviant peer groups where violence is an accepted response to perceptions of disrespect.

**Methodology**

*Sample*

The sample consists of students in the tenth, eleventh and twelfth grades from urban and rural areas across a Southern state (see Ray and Gray, 1992). Counties were first classified as urban, semi-urban, or rural, based upon population density. Five urban, eight semi-urban, and ten rural counties were then randomly selected. In two urban, two semi-urban, and six rural counties every school superintendent refused to participate; no schools in these counties are included in the sample. A total of 23 schools within the remaining 13 counties were included in the survey. The overall student participation rate (71.4%) was determined by dividing the number of participating students by the number of students enrolled in the schools (grades 10 through 12) during the semester the data were collected. Participation rates by grade level were as follows: Grade 10 = 71.9 percent; Grade 11 = 70.4 percent; Grade 12 = 72.9 percent. The initial sample size was 8,338; however, due to the small number of respondents identifying themselves as Hispanic, Native American,

or Asian, the analysis was limited to African- and Euro-American youth which left 8,072 cases. As the data are cross-sectional, *assertions about temporal causality cannot be statistically made*, but the implied temporal order of the model should be considered in the context of substantive theory. In other words, while causality cannot be established with cross-sectional data, the model reflects a hypothesized temporal order based upon the theoretical assumptions embedded in the model.

There were missing cases on some of the indicators, particularly those which were located near the end of the questionnaire. There was also an option of "don't know/refuse" on some of the questions and these were recoded as missing. Using the complete case method would have still resulted in a relatively large sample, but due to the large number of indicators the sample size would have been reduced by approximately another 15 percent. Valuable information might have been lost on some of the indicators (see Little and Schenker, 1995), even though the percentage missing on most of the questions was less than five percent. Therefore, the missing cases were examined for patterns of missingness in relation to any of the other variables in the analysis. First, it was determined that missingness was related to race and gender with African-American males less likely to answer some of the questions. Next, values were imputed for the missing cases using the expectation-maximization (EM) algorithm method. Then comparisons were made between the means, standard deviations, and correlations of the individual indicators in the sample before and after the replacement of missing data. These comparisons revealed inconsequential departures from point estimates prior to the replacement of missing data. There were also 426 cases out of the total number of 8,072 that were missing on the indicator asking respondents if their families received some form of public assistance. The elimination of these cases reduced the sample size to 7,646, which was approximately 91.7 percent of the original sample. Reliability coefficients are reported for the measurement models for comparative purposes only, because the methodology estimates and controls for the reliability of the individual indicators (which constitute the error term for each observed indicator for a particular construct) and the amount of variance left unexplained in the latent endogenous constructs are controlled in the disturbance terms.

*Operationalization of Variables*

**Violence.** Concerning the following descriptions of the observed indicators, each of these is labeled as



V1, V2, etc., in Figure 2 as well as in the tables. Violent behavior (V32) was operationalized with eight items ( $\alpha = .86$ ) which were summed into an index and then transformed by taking its natural log. Respondents indicated how many times they had used force to get what they wanted, hurt someone badly enough to need bandages, physically assaulted someone, hit a member of their family, forced or tried to force someone to have sex, set fire to someone's property, used a weapon to get someone's stuff, or forced someone to give them something. The response categories for each question were: 1 = never; 2 = 1-5 times; 3 = 6-10 times; 4 = 11-20 times; 5 = 20 times and up.

**Gender and Race.** Gender (V1) and race (V2) were controlled in each of the structural equations (males = 1; females = 0; Euro-Americans = 1; African-Americans = 0).

**Neighborhood Context.** Neighborhood context was represented by receipt of public assistance (V3) (1 = yes, 0 = no), a lack of parental supervision of children, respondents' perceptions of the presence of neighborhood gangs and crime, and neighborhood deterioration as reported by the respondents. As individual-level variables, receipt of public assistance and a lack of parental supervision represent family characteristics; however, there is an overwhelming amount of evidence showing that families living in socially-disorganized areas tend to receive public assistance in some form and there is less parental supervision in these areas (e.g., see Wilson, 1987, 1996; Anderson, 1999). Also, according to Bursik and Grasmick (1993), socially-disorganized areas are theoretically linked to levels of parental supervision. In other words, it could be argued that receiving public assistance and a lack of parental supervision is not particular to the social context of socially-disorganized areas, as these are also reflected in families living outside of socially-disorganized areas. However, public assistance is often used as an indicator of neighborhood disorganization, and a lack of parental supervision is congruent with the concerns of other theorists (e.g., Shaw and McKay, 1969; Wilson, 1985, 1996; Anderson, 1999). Thus, it is asserted that these variables are more likely to be found in socially disorganized areas than elsewhere, while not excluding the fact that these variables exist outside of these areas, as do the other variables in the analysis.

A lack of parental supervision was a two-item measurement model ( $r = .637$ ,  $\alpha = .78$ ) congruent with previous studies (e.g., Matsueda, 1982; Costello and Vowell, 1999). Respondents were asked whether they agreed or disagreed (1 = strongly agree, 2 = agree, 3 = disagree, 4 = strongly disagree) with whether their parents knew

“where they were” (V4) and “who they were with when away from home” (V5). *Neighborhood gang presence and crime* was measured with a four-item measurement model ( $\alpha = .80$ ). Respondents were asked if they agreed or disagreed (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree) with the questions: “There are youth gangs in my neighborhood” (V6), “Gang-related crimes are increasing in my neighborhood” (V7), and “There are drug pushers in my neighborhood” (V8). Respondents were also asked to indicate how common (1 = not common at all; 2 = somewhat common, 3 = very common) was crime in their neighborhood (V9). *Neighborhood deterioration* was measured with a five-item measurement model ( $\alpha = .75$ ). Respondents were asked how common (1 = not common at all; 2 = somewhat common, 3 = very common) were “broken cars on the street” (V10), “families moving in and out of houses in your neighborhood” (V11), “trash on the streets” (V12), “2 or 3 families living in one house” (V13), and “houses looking like they need repairing” (V14). Neighborhood gang presence and crime and neighborhood deterioration were specified to load onto a second-order latent construct labeled *neighborhood disorganization*. This specification allowed for neighborhood disorganization to account for the covariance between neighborhood gang presence and crime and neighborhood deterioration and to also account for the variation in each of those constructs. In other words, this specification of neighborhood disorganization as a second-order latent construct should, conceptually, account for the covariation between the first-order latent constructs neighborhood gang presence and crime and neighborhood deterioration. The latent constructs of neighborhood gang presence and crime and neighborhood deterioration account for the covariation among the indicators specific to each construct. This second-order latent construct labeled neighborhood disorganization showed the following in terms of fit statistics: CFI = .94; GFI = .96; RMSEA = .08. Further empirical support for this specification can be seen in Table 2, as the standardized loadings of neighborhood gang presence and crime (.766) and neighborhood deterioration (.868) onto neighborhood disorganization are relatively high. This is a standard data reduction technique also designed to determine which specification best represents the data.

**Social Bond: Attachment, Commitment, and Involvement.** Some studies have indicated that aspects of the social bond coexist in any one social arena such as the school and family (e.g., Krohn and Massey, 1980; Costello and Vowell, 1999). Family attachment, commitment, and involvement were measured with a four-item measurement model ( $\alpha = .61$ ). Respondents were asked

whether they agreed or disagreed (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree) with the questions: “I spend a lot of time interacting with my parent or parents” (V15); “I spend a lot of time interacting with my sisters and brothers” (V16); “My family is important to me” (V17); and “I want to be able to help my family financially” (V18). School attachment, commitment, and involvement were also measured with a four-item measurement model ( $\alpha = .54$ ). Respondents were asked whether they agreed or disagreed (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree) with the questions: “I enjoy school” (V24); “I try hard to do well in school” (V25); and “I am proud of my school” (V26). Respondents were also asked how many hours they spent studying each day (V27) (1 = 0 to 1.00, 2 = 1.01 to 2.00, 3 = 2.01 to 3.00, 4 = 3.01 to 4.00).

**Low Self-Control.** Low self-control was operationalized with a six-item measurement model ( $\alpha = .90$ ) with questions asking respondents to rank themselves on a scale of 1 to 5 according to how they viewed themselves in terms as being “cooperative (1)/troublesome (5)” (V19), “good (1)/bad (5)” (V20), “conforming (1)/deviant (5)” (V21), “obedient (1)/disobedient (5)” (V22), “polite (1)/rude (5)” (V23), and “law abiding (1)/delinquent (5)” (V24). These self-described behavioral measures were coded so that they reflect low self-control. These items are different from previous measures of low self-control; however, as Pratt and Cullen’s (2000) meta-analysis showed, low self-control has been measured in a number of ways with overall consistent results. It is emphasized, however, that these measures capture self indications of behaviors which are consistent with Gottfredson and Hirschi’s (1990) description of low self-control individuals.

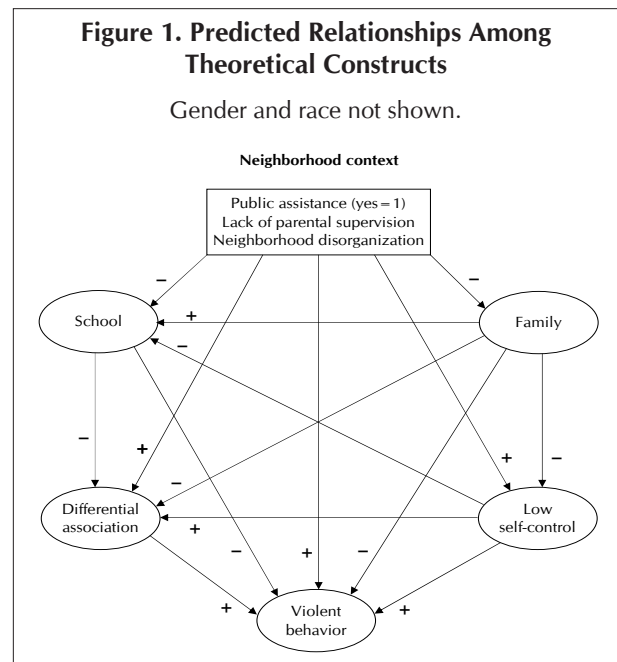
**Differential Association.** Differential association was a three-item measurement model ( $\alpha = .59$ ) asking respondents how much they agreed or disagreed (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree) with “Getting into trouble in my group is a way of gaining respect” (V29), “The kids in my group would think less of a person if he/she were to get into trouble” (V30), and “The members of my group feel that laws should be obeyed” (V31) (which was coded as 1 = strongly agree, 2 = agree, 3 = disagree, 4 = strongly disagree). These measures are similar in content to some previous research (e.g., Krohn, Lanza-Kaduce, and Akers, 1984) and tap into respondents’ perceptions of their group’s norms. Though “trouble” may encompass many different behaviors, among some groups, especially gangs, fighting is viewed as a type of trouble that elicits respect from others (Sheldon et al., 2001).

**The Model Specification**

Above, the theories upon which the model is constructed were outlined. In this section, the theories are linked via some structural equations with the appropriately specified hypothesized relationships (see Figure 1; gender and race are not included in the diagram). This specification is a generic model derived primarily from the work of Kornhauser (1978:69) and Bursik and Grasmick (1993:39). Figure 2 shows the full structural equations model as it was estimated. The variables for each latent construct are labeled as V1, V2, etc., with each variable having its attendant error term. These observed indicators are also labeled in each of the pertinent tables.

Gender, race, public assistance, a lack of parental supervision, and perceptions of neighborhood disorganization are totally exogenous in the model and specified to correlate. Due to the size of the model, these correlations are not shown in Figure 2, but the results are shown in Table 3 and discussed in the text. Neighborhood disorganization is treated as a second-order latent construct with two first-order dimensions—perceptions of gang presence/crime and perceptions of neighborhood deterioration—loading onto neighborhood disorganization. These self-identifications and perceptions of the respondents provide the measures of the overall neighborhood context.

In that African-Americans should be more likely to receive public assistance (see Gollnick and Chin, 1998) and reside in socially-disorganized areas, both race and



public assistance should correlate with neighborhood disorganization. Thus, to the extent that race and public assistance correlate with neighborhood disorganization, some external validity is provided to those measures of social disorganization. In each of the equations, gender and race are controlled to eliminate any confounding effects that may be associated with those demographic characteristics. Gender and race are not hypothesized to have particular effects on the endogenous constructs of each equation.

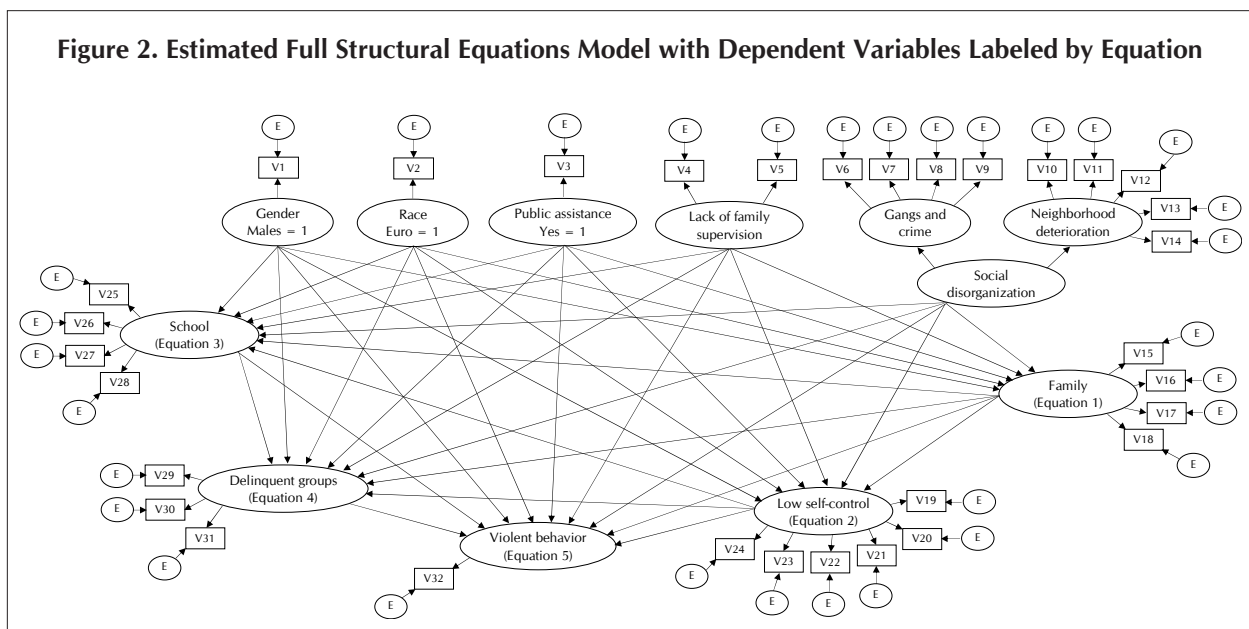
The first equation specifies a lack of parental supervision, receipt of public assistance, and neighborhood disorganization as decreasing levels of family attachment, commitment, and involvement (private social control), which is labeled *family* in the model diagram and will be referred to as such, while controlling for race and gender. The second equation stresses the influence of family on low self-control in that those more attached to family should also report higher self-control, but as the self-control items are coded to reflect low self-control, the path from family to low self-control should be significant and negative. In the third equation, the dependent construct is school attachment, involvement, and commitment (parochial social control), which is labeled *school* in the model diagram and hereafter will be referred to as such in the text. This construct is derived from social bond theory, thus social disorganization and low self-control should decrease levels of school. On the other hand, family should increase levels of school. In the fourth equation, social disorganization and low self-control should increase the

probability that youth will associate with deviant groups, and family and school should decrease the probability that youth will associate with deviant groups. In the final equation, all variables in the model are specified to have direct effects on violence as predicted by theory and are labeled accordingly with positive or negative signs in Figure 1 with all paths specified in Figure 2 corresponding to Table 4. The dependent constructs in Figure 2 are labeled with equation 1, equation 2, etc., congruent with Table 4.

**Results**

The means, standard deviations, skewness and kurtosis statistics are displayed in Table 1. Table 2 shows the loadings of the observed indicators for each of the latent constructs. All of the loadings are acceptable and significant at  $p < .001$  or less (see Hoyle and Lennox, 1991). The model was estimated using the robust method in EQS (modeling software) as a means to compensate for multivariate nonnormality, even though the log transformation of the dependent variable partially corrected for this problem. Also, the large sample size further statistically compensated for the skewed distribution of the violent behavior index. Further, considering the size of the model in relation to the large number of indicators and the large sample size, it would be highly unlikely that a nonsignificant  $\chi^2$  could be obtained (actual Satorra-Bentler Scaled  $\chi^2 = 5828, 421 df, p < .001$ ) (Byrne, 1994). To put it differently, with such a large number of indicators and such

**Figure 2. Estimated Full Structural Equations Model with Dependent Variables Labeled by Equation**



a large sample, obtaining a nonsignificant  $\chi^2$  would entail collapsing the measures into indices, thereby reducing the  $\chi^2$  and degrees of freedom. It would probably further entail allowing correlations between disturbance or error terms in order to reach a nonsignificant  $\chi^2$ . To do these things just to obtain a nonsignificant  $\chi^2$ ; however, would obviate the very reason to use this methodology, which is partially designed to estimate less biased structural coefficients and to further the establishment of validity within and between constructs, based upon substantive theoretical specification (Joreskog, 1993). Therefore, it is neces-

sary to use other methods to assess how well the estimated model fitted to the data (see Byrne, 1994). The model estimation showed the following in terms of fit statistics: CFI = .915, Robust CFI = .914, GFI = .940, and RMSEA = .045, which are all acceptable (see Byrne 1994:147). Further, a close examination of the error terms showed no potential correlations (the largest was .16) among these to question the specifications of the latent constructs in the measurement portion of the model. In other words, from a statistical and theoretical standpoint, the potential that error term correlations could be interpreted as measuring

**Table 1. Means, Standard Deviations, Skewness and Kurtosis Statistics for the Observed Indicators**

<b>Observed indicators</b>	<b>Mean</b>	<b>Standard deviation</b>	<b>Skewness</b>	<b>Kurtosis</b>
Gender (Males = 1) (V1)	0.449	0.497	0.202	-1.959
Race (Euro = 1) (V2)	0.536	0.498	-0.147	-1.978
Receipt of Public Assistance (Yes = 1) (V3)	0.189	0.392	1.587	0.517
My parents know who I'm with when I'm out. (V4)	1.928	0.838	-0.709	-0.007
My parents know where I am when I'm away from home. (V5)	2.979	0.861	-0.448	-0.436
There are drug pushers in my neighborhood. (V6)	2.342	1.094	0.224	-1.266
There are youth gangs in my neighborhood. (V7)	2.216	1.018	0.375	-0.984
Gang related crimes are increasing in my neighborhood. (V8)	1.991	0.932	0.785	-0.352
How common is crime in your neighborhood. (V9)	1.580	0.675	0.748	-0.578
How common is broken cars on the street in your neighborhood. (V10)	1.421	0.659	1.293	0.394
How common is families moving in and out of houses in your neighborhood. (V11)	1.649	0.729	0.653	-0.876
How common is two or three families living in one house in your neighborhood. (V12)	1.368	0.651	1.543	1.021
How common is trash on the streets in your neighborhood. (V13)	1.490	0.692	1.075	-0.167
How common is houses looking like they need repairing in your neighborhood. (V14)	1.669	0.766	0.641	-1.029
I spend a lot of time interacting with my parents. (V15)	2.648	0.801	-0.216	-0.361
I spend a lot of time interacting with my brothers and sisters. (V16)	2.642	0.832	-0.293	-0.388
My family is important to me. (V17)	3.611	0.629	-1.806	3.629
I want to be able to help my family financially. (V18)	3.248	0.759	-0.870	0.489
Do you see yourself as cooperative/trouble. (V19)	1.751	0.893	1.299	1.639
Do you see yourself as good/bad. (V20)	1.809	0.895	1.299	1.635
Do you see yourself as conforming/deviant. (V21)	1.942	0.977	1.037	0.788
Do you see yourself as obedient/disobedient. (V22)	1.900	0.941	1.045	0.873
Do you see yourself as polite/rude. (V23)	1.698	0.907	1.476	2.076
Do you see yourself as law abiding/delinquent. (V24)	1.716	0.907	1.476	2.076
On average, how many hours a day do you spend studying. (V25)	1.859	0.721	0.694	0.558
I enjoy school. (V26)	2.549	0.817	-0.466	-0.389
I try hard to do well in school. (V27)	2.964	0.777	-0.390	-0.251
I'm proud of my school. (V28)	2.686	0.894	-0.398	-0.551
Kids who get into trouble with the law are "put down" in my group. (V29)	2.779	0.783	-0.450	0.022
The members of my group feel that laws should be obeyed. (V30)	1.953	0.740	-0.634	0.491
The kids in my group would think less of a person if he/she were to get into trouble with the law. (V31)	2.515	0.860	0.133	-0.572
Violence (logged) (V32)	1.914	0.255	2.267	8.956

something other than what the indicators were intended to measure was not present to any substantial degree as specified in this model.

*Exogenous Relationships*

All of the totally exogenous constructs—gender,

race, public assistance, a lack of parental supervision, and neighborhood disorganization—were specified to co-vary and these results are displayed in Table 3. Race was substantially correlated with public assistance (-.357) with Euro-American youth less likely to reside in families that received public assistance. Race was also substantially correlated with neighborhood disorganiza-

**Table 2. Unstandardized and Standardized Measurement Model Loadings with Measurement Errors for the Observed Indicators**

Latent constructs with observed indicators	Loadings with measurement error		
	Unstan- dardized	Standard- ized	Error term
<b>Lack of parental supervision</b>			
My parents or parent know who I'm with when I'm out. (V4)	1.000	.798	.602
My parents or parent know where I am when I'm away from home. (V5)	1.027	.799	.602
<b>Neighborhood disorganization</b>			
<i>Neighborhood gang presence and crime</i> (loading with disturbance term)			
There are drug pushers in my neighborhood. (V6)	1.000	.717	.697
There are youth gangs in my neighborhood. (V7)	1.014	.782	.623
Gang related crimes are increasing in my neighborhood. (V8)	0.866	.729	.685
How common is crime in your neighborhood. (V9)	0.557	.648	.762
<i>Neighborhood deterioration</i> (loading with disturbance term)			
How common is broken cars on the street in your neighborhood. (V10)	1.000	.632	.775
How common is families moving in and out of houses in your neighborhood. (V11)	0.778	.444	.896
How common is two or three families living in one house in your neighborhood. (V12)	0.984	.629	.778
How common is trash on the streets in your neighborhood? (V13)	1.160	.698	.716
How common is houses looking like they need repairing in your neighborhood. (V14)	1.291	.701	.713
<b>Family attachment</b>			
I spend a lot of time interacting with my parents. (V15)	1.000	.553	.833
I spend a lot of time interacting with my brothers and sisters. (V16)	0.920	.491	.871
My family is important to me. (V17)	0.837	.590	.808
I want to be able to help my family financially. (V18)	0.894	.522	.853
<b>Low self-control</b>			
Do you see yourself as cooperative/troublesome. (V19)	1.000	.829	.560
Do you see yourself as good/bad. (V20)	1.039	.858	.513
Do you see yourself as conforming/deviant. (V21)	0.991	.750	.661
Do you see yourself as obedient/disobedient. (V22)	1.049	.825	.564
Do you see yourself as polite/rude. (V23)	0.929	.758	.653
Do you see yourself as law abiding/delinquent. (V24)	0.947	.740	.672
<b>School attachment</b>			
On average, how many hours a day do you spend studying. (V25)	1.000	.452	.892
I enjoy school. (V26)	1.298	.517	.856
I try hard to do well in school. (V27)	1.410	.591	.807
I'm proud of my school. (V28)	0.984	.358	.934
<b>Differential association</b>			
Kids who get into trouble with the law are "put down" in my group. (V29)	1.000	.505	.863
The members of my group feel that laws should be obeyed. (V30)	1.144	.612	.791
The kids in my group would think less of a person if he/she were to get into trouble with the law. (V31)	1.221	.562	.827

All observed indicators, except those specified as 1.000, are significant ( $p < .001$ ).

tion (-.385) with Euro-American youth less likely to live in areas exhibiting such characteristics. Receipt of public assistance (.296) and a lack of parental supervision (.111) were also significantly correlated with neighborhood disorganization. These relationships provided some external and construct validity to the perceptual measures of neighborhood disorganization as these relationships were consistent with the theory. In other words, based on the logic of social disorganization theory one would expect such relationships.

One other relationship among the totally exogenous constructs needs to be mentioned. Boys were more likely to report that their parents did not know where they were at or who they were with when they were away from home than the girls in the sample (.250). This substantiates some predictions made by various theorists (e.g., Hagan, Gillis, and Simpson, 1985) in that girls experience greater parental supervision than boys, which, if correct, would lend some external validity to the lack of parental supervision measure.

*Equations*

Due to the large sample size, only those coefficients at  $p < .01$  or less are reported in order to draw some sort of distinction between substantive and statistical significance. In other words, as the sample size is large, the standard errors tend to be smaller; therefore, regression coefficients of very small magnitude may be statistically significant at  $p < .05$ , but are insubstantial in terms of interpretation.

In Equation 1, family was regressed on gender, race, public assistance, a lack of parental supervision, and neighborhood disorganization (see Table 4). The effects of race (-.258) and a lack of parental supervision (-.537) together accounted for most of the variance in family ( $R^2 = .377$ ). The effect of a lack of parental supervision on family also provided some construct validity to both the parental supervision and family measures, as social bond

theory predicts such a relationship (Hirschi, 1969).

In Equation 2, low self-control was regressed on gender, race, public assistance, a lack of parental supervision, neighborhood disorganization, and family (see Table 3). Race (.127), a lack of parental supervision (.215), neighborhood disorganization (.191), and family (-.214) met the probability criterion set above. The effects of a lack of parental supervision, neighborhood disorganization, and family on low self-control were consistent with the underlying logic upon which the structural model was built, and this equation accounted for 21.2 percent of the variance in low self-control.

In Equation 3, school was regressed on gender, race, public assistance, a lack of parental supervision, neighborhood disorganization, family, and the low self-control measures. This set of factors accounted for a substantial amount of the variance in school ( $R^2 = .484$ ). (School attachment, commitment, and involvement will simply be termed “school” to match the tables and figures.) Males (-.123) and Euro Americans (-.112) were less likely to report school. However, the combination of a lack of parental supervision (-.211) and family (.388) accounted for the predominant proportion of the variance in school. Low self-control (-.165), as predicted, was significant and negatively associated with school. Again, these relationships were consistent with the logical structure of the model and the theories on which the model was built.

In Equation 4, differential association was regressed on gender, race, public assistance, a lack of parental supervision, neighborhood disorganization, family, low self-control, and school (see Table 4). Two coefficients in this equation particularly stand out. A lack of parental supervision (.248) was positively associated differential association, indicating that as parental supervision declined, there was an increase in the probability that children would hang out with groups holding deviant norms. School (-.425), on the other hand, had a negative association groups holding deviant norms. This could be perhaps an indication that school allowed individuals with low

**Table 3. Correlations Among Completely Exogenous Factors**

<b>Variables</b>	<b>Gender</b>	<b>Race</b>	<b>Public assistance</b>	<b>Lack of parental supervision</b>	<b>Neighborhood disorganization</b>
Gender (males = 1)	—	.063	-.097	.250 ***	.016
Race (Euro = 1)		—	-.357 ***	.047	-.385 ***
Public Assistance (yes = 1)			—	-.036	.296 ***
Lack of parental supervision				—	.111 ***

*Statistical significance is only shown for the theoretically relevant correlations: \*\*\*  $p < .001$*

self-control to develop cliques with individuals with the same type of behavior patterns. Gender (.080 with males =1) and low self-control (.099) had marginal effects on differential association. The social and low self-control coefficients gave some credence to the proposition that, at least in this sample, differential association was simply a self-selection process resulting from youth seeking similar others. The additive effects of the variables in this equation accounted for 40.1 percent of the variance in differential association.

In Equation 5, violence was regressed on all of the factors in the model (see Table 4). Boys (.214) reported more violence than girls. Neighborhood disorganization (.296) was positively associated with violent behavior among youth in this sample. Though marginal, family (-.101) was negatively associated with violent youth

behavior. On the other hand, low self-control (.224) was positively associated with the chances that youth would engage in violence. Overall, the equation accounted for 29.1 percent of the variance in youth violent behavior, but when looking at the total effects displayed in Table 4, neighborhood disorganization had the single strongest association with youth violent behavior, and a lack parental supervision was primarily channeled through the other social bond, self-control, and differential association constructs (indirect effect = .123 of the .191 total effect).

To sum up this section, the model tested in this study indicated that a multi-theoretical approach to violence is more viable than uni-theoretical models such as self-control theory. In comparing the direct, indirect, and total effects in Equation 5, neighborhood social disorganization operated largely independent of the other constructs in

**Table 4. Direct Standardized Effects of Estimated Equations with Indirect and Total Standardized Effects on Violence**

Unstandardized effects in parentheses.

Independent variables	Dependent variables						
	Equation 1	Equation 2	Equation 3	Equation 4	Equation 5		
	Family attachment	Low self-control	School attachment	Differential association	Direct	Indirect	Total
Gender (males = 1)	.004 (.004)	.034 (.051)	-.123 *** (-.080)	.080 ** (.064)	.214 *** (.110)	.006 (.003)	.221 (.113)
Race (Euro American = 1)	-.258 ***	.127 *** (.189)	-.112 *** (-.073)	-.034 (-.027)	-.038 (-.020)	.058 (.029)	.019 (.010)
Public assistance (yes = 1)	.047 (.053)	.030 (.056)	.017 (.014)	.012 (.012)	-.014 (-.009)	.001 (.001)	-.013 (-.008)
Lack of parental supervision	-.537 *** (-.356)	.215 *** (.238)	-.211 *** (-.103)	.248 *** (.147)	.068 ** (.026)	.123 (.047)	.191 (.073)
Neighborhood disorganization	-.069 ** (-.051)	.191 *** (.235)	-.020 (-.011)	.020 (.016)	.296 *** (.126)	.052 (-.022)	.348 (.148)
Family attachment, commitment, and involvement		-.214 *** (-.357)	.388 *** (.285)	.057 (.051)	-.101 (-.058)	-.032 (-.019)	-.134 (-.077)
Low self-control			-.165 *** (-.073)	.099 ** (.053)	.224 *** (.077)	-.001 (-.000)	.222 (.077)
School attachment, commitment, and involvement				-.425 *** (-.516)	.052 (.041)	-.019 (-.014)	.033 (-.516)
Differential association					.044 (.013)	—	—
<i>R</i> <sup>2</sup>	.377	.212	.484	.401		.291	

*p* < .01\*\*; *p* < .001\*\*\*

the model. On the other hand, a lack of parental supervision functioned primarily through the social bond and low self-control measures. Almost half of the total effect of family on violence operated through the low self-control measure, so, overall, there was mixed support for the interconnectedness of the theoretical predictions embedded in the logical structure of the model.

## **Discussion**

Youth violence captures the public's attention and some events such as school shootings, though relatively rare, beckon for the understanding of those causal processes that contribute to youth violence. In this study, a partial test of an integrated control model, based on individual-level data, for youth violence was assessed in a cross-sectional sample of high school youth. The model was pieced together primarily from theoretical works by Kornhauser (1978) and Bursik and Grasmick (1993). However, the findings indicated only mixed support for such a model specification. The weakest links in the model were those specifying neighborhood disorganization as decreasing social bonds. Thus, the findings in these data indicated that social disorganization and informal social control function primarily independent of the other, though .052 of the total effect of neighborhood disorganization was channeled through family and low self-control. Further, the strongest linkages in the model were those among the informal social control constructs. Obviously, then, a one-size-fits-all theory of violence, as some proponents of self-control theory would suggest, was not supported by this test.

There were several ancillary propositions tested in the model that may shed some light on some previous theoretical arguments in the literature. First, the model specified family processes as affecting levels of self-control, based on the assumption that youth with weak family ties would also have characteristics of low self-control. Second, the model specified that youth with low self-control would have weak ties to the school. These specified paths would follow self-control theory. However, though family ties did impact self-control, family was also the strongest predictor of school. Family was also a statistically significant, though marginal, predictor of self-reported violent behavior. Third, the model specified that an adverse neighborhood context and youth with weak informal social controls would be likely hang out with a group having deviant norms. The latter specification was only supported in that weak informal social controls increased the probability that youth would report membership in a group with deviant norms. This finding suggested that

individuals with low self-control essentially self-select into deviant groups. However, if Gottfredson and Hirschi (1990) are correct, then low self-control should have been the only theoretical construct to have a direct effect on violent behavior, thus any effect from the other constructs in the analysis should have been indirect. This assertion was only partially born out in these data, so the results point to the complexity of violent behavior, rather than some simplistic notion about human nature. To put it another way, there was some support for an integrated control model, but for the most part the data showed that the neighborhood disorganization and the informal control measures operated independently in the model. In fact, these data showed that the neighborhood context and the informal social controls accounted for roughly the same amount of the variance in violence. Thus, these findings counter the notion of a general theory able to account for all crime, in all places, and at all times. However, these data were not collected to specifically test such a model, and there is a variable missing that could shed further light on an integrated control model.

Anderson (1999) makes the distinction between street families and decent families, each of which has a different set of values and different ways of raising their children. A possible area for future research would be to develop measures to distinguish decent families from street families, and then to simultaneously estimate the model for each type of family, while constraining all parameters to be equal, using this type of methodology. Constraints could then be lifted on those parameters that showed statistically significant differences between the two types of families. This could perhaps shed some light on some social processes that could incorporate Anderson's (1999) observations into Bursik and Grasmick's (1993) systemic control model. Such measures to distinguish "decent" families from "street" families could follow those developed in some previous theoretical research, such as differential association and differential reinforcement theories, only the measures could be specifically developed to assess the norms and rearing practices of families in order to develop some sort of dichotomy or distinction between decent and street families. Brezina et al. (2004) made some inroads into testing some hypotheses as related to Anderson's ethnographic research. However, while their study provides partial support for Anderson's observations, they only test for the effects of parenting styles on violence and do not distinguish between street and decent families. In terms of social policy, such statistical, empirical illumination may provide channels to concentrate efforts to prevent criminal and deviant behaviors, and to also improve the quality of



life in those areas that are problematically prone to crime and other social problems. Further, if such an analysis is undertaken, the use of longitudinal, panel data would be more desirable than the use of cross-sectional data. Data collected in such a way would allow for true causality to be established so that the results would reflect the causal order implied in this research.

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## **Sentencing Disparity: Aboriginal Canadians, Drunk Driving and Age\***

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**Abstract.** *Researchers have tried to explain the over-representation of Aboriginal peoples in custody by attributing this to more punitive sentencing. A few investigators have discovered harsher sanctions, some have actually found shorter sentences that indicate paternalistic sentencing, but generally better research designs show little evidence of bias once prior criminal history and offence severity are considered. In the US, sentencing research on racial bias has moved towards models that incorporate age, gender and race interactions and use specific crimes to better contextualize findings and uncover discrimination not easily discerned in univariate and bivariate research on general offences. These models have shown evidence of an age advantage for older offenders conditioned by race and offence type. This exploratory study used focal concerns theory to test racial disparity and age advantage hypotheses, and examined interactions to further assess the possible mediating influence of race. The study sample consisted of 237 male drunk drivers sentenced to custody for Drive Under the Influence (DUI) in Alberta, Canada from 1989-1991. Controls included prior drunk driving charges, collision severity indicators, and standard demographic variables. Findings provided partial support for focal concerns related to age and race. Age impacted Aboriginal drunk drivers, favorably for younger drivers, but negatively for older DUI cases in their forties.*

**Keywords:** sentence length; age; Aboriginal; DUI; drunk driving; collision

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### **Introduction**

Indigenous peoples are severely over-represented in justice systems throughout the world (Bachman, Alvarez, and Perkins, 1996; Indian and Northern Affairs Canada, 1996; Broadhurst, 1997). In Canada, provincial and federal government inquiries have concluded that the plight of Aboriginal Canadians is a result of “systemic discrimination” by agents operating in the criminal justice system (Aboriginal Justice Inquiry, 1991; Cawsey, 1991; Indian and Northern Affairs Canada, 1996). Indeed, ample data has been assembled displaying that Aboriginals are disproportionately charged and incarcerated, relative to their numbers in the population (Beattie, 2005; LaPrairie, 2002; Roberts and Doob, 1997; Roberts and Melcher, 2003). One intuitive explanation for higher incarceration rates is that Aboriginals receive harsher (longer) prison sentences than non-Aboriginals for similar crimes.

Researchers generally, however, do not find evidence of lengthier custody terms. In fact, many investigators find that Aboriginal offenders are treated more leniently, not more severely, than Non-Aboriginal Canadians (LaPrairie, 1990, 1996; Stenning and Roberts, 2001). Nor is this paradoxical finding limited to Canada. Studies

conducted in the United States also find that Native Americans often are assigned shorter custody terms than other racial/ethnic groups for similar crimes (Alvarez and Bachman, 1996; Leiber, 1994; Feimer, Pommersheim, and Wise, 1990). The recurring finding of shorter sentences is surprising, but still not considered conclusive. The evidence of greater leniency for Aboriginals is questioned because of recurring methodological flaws in sentencing disparity studies (Bachman, Alvarez, and Perkins, 1996; Pratt, 1998). To answer some of these methodological conundrums, theories of sentencing disparity have moved beyond assessment of direct effects of race upon court outcomes. Unraveling the complexity of the criminal court has led to more sophisticated analyses of offender attributes and their influence on court decisions. An emergent theme in the sentencing literature is the importance of interaction affects, particularly with respect to race, gender, and age (Albonetti, 1997; Steffensmeier and Motivans, 2000).

This study assesses sentencing disparity for Aboriginal offenders by testing focal concerns theory on the single offence of drunk driving, and incorporates statistical controls and interaction terms to see if these strategies can reveal patterns of discrimination previously

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masked by measurement problems. Consistent with an emergent trend in the literature, possible age interactions with race are examined to see if leniency effects for older offenders that have been found in some studies are also applicable to Aboriginal offenders. Study data comprises a sample of male incarcerated drunk drivers from Alberta, Canada. The data incorporates auto crash involvement as a means to distinguish crime severity, a measure not observed previously in the sentencing literature.

## Literature Review

### *Issues in Researching Race and Sentencing*

There are few studies concerned with indigenous peoples; hence, it is useful to draw on the extant research on race and sentencing. Disadvantaged racial and ethnic immigrant minorities in many different nations are disproportionately represented as offenders in official statistics maintained by police, courts and corrections (Lynch and Patterson, 1991; Mann, 1993; Tonry, 1997). It is argued that race can increase the likelihood of detection, arrest, prosecution, conviction and punitive sanctions, and limit the likelihood of early release from prison. Descriptively, verification of minority over-representation is relatively straightforward. Racial and ethnic minorities such as Blacks and Hispanics and immigrant groups are over-represented in arrest and imprisonment statistics in western nations such as Australia, Canada, the United States, the United Kingdom, and European nations (Tonry, 1997). Of particular relevance to this paper, indigenous peoples are over-represented in criminal statistics in Canada, the U.S. and Australia (Broadhurst, 1997; Lynch and Patterson, 1991; Mann, 1993; Roberts and Doob, 1997; Roberts and Melchers, 2003).

While evidence of over-representation is abundant, support for a discrimination hypothesis is harder to establish. Early efforts by investigators are plagued by methodological problems. In particular, small samples and a lack of control for legal attributes that contribute directly to sentence severity (e.g., prior record, offence severity), make many early studies fairly suspect in their conclusions (Hagan and Bumiller, 1983; Pratt, 1998). On the American scene, differences between State legal codes and the timing of legislative changes can affect the comparability of research outcomes between jurisdictions and over time (Sampson and Lauritsen, 1997).

The sophistication of analyses can also affect outcomes. In multivariate analyses, subtle discrimination effects may not be discerned because interaction effects are not considered. In his meta-analysis of the race and

sentencing literature, Pratt (1998) reports on studies that initially find no race relationship with sentence outcomes until offender race interactions are examined in conjunction with both legal factors (offence, prior history) and non-legal factors such as age, gender, socioeconomic status, and victim race. Also, the bulk of sentencing research on race discrimination focuses on African-Americans, and indeed, it may be that this emphasis has served to obscure bias towards other racial groups. Recent studies show discrimination effects are more apparent when other ethnic groups such as Hispanic Americans are considered, either directly (Demuth and Steffensmeier, 2004; Steffensmeier and Demuth, 2000) or when interaction effects are examined (Albonetti, 1997; Zatz, 1987).

While race and sentencing studies have progressed in methodological rigor (Sampson and Lauritsen, 1997), studies are preferred that incorporate controls for alternative explanations of sentence disparity, and conduct analysis to assess interaction effects. Furthermore, in North America, there is also a clear lack of research in the area of Aboriginal minorities—much of what has been done concerns African-Americans and, to a lesser extent, Hispanic Americans.

### *Over-representation of Indigenous Peoples and Sentence Length Patterns*

Canadian Aboriginals represent 3.3 percent of Canada's total population (Statistics Canada, 2003). Census data indicates that they are socially and economically disadvantaged relative to other Canadians (Statistics Canada, 2001). In contrast to other Canadians, Aboriginal children 15 and under are twice as likely to living with a lone parent (35.4% vs. 16.9%), 54 percent have not finished high school (Non-Aboriginals, 34%), and only 3 percent have post-secondary degrees (Non-Aboriginals 13%). Unemployment rates are more than double for adult Aboriginals (24% vs. 10%), and 46 percent of Aboriginals earned less than \$10,000 in the most recent year, compared to only 27 percent of Non-Aboriginals.

Given their economic difficulties, it is not surprising that Aboriginals are greatly over-represented in provincial/territorial and federal prisons. In 2003-2004, despite making up only 3.3 percent of the adult Canadian population, they made up 21 percent of sentenced admissions to provincial/territorial correctional facilities (Beattie, 2005). The situation is worse in Alberta, where this paper's research was conducted: Aboriginals make up 5 percent of the adult population, but in 2003-2004 they made up 39 percent of all provincially-sentenced admissions (Beattie, 2005).

This over-representation and other issues have led Canadian provincial and federal government task forces to conclude that the justice system systemically discriminates against Aboriginal Canadians (Cawsey, 1991, Indian and Northern Affairs Canada, 1996). Going into the 21<sup>st</sup> century the Canadian government has made efforts to decrease the use of any form of incarceration for Aboriginals, including the passage of section 718.1 in their Criminal Code. This legislation asks judges to consider every alternative possible to avoid sentencing Aboriginal peoples into custody. To-date, regrettably, this innovation has produced little in the way of declines in Aboriginal custody (Stenning and Roberts, 2001). The proportion of Aboriginals in prisons continues to be high, and many researchers find that the prior criminal history and recidivism rates of many Aboriginals make them poor candidates for community supervision (Stenning and Roberts, 2001; Welsh and Ogloff, 2000).

Over-representation does not translate so easily into discrimination, however. Some scholars argue that Aboriginals are not discriminated against at the point of sentence, they simply are sentenced to more jail time for longer periods proportionate to their lengthy criminal histories, i.e., Non-Aboriginals with similar criminal histories receive similar punishments. Furthermore, investigators often find that North America's indigenous peoples receive shorter, not longer, custodial sentences. In Canada, initially it was thought that this was because Aboriginals more frequently serve time for fine default, involving minor crimes that warrant short jail terms (Hagan, 1974). Follow-up reviews in the 1990s on specific offences, however, found that a leniency pattern is present in some cases, even after controls for prior record and offence severity were introduced (LaPrairie, 1990, 1996; Shaw, 1994; Stenning and Roberts, 2001; York, 1995). Similar findings are reported in several US Native American studies. In Iowa, Leiber (1994) finds in his examination of juvenile court outcomes that Native American youth receive more favorable dispositions than African-Americans or Whites. In South Dakota, Feimer and his colleagues (1990) discover shorter prison sentences for Native American state inmates when compared to others. Alvarez and Bachman (1996) also report Native Americans are given lower mean sentences for assault, sex assault and homicide offences, although burglary shows a slightly longer average sentence.

The pattern of leniency has not been consistent, however (Latimer and Foss, 2005). In Canada, a spirited debate has emerged over whether or not legislative changes or studies of judicial sentencing can result in any reduction of Aboriginal over-representation (for

one view see Stenning and Roberts, 2001; but compare with Rudin and Roach, 2002). It may be that sentencing research questions should not address discrimination directly, but might instead evaluate which crimes and in what circumstances dispositions are impacted, favorably or punitively.

#### *Focal Concerns Theory*

Explanations for racial inequality in sentencing have moved from consensus-based legal characteristics (current offence severity, prior record), to labeling-interactionist-based notions of racial discrimination (status characteristics), to more general conflict models that infer the court system is an instrument of oppression by dominant social elites (Leiber, 1994). More recently, Steffensmeier, Ulmer and Kramer (1998) theorize that sentencing disparity emanates directly from three focal concerns that frame judicial decisions. The first, blameworthiness, sees judges assigning sanctions based on more conventional, consensus-based legal factors such as offence severity and circumstances, the offender's possible active/passive role in the offence, prior criminal history, and mitigating factors such as prior victimization. The second focal concern, protection of the community, has the judiciary considering the need to incapacitate the individual offender or punish him or her in order to deter others. Judges here may again consider blameworthiness factors that also indicate risk (offence severity and criminal history), but they also assess offender attributes that indicate social bonds such as employment, education, and marital status. The prevention of further harm and recidivism are vital considerations for the judiciary at the point of sentence. Thus, subsumed under community protection is the notion of "dangerousness," an evaluation of an offender's potential to commit future violence or otherwise reoffend. The third focal point, practical constraints and consequences, speaks first to individual limitations such as offender attributes that may decrease their ability to serve a prison term, such as health or disruption of family, a particular concern for female offenders. Constraints at the organizational level may include a need to maintain working relationships in the court room setting, overcrowding in jails and prisons, and community reaction, a particular concern in some U.S. settings where the judiciary are elected.

A central thrust of focal concerns theory is to assess if the judiciary adopts a "perceptual shorthand." This is a cognitive patterning whereby age, race and gender influence a judge's assessments of community protection, "dangerous" status and/or recidivism risk. Problematic

are cognitive designations of “dangerousness” that lie outside current offence or prior criminal history circumstances. Viewing defendants as a threat simply due to age, gender and race introduces an extra-legal, discriminatory bias into sentencing. The sentencing literature finds this most pronounced towards young, African American male offenders, and to a lesser degree, Hispanic Americans.

In their initial test of focal concerns theory, Steffensmeier and his colleagues (1998) use Pennsylvania official court records to provide quantitative empirical support, and then add further evidence from qualitative interviews of the judiciary. Both data sources confirm the existence of judicial cognitions that differentially weigh individual offender circumstances by age, gender and race. An analysis of federal court data also shows greater punitiveness towards Hispanic Americans, as well as African Americans (Steffensmeier and Demuth, 2000). Recent studies by other investigators affirm the impact of focal concerns: on urban court processing for Black defendants in a southeastern state (Leiber and Blowers, 2003) and incarceration of African-American and Hispanic offenders in a three-city study (Spohn and Holleran, 2000). More lenient treatment is also a possible outcome explained by focal concerns. Female offenders are viewed as less dangerous and more likely to have family commitments, and their own prior victimization experiences are viewed as mitigating factors by judges (Steffensmeier et al., 1998). More favorable sentencing outcomes are also associated with elderly status (Steffensmeier and Motivans, 2000).

Focal concern theory and its proponents have given greater prominence to age as a conditioning factor at the point of sentence. Previously neglected in sentencing research, age has been found to operate in a curvilinear fashion, interacting with race and gender, to influence the severity of criminal justice sanctions (Johnson and Alozie, 2001; Steffensmeier and Motivans, 2000; Steffensmeier, Kramer, and Ulmer, 1995). Very young offenders may be afforded minor or community-based sanctions because their lack of experience and (in some cases) poor parental supervision make them less blameworthy. Younger adults (18-40), on the other hand, have had their chance to mature and might now be assumed to be committed to a criminal lifestyle. The blameworthiness of older offenders (40+, but especially 60+) might be muted by a greater chance to have accumulated some employment experience or marital bonds. Older offenders are not perceived as a large threat to reoffend violently, particularly when elderly. Organizationally, judges may give some thought to the vulnerability of older offenders to assault by younger inmates if sent to prison. For the very elderly,

health problems might preclude a lengthy custodial disposition.

In their review of a sparse literature, Steffensmeier et al. (1995) find few examples of empirical work that tests age effects with appropriate statistical controls. In their own work, they identify, net of controls, an inverted J-shaped relationship whereby judges sentence more harshly from 18-19 to 20-29 years of age, then less harshly at 10 year intervals (30-39, 40-49, 50-59, 60+) until 60 year-olds are least likely to be incarcerated and serve the shortest prison terms. In more carefully specified models, the “age advantage” is found to be conditioned by offence type and gender (Steffensmeier and Motivans, 2000). Drug trafficking convictions attenuate age benefits for older offenders and older females tend to do better than older males. In their Arizona study, Johnston and Alozie (2001) indicate that decisions to charge or divert 5,715 drug offenders become favorable to defendants at a threshold age of 52, and then only for White and Native Americans. African American and Hispanic offenders are treated more harshly regardless of age. Regrettably, the small number of Native Americans in their sample precludes multivariate analysis, inhibiting the potential generalizability of their findings. Contrary to focal concerns, Alvarez and Bachman (1996) find that the direct effect of being younger results in less onerous sentencing, net of controls for offence type, prior record, gender and Aboriginal status. Their study findings do not, however, take into account potential interactions or curvilinear relationships.

We can use focal concerns theory to consider the potential influence of the drunken Indian stereotype or “firewater myth.” This stereotype of indigenous peoples in North America has a long history (Mancall, 1995). The assumption is that Aboriginals cannot control their drinking, and that this may even have a biological basis (Esqueda and Swanson, 1997). This myth persists, but has been debunked on a number of occasions by the scientific community (Beauvais, 1998; Garcia-Andrade, Wall, and Ehlers 1997; Bennion and Li, 1976). The stereotype, however, has implications for Aboriginals convicted of drunk driving and attributions of blameworthiness and considerations of community protection.

### **Research Hypotheses**

The empirical literature is inconsistent on sentence length and Aboriginal status, thus we must derive alternative hypotheses from focal concerns theory when we assess race and sentence length. Blameworthiness leads us on the one hand to consider that the judiciary will sym-

pathize with the social and economic plight of Aboriginal peoples and their inability to control their drinking, and thus be more lenient in their dispositions. On the other hand, focal concerns also allow us to derive a punitive hypothesis (longer custody sentences): Aboriginals are more blameworthy because, as a distinct racial group, they choose to deal with their life circumstances by drinking excessively and driving.

Protection of the community focal concerns may weigh more heavily against Aboriginal offenders. They may receive longer custody terms because they cannot control their drinking and are at a greater risk for recidivism. Furthermore, they may also be considered more dangerous as drunk drivers because they are stereotyped as more chronic drinkers than other DUI offenders, increasing the likelihood of a serious property- or injury-related crash.

The extant literature suggests that advancing age will result in shorter sentences for both White and Aboriginal offenders. Given that the youngest offenders in this study are in their twenties (not teens), it is unlikely that leniency will be observed for the youngest drunk drivers in the sample, Aboriginal or White.

## **Methods**

Using one offence type (drunk driving) in this study helps avoid possible errors in interpreting sentence length. In practice, custodial remand time sometimes impacts sentence length assigned upon plea or conviction (i.e., credit for time served). Unlike property or violent offenders, however, it is unusual in practice for drunk drivers to be remanded for more than overnight (to sober up) prior to trial or sentencing. This is because once sober, a drunk driver is unlikely to be considered a danger, even in cases where property damage or injury is alleged.

The dataset used to test these hypotheses offers several advantages, as it controls for offence type (DUI), number of current charges, severity, priors, as well as key demographic attributes. The study data also predate several legislative initiatives and custody trends in Canadian courts that now “muddy the waters” for researchers interpreting sentencing outcomes.

However, these advantages also result in some study limitations. For instance, the sample, while fair-sized, is still somewhat limited for a rigorous evaluation of interaction effects. While focusing on one offence (drunk driving) works effectively as a control, it might also limit the generalizability of results to other crimes. Using these data also avoids having to contend with conditional sentencing legislation enacted in 1996 (option of

custody served in community), the proclamation of section 718.2(e) of the Criminal Code (avoidance of sentencing Aboriginals to custody), and the issue of increased custody remands in Canada, all developments that could impact dispositions at the point of sentence.

## *Sample and Data Collection*

The study sample consists of 237 male drunk drivers incarcerated in the Alberta provincial correctional system. The data come from a province-wide evaluation of a correctional impaired driving program (Weinrath, 1994). The original study sample consisted of 514 male offenders sentenced from 1989-1991 who had a sentence length minimum of 90 days straight time. Setting a sentence length minimum of 90 days allows for the examination of substantive differences in custody terms, rather than trivial discrepancies. Furthermore, by not including sentences of less than 90 days, the study group is considered more representative of serious drunk drivers sentenced to custody in Alberta. For example, to get a sentence of at least 90 days DUI cases must have at least one prior conviction, be involved in a collision, or both. Minor DUI offenders with one or two convictions typically receive fines or weekend intermittent sentences of up to 30-90 days (more sampling details are provided in Weinrath, 1994).

Among the original 514 offenders, sentence lengths were affected by other crimes, such as predatory (e.g., theft, assault), and non-drinking convictions (e.g., drug possession) unrelated to drunk driving. To allow for a focus solely on potential disparity for drunk driving charges, offenders serving time on other non-DUI offences were removed from the analysis. Because all 6 offenders serving on drunk driving fatality charges are White, they were also excluded. The remaining 237 offenders comprise the final study group, and all are sentenced solely for drunk driving charges. Thus, a tradeoff for losing a larger sample is the analysis of a DUI group that judges consider only on the basis of current offence(s), and related prior history.

Canada’s provincial prisons house inmates serving two years less a day, plus a few inmates serving longer sentences by agreement with the federal government. For example, in the study group only three inmates are serving sentence lengths of more than two years (24 months), but 88 percent are serving less than a year, and the majority (65%) are serving six months or less.

Other important controls are also available in this dataset. Official records from Provincial Corrections, Motor Vehicles and Transportation Departments auto-



mated databases provided offender demographic characteristics and legal history used in controlled analyses. Motor Vehicles automated systems contained driver records of drunk driving criminal code convictions. The Transportation department collision database provided motor vehicle collision information (property, injury, fatality). The Corrections database contained remand and sentence admission dates, charge data, sentencing data, and demographic data, some of which is self-reported by inmates.

Linkage of multiple sources increased the reliability and validity of study data. For example, in a few cases Motor Vehicle records did not show a record of prior drunk driving conviction, but the Corrections database had them, and vice versa. In another application, serious outcome measures such as injury collisions were indicated by charge type in the Corrections database, but some injury collisions that did not result in criminal charges were recorded in the Transportation vehicle crash database. Property damage collisions were only available in the Transportation vehicle databases, but details were presumably available to the Crown to reference at the point of sentence.

#### *Dependent Variable*

Sentence length, a ratio variable, is calculated as the number of days offenders were sentenced to custody. The data is skewed by several long sentences (mean = 219.2, standard deviation = 155.3). The minimum sentence is 90 days, the maximum 1573 days, but only 1.3 percent of all cases exceed two years in length. The use of skewed data is common in sentencing research. We will not use the typical method to manage this (natural log transformation of the data), because first, it is felt more effective to present sentence lengths in their unlogged form, and second, the transformed and untransformed results were almost identical (logged results are available on request).

#### *Independent Variables*

**Race.** There are only two racial groups represented in the study, Aboriginal (1) and White (0). This information is self-reported by inmates upon admission to provincial prisons.<sup>2</sup>

**Age.** Age is measured in two ways, as an interval/ratio variable, and as a categorical variable to assess age ranges. Dummy variables will represent four age range intervals: 20-29, 30-39, 40-49, and 50+.

**Education, Employment, Marital Status.** These three variables are typically used as controls in sentencing

research, although effects vary from study to study. Data here come from the provincial Corrections database and are self-reported by inmates upon admission. Education will be treated as an interval variable. Employment and marital status are coded as dichotomous indicators. Employment is simply 1= yes, 0=unemployed. Those married or living common-law (1) are contrasted with those single, divorced or widowed (0).

**Current Drunk Driving Related Charges, Prior DUI, and Collision Events.** Legal factors indicating offence severity or prior criminal history have strong impacts on sentencing and hence are important controls. Current DUI charges are coded into a truncated ordinal variable (0=1, 1=2, 2=3+charges). Prior DUI is treated as an interval variable. The association of property or injury collisions with any DUI charge(s) is indicated yes/no (most serious outcome noted).

#### *Analysis Plan*

Analysis of the data proceeds in three stages. First, the Aboriginal and Non-Aboriginal DUI cases will be contrasted for differences, including an assessment of the direct effects of race on sentence length. Statistical significance will be appraised using t-test for interval/ratio variables and chi square for categorical data

To ensure that group differences do not influence outcomes, multivariate analysis (ordinary least squares regression) will then be used to determine the effect of the race and age variables, net of controls, on drunk driver sentence length. Initially, the sentence length variable will be regressed on legal and demographic factors, and the direct effect of age and Aboriginal status will be assessed. A second equation will estimate age and race interactions by introducing the age-race terms by category. The analysis will also assess whether or not older Aboriginals and older Whites experience the “age advantage” observed for some groups in previous studies. Finally, the regression equations will be used to estimate conditional means for each age-race category. This method will provide a synopsis of findings and simplify comparisons by category.

#### **Findings**

##### *Sample Description*

The drunk drivers in this study generally are serving shorter sentences (Table 1). Recall that the minimum sentence is 90 days, but fully 50 percent of cases range from 90-180 days, and 85 percent are sentenced to a year

**Table 1. Drunk Driver Sample Description**

Categorical variables	f	%
<b>Race</b>		
Aboriginal	81	34.2 %
White	156	65.8
<b>Age</b>		
20-29	68	28.7 %
30-39	86	36.3
40-49	50	21.1
50+	33	13.9
<b>Employment</b>		
Employed	179	75.5 %
Unemployed	58	24.5
<b>Living arrangements</b>		
Married	76	14.8 %
Common-law	35	32.1
Single	70	29.5
Divorce/separated	53	22.3
Widowed	3	1.3
<b>Collision type</b>		
Property	10	4.2 %
Injury	13	5.5
None	214	90.3
<b>Current DUI charges</b>		
1	158	66.7 %
2	48	20.3
3+	31	13.0
<b>Interval variables</b>	<b>Mean</b>	<b>SD</b>
Age	36.2	10.4
Education	9.8	2.1
Prior DUI	2.79	1.9
Sentence length	219.2	155.3

**Table 2. Race by Demographic and Legal Variables**

Categorical variables	Aboriginal		White		T or chi square statistic
	f	%	f	%	
<b>Employment</b>					
Employed	51	63.0 %	151	82.1 %	10.510 ***
Unemployed	28	37.0	30	17.9	
<b>Living arrangements</b>					
Married common-law	47	58.0 %	64	41.0 %	6.187 **
Single/divorced/separated/widowed	34	42.0	92	59.0	
<b>Collision type</b>					
Property	3	3.7 %	7	4.5 %	.862
Injury	3	3.7	10	6.4	
None	75	92.6	139	89.1	
<b>Current DUI charges</b>					
1	62	76.5 %	96	61.5 %	12.426 ***
2	17	21.0	31	19.9	
3+	2	2.5	29	18.6	
<b>Interval variables</b>	<b>Aboriginal</b>		<b>White</b>		<b>T or chi square statistic</b>
	Mean	Std. dev.	Mean	Std. dev.	
Age	33.7	10.8	37.4	10	2.620 *
Education	9.1	2.5	10.2	1.8	3.780 ***
Prior DUI	2.73	1.9	2.82	1.9	.353
Sentence length	204	112	227	173	1.270

\*p<.05, \*\*p<.01, \*\*\*p<.001

or less. As mentioned, the mean score is pulled up by a few extreme cases. These outlier cases had little effect on later analysis, however, and consequently, are left in.

The sample is generally white, in their thirties, achieved more than grade ten, are employed and married or living common-law. About two-thirds of the 237 member study sample is White, still leaving a substantial number of Aboriginal participants. Subjects range in age from 20 to 66. The highest proportion of DUI cases is in the 30-39 group, the lowest in 50+ (13.9%). Education varies from 1 to 15 years, with 75 percent of the sample having at least grade eleven. Those married or living common-law comprise just under half the sample (46.9%), while those single, divorced or widowed comprise the remaining 53.1 percent. Inmates serving on drunk driving charges are more likely to report being employed than other provincial inmates. About 76 percent of the DUI sample stated that they were employed upon admission to custody. This rate is higher than other inmates (40%

figure supplied by Alberta Solicitor General). The higher rate of employment is typical for drunk driving inmates, who tend to have backgrounds in blue-collar occupations and more stable employment histories than other inmates.

Two-thirds of the sample has only one current DUI-related charge, 21 percent have two charges, and 13.2 percent show 3-7 current charges. Prior DUI ranges from 0-14 (mean=2.79, std. dev.=1.9). Official records indicate that only 9.7 percent of the study sample offences involve crashes. Ten (10) offenders were involved in property collisions and 13 in injury crashes.

*Bivariate Relationships*

Looking at the direct effects of race on sentencing, results are consistent with the predicted direction for a leniency hypothesis (shorter for Aboriginal DUI), but the findings are unreliable (Table 2). Aboriginal drunk

**Table 3. Regressions of Sentence Length on Aboriginal Status, Age, and Legal Status Variables, and Race-Age Interaction terms**

	B	SE	Beta	B	SE	Beta
Constant	107.1	36.94		95.07	27.61	
Aboriginal 30-39				52.59	33.54	0.12
Aboriginal 40-49				164.36 ***	48.24	0.21
Aboriginal 50 and up				64.61	52.61	0.08
White 20-29				67.29 *	32.72	0.16
White 30-39				17.03	30.23	0.05
White 40-49				39.06	32.02	0.09
White 50 and up				58.15	35.73	0.12
Aboriginal	9.43	19.22	0.03			
Age	0.88	0.87	0.06			
Current DUI Charges	71.77 ***	12.7	0.33	71.58 ***	12.48	0.33
Prior DUI	10.96 *	4.73	0.13	12.34 *	4.67	0.15
Injury Collision	239.47 ***	39.77	0.35	239.19 ***	39.21	0.35
Adjusted R <sup>2</sup>	0.25			0.28		
n	237			237		

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ 

drivers average 203.6 days compared to 227.24 days for White offenders, lower by 11.6 percent. This small difference does not achieve significance at the .05 level ( $t=1.27$ , ns).

Other bivariate results indicate consistent differences between Aboriginal and Non-Aboriginal cases on key demographic and legal variables that may influence sentence length. Aboriginals are younger, have less education and are much more likely to be unemployed, factors that might work against them at the point of sentence. On the other hand, Aboriginal DUI offenders are serving on fewer multiple DUI charges, and are more likely to be married or co-habiting in a common-law relationship, factors that could count in their favor. These Aboriginal-White differences support multivariate analysis, to assess whether the race-sentence relationship holds when group variation is controlled.

#### Multivariate Analyses

Indicators of social bonds such as marital status, education, and employment did not show any association with sentence length in preliminary analysis, nor did property damage, thus none of these controls are reported in the analysis. The Aboriginal 20-29 year old group is used as a reference group in the second equation.

**Direct Effects and Interactions.** The first equation shows no evidence of racial bias, either positively or negatively, supporting neither of our focal concern hypotheses (Table 3). The direct effect of being Aboriginal shows almost no impact. Age also has no direct influ-

ence on sentence length, indicating no support for age advantage hypothesis. Consistent with the sentencing literature, legal variables assessing offence severity and prior history account for the majority of the equation's explanatory power ( $R^2=.25$ ). Injury collisions, number of current charges, and prior drunk driving convictions clearly affect one's sentence for drunk driving.

The second equation introduces the race-age interaction terms, and increases the overall variance explained to 3 percent, from 25 percent to 28 percent. The increase in  $R^2$  is attributable to the introduction of the interaction terms, as little change is observable in the magnitude of effect for the legal controls. In other words, the addition of interaction terms improved ability to predict sentence length, albeit modestly.

**Conditional Means.** To simplify analysis, conditional means are estimated for all race-age groups, and presented in Table 4. Although some age groups had subsample sizes that were too small to show stable effects, all race/age groups are presented for comparison purposes. The interaction terms reveal several outcomes, some consistent with our hypotheses, some not. Net of the effect of

**Table 4. Conditional Mean Sentence Length for Race-Age Groups**

Sub-group	Mean sentence	Sub-group
Aboriginal 20-29	95.07	White 20-29
Aboriginal 30-39	147.66	White 30-39
Aboriginal 40-49	259.43	White 40-49
Aboriginal 50 and up	159.68	White 50 and up

controls, the conditional mean sentence for the Aboriginal 20-29 reference category is 95 days. This group serves the shortest sentence by far compared to the other Aboriginal age categories. The 30-39 year old Aboriginals serve an average 148 days, while the 40-49 year old Aboriginal DUI category receives the highest mean sentence of any race/age group, 259 days. Aboriginals 50+ years of age serve 160 days, 100 lower than the 40-49 year olds, but about the 65 days more on average than the youngest group. The curvilinear relationship for Aboriginal drunk drivers and age escalates in a lenient-to-punitive fashion from shorter sentences (younger drunk drivers) to higher, much higher (middle-aged DUI), and then shows a moderate decline (oldest drunk drivers).

Younger Whites, in contrast, receive the harshest sentences among White age groups (162 days). There are no apparent signs of an age advantage for Whites older than 50, as they receive mean sentences of 153 days, only slightly lower than the youngest group. White 30-39 and 40-49 show comparatively lower average custody terms. The curvilinear relationship for Whites is a U-shape: higher sentences for younger DUI cases, lower for 30-39 and then increasing as age increases.

In comparing the two groups, young Aboriginals receive much more lenient treatment from the judiciary than young Whites (95 days versus 162 days). Such consideration is not, however, extended to other Aboriginal age groups. All three of the older Aboriginal age groups have higher mean sentences than their White counterparts. Aboriginal 30-39 year olds serve sentences almost 30 percent longer, and 40-49 year olds receive terms twice that of Whites. This tendency moderates for those 50 and older: the oldest Aboriginals serve only about 5 more days on average than Whites, which is almost no difference.

## **Discussion and Conclusion**

Findings partially support some of our hypotheses, challenge others, but results generally support the use of age-interactions to contextualize sentencing research on race. First, the notion that Aboriginals might be viewed as less blameworthy and receive more lenient treatment than Whites is partially supported, but only for younger Aboriginals. The punitive hypothesis, that Aboriginals might be viewed as more dangerous and treated more severely than Whites for similar crimes, is also partially supported, but only for middle-aged Aboriginals.

The general age advantage hypothesis derived from focal concerns theory, that older offenders will receive more moderate sanctions, was generally not supported

for Aboriginals or Whites. In fact, for Aboriginals the tendency was for severity to increase to middle age, and then decline. Although an age advantage for younger offenders is acknowledged in the focal concerns literature, it is generally expected for those younger than twenty, and minorities would expect to receive less benefit. It is further puzzling that, net of controls, Aboriginals aged 20-29 received shorter sentences than any other group, while younger whites, conversely, received the longest sentences. As mentioned, however, the "U" shape of the White-age sentence length relationship indicated that even though younger Whites were punished most severely, there appeared to a general tendency for White DUI custody lengths to increase with age.

To interpret some of the contradictions in these results, it is important to consider the general perception of drunk driving risk and the drunken Indian stereotype, and how they might influence focal concerns. It was hypothesized that the judiciary might consider leniency for Aboriginals because their often low socioeconomic status and perceived difficulties managing their drinking made them less blameworthy. This was only the case for younger Aboriginals. The judiciary may have viewed the younger DUI cases as presenting greater promise for rehabilitation. Once Aboriginal drunk drivers reach a threshold age in their 30s, however, it is plausible that such beneficence stopped, at least until they are older than 50. The judiciary appeared to hold middle-aged Aboriginals more individually accountable for their drinking and driving behavior, more so than younger Aboriginal males, and was particularly punitive against those in their 40s.

Focal concerns research has shown that younger minority males are perceived as dangerous and considered higher risk when sentenced. Our findings are contrary, however, for young drivers in the White DUI group. Why would young White drivers, net of the effect of legal controls, be considered so much more dangerous than older drivers? Risk here is probably associated not only with drunk driving but high risk driving generally. Whether drunk or sober, young male drivers present by far the greatest crash risk, and this is certainly the case in Alberta (Weinrath, 1999). Research also shows a clear overlap between young high risk drivers and drunk drivers (Weinrath, 1999). Unless drinking problems are evident, middle aged drivers are known to be less involved in collisions and, hence, may not be considered as dangerous by the judiciary, resulting in shorter sentences. For young White drivers, there are no compelling reasons for the judiciary to hold them less blameworthy, thus their sentences are far longer than young Aboriginals.

Comparing older Aboriginal and White DUI cases, Aboriginals receive longer sentences, despite offering similar lower risk driving profiles to older Whites. The drunken Indian stereotype comes into play here, with a greater likelihood of chronic alcoholism being attributed to older Aboriginal offenders. From a focal concerns perspective, this stereotype leads them to be viewed as being more dangerous (than Whites) because they cannot control their drinking, have no realistic hope of reform, and thus are highly likely to drink and drive again.

Possibly hard-drinking younger Aboriginals are more frequently considered worth taking a chance on, while those older are labeled with a chronic problem not amenable to treatment. The irony here is that alcoholism or dependent drinking, while it has later onset than other forms of deviant behaviour, still tends to decline with age, invariant of race (Fillmore et al., 1991). In terms of which age group is at risk or likely to pose a problem, May (1994) has commented on hardcore drinking amongst youthful Aboriginal subcultures as being one of the more serious alcohol related problems on Indian reserves.

Methodologically, this study shows some benefits in the utilization of collision data in controlling for DUI offence severity. Injury collisions exert a powerful influence on sentence lengths. Still, one would intuitively have surmised that property damage would have resulted in a more consistent escalation of custody length. This lack of distinction might speak to weaknesses in study data. Amongst some of the weaknesses in assessing property damage: the dollar amount of property damage was not captured; it is also uncertain if the crash occurrence was introduced in court; and the damage may have been to the offender's own vehicle, limiting its use as an aggravating factor.

The most prominent findings in this drunk driving sentencing study are age-race interactions. Shorter sentences for Aboriginals are evident for younger males, at least in the case of drunk driving offences. The intersection of the drunken Indian stereotype with the drunk driving offence indeed seems to influence estimations of dangerousness, albeit for older 30–49 year old Aboriginals, compared to Whites. The J-shaped distribution seen in other age-race studies is not replicated here, although there is curvilinearity in the relationships observed. Older Aboriginals are generally treated more severely. Older White drunk drivers are treated less severely than young White DUI offenders, but there does not seem to be any notable escalation by 10-year intervals. There are limitations to our study findings. The sample size and focus on Alberta offenders limits the generalizability of results. Although

the data concern drunk drivers from across the province and are representative of serious DUI cases, only drunk drivers sentenced to custody were included. It may be that many young Aboriginals seemed to receive shorter sentences because similarly charged Whites received weekend custody or fines. Our control variables give us some confidence that this is not the case, but we cannot be sure. Better measurement of social bond factors such as education, employment, and marital status might have provided insight into some sentencing situations. While an age advantage was not uncovered, use of a 60-year old category (if a larger sample can be found) is probably a fairer test of this thesis. Finally, qualitative observation and interviews with criminal justice actors would help better examine external factors that might explain some of the discrepancies in study findings.

Focal concerns theory forged a useful framework for this analysis. Its central tenets, that social as well as legal contexts influence the cognitive decisions involved in sentencing, receive partial support from this study. Being young and White is not an advantage in the case of drunk driving. Middle-aged Aboriginals experience the harshest sentences. Future research is recommended that replicates the study focus here, using larger samples and assessing gender effects where possible. A continued research emphasis on race/age interactions is endorsed. Shorter sentences for Aboriginals are definitely not the whole story when it comes to sentencing disparity.

## Endnotes

1. This suggests that the data may not be as reflective of current sentencing practices in Canada as is desirable. It is best to consider the study findings as exploratory in nature. Given the paucity of sentencing literature on indigenous peoples, however, it is felt that the study still makes a useful contribution to the literature.

2. The designation of Aboriginal unfortunately collapses Registered Indian, Métis and Non-Status Aboriginal categories, due to sample size limitations. As noted in the literature, finer distinctions in ethnicity can reveal patterns of sentencing disparity (Demuth and Steffensmeier, 2004). White indicates self-classification as Caucasian. There were other racial categories in the original 514 inmate sample, but only Aboriginal and White cases remained in the pared down 237 DUI offence group.

3. The standard errors and size of most of the t-ratios (not shown) suggest that statistical significance could be achieved with even a moderate increase in sample size, thus the comparisons are felt legitimate.

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## State-Corporate Crime and the Paducah Gaseous Diffusion Plant

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**Abstract:** *While criminologists have for some time examined state and corporate crime as separate entities, the concept of state-corporate crime highlighting joint government and private corporate action causing criminal harm is a recent area of study with relatively few published case studies (Matthews and Kauzlarich, 2000). This paper focuses on state-corporate crime at the Paducah Gaseous Diffusion Plant (PGDP) in Paducah, Kentucky, and contributes to the study of state-corporate crime in three ways: (1) it adds a new case study to a field in which there are few published accounts, (2) it assesses the utility of Kauzlarich and Kramer's (1998) integrated theoretical framework of state-corporate crime by applying it to understanding harms at PGDP, and (3) it demonstrates how the state role in state-corporate crime can evolve from that of instigator to facilitator. PGDP is an especially important case study in the field of state-corporate crime because it constitutes a rare instance in which the federal government has both acknowledged and apologized for its role in harms caused to plant workers and the environment.*

**Keywords:** State-corporate crime; Paducah Gaseous Diffusion Plant

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### Introduction

Nuclear workers' compensation is a national debt long due to our Cold War veterans who've paid the highest price possible for their service.

— Energy Secretary Bill Richardson  
(Carroll, 2000b)

A *USA Today* series, "Poisoned Workers and Poisoned Places" (Eisler, 2000), brought public attention to the ever-growing evidence of government and corporate misconduct in the nuclear industry. The series described how the U.S. government hired companies to process nuclear materials, and estimated that about 550 plants may have conducted work related to the government's nuclear program. The series further described how health and environmental problems at these facilities were kept secret by government officials and company executives (Eisler, 2000). This paper examines activities and their resulting harms at one nuclear facility, the Paducah Gaseous Diffusion Plant (PGDP), near Paducah, Kentucky. Our examination of the activities and harms at PGDP that led to Energy Secretary Richardson's apology to plant employees on behalf of the federal government leads us to classify the harms at PGDP as state-corporate crime. PGDP activities demonstrate the harm potential from state-corporate crime and necessity of continued study in this area; at a time when federal government is

considering renewed and increased reliance on nuclear power (e.g., Baker and Mufson, 2006), examination of harms stemming from the nuclear industry is of particular importance. This paper contributes to the study of state-corporate crime in three ways: (1) it adds a new case study to a field in which there are few published accounts, (2) it assesses the utility of Kauzlarich and Kramer's (1998) integrated theoretical framework of state-corporate crime through application to understanding harms at PGDP, and (3) it demonstrates how the state role in state-corporate crime can change over time from that of instigator to facilitator.

### Traditional Criminological Research and State-Corporate Crime

Historically, criminological research has focused on law violations by individuals, neglecting state activities performed in pursuit of apparently legitimate goals. Official sources of crime data reinforce this traditional criminological focus by emphasizing individual acts and one-on-one harms (Reiman, 2001). Recently, however, state-corporate crime has emerged as an area of research recognizing the need to extend traditional criminological focus beyond the individual's violation of law (Kramer, 1992; Kauzlarich and Kramer, 1993; Kauzlarich and Kramer, 1998; Matthews and Kauzlarich, 2000).

The importance of state-corporate crime as a research

focus is highlighted by damage described in the few studies of state-corporate crime published to date (Kramer, 1992; Aulette and Michalowski, 1993; Kauzlarich and Kramer, 1993; Matthews and Kauzlarich, 2000); moreover, the extent of harm from state-corporate crime likely extends beyond injury and financial cost to a general loss of confidence in government. Examination of state-corporate crime also reveals a general lack of preparation for dealing with disaster; although technology has developed at breakneck speed, a parallel development of safety and rescue technology has not occurred. History is replete with examples, all too often ignored, of what happens when technology goes awry (Perrow, 1984).

The complexity of state-corporate crime arises from the nature of the offenses; unlike traditional “street crime,” state-corporate crime is not characterized by the intent of a single actor to violate law for personal pleasure or gain. Criminal actions by the state often lack an obvious victim, and diffusion of responsibility arising from corporate structure and involvement of multiple actors makes the task of attributing criminal responsibility difficult (Stone, 1978; Clinard and Yeager, 1980; Becker, Jipson, and Bruce, 2000). Furthermore, sufficient understanding of state-corporate crime cannot be gained through studying individual actors; one must also consider broader organizational and societal factors. The integrated theoretical framework proposed by Kauzlarich and Kramer (1998), proposes analysis of events at institutional, organizational, and interactional levels and, we believe, is especially useful for analysis of state-corporate crime.

### **State-Corporate Crime Defined**

Kramer, Michalowski, and Kauzlarich (2002) describe the origins, development and status of state-corporate crime theory. Kramer et al. note that the study of state-corporate crime emerged from earlier research on white-collar and organizational offending. In his study of the 1986 space shuttle Challenger disaster, Kramer (1992) found the disaster could best be explained by considering the interaction between the state and a corporation, specifically “(t)he National Aeronautics and Space Administration (NASA), a governmental agency, and Morton Thiokol, Inc., a private business corporation” (Kramer et al., 2002:268). Kramer recognized existing research had failed to examine the longstanding relationships between corporations and government that result in public harm. While criminologists had studied crime by government and crime by private corporations these were effectively two separate research camps; Kramer’s Challenger shuttle disaster research brought the two

camp together, revealing how a state-corporate relationship can result in criminal harm. Subsequent research revealed differences in the relationship between government and corporation in state-corporate crime. For example, while Kramer (1992) demonstrated how the state can actively initiate a state-corporate relationship resulting in crime, Aulette and Michalowski’s (1993) study of a fire at Imperial Food Products in Hamlet, NC, that caused 25 deaths and multiple injuries revealed a more passive governmental role in which failure to enforce regulations allowed a corporation to continue the deliberate violation of safety standards. Recognition of differences in the state-corporate relationship has led to recognition of two distinct forms of state-corporate crime—state-initiated and state-facilitated:

State-initiated corporate crime (such as the Challenger explosion) occurs when corporations, employed by the government, engage in organizational deviance at the direction of, or with the tacit approval of, the government. State-facilitated state-corporate crime (such as the Imperial Food Products fire in Hamlet) occurs when government regulatory institutions fail to restrain deviant activities either because of direct collusion between business and government or because they adhere to shared goals whose attainment would be hampered by aggressive regulation. (Kramer et al., 2002:271-272)

While this distinction between state-initiated and state-facilitated corporate crime is important, our examination of events at PGDP contributes to the study of state-corporate crime by demonstrating how evolving state behavior can transform the role of the state from that of instigator to facilitator of state-corporate crime; it is apparent that the state both initiated and subsequently facilitated illegal activities at PGDP through collusion with PGDP administrators to conceal harms to workers and prevent enforcement of safety regulations.

An important issue for conducting research on state-corporate crime is whether organizations can be legitimately regarded as offenders or whether they are merely collections of individuals who ultimately exercise control over their own actions. The history of criminology is dominated by a focus on the individual as offender with theory directed at explaining individual criminality (Clinard and Yeager, 1980). Yet as we describe below, there has long been recognition that corporations operate as distinct entities and can legitimately be classified as offenders; this position is becoming more widely recog-

nized by criminologists (Kauzlarich, 1995).

Legally, corporations were first identified as actors punishable by criminal law in 1909 (Geis, 2005) when the U.S. Supreme Court reasoned in *New York Central & Hudson River Railroad Company v United States* that:

(t)here is a large class of offenses...wherein the crime consists in purposely doing the things prohibited by statute. In that class of crimes we see no good reason why corporations may not be held responsible for and charged with the knowledge and purposes of their agents, acting within the authority conferred upon them... to give them immunity from all punishment because of the old and exploded doctrine that a corporation cannot commit a crime would virtually take away the only means of effectually controlling the subject-matter and correcting the abuses aimed at [sic]. <<http://caselaw.lp.findlaw.com/cgi-bin/getcase.pl?court=US&vol=212&invol=481>>

Sociologists have long recognized that industrialization produced bureaucratic organizations comprising positions that shape employee behavior by requiring specific actions (e.g., Weber, 1947; Nelson, 1975; Hall, 1987), and that corporate action has significant impacts upon society (e.g., Johnson and Douglas, 1978; Vaughan, 1983; Hall, 1987). A number of researchers argue that organizations should be regarded as actors in their own right. Kramer et al. (2002) identify three reasons why organizations should be seen as “real social actors.” First, organizations persist over time; specific positions within organizations persist and are filled by different people required to perform the same tasks, thus the general behavior of the organization persists. Second, accepted organizational procedures and norms for conduct shape individual behavior. Finally, organizational goals take precedence over those of individual workers. Coleman (2002:103) elaborates upon the precedence of organizational goals over those of individual workers by describing “the irrelevance of persons.” He notes that organizations comprise positions, rather than unique individuals, and that what is needed is someone or something to fill a particular position. Thus, if one person leaves an organization, cannot or will not perform required tasks, they are easily replaced by someone who can and will perform the tasks required by the overriding organizational goals. Taken to its logical conclusion, Coleman (2002) argues that as technology allows, an organizational position can just as adequately be filled by a machine capable of the required tasks as a person. Furthermore, corporate goals,

hierarchical structure that dilutes individual responsibility and helps conceal wrongdoing, and the characteristics of the arena in which a corporation operates all contribute to corporate criminality regardless of individual employees (Clinard and Yeager, 1980). Finally, as noted by Coleman (1985:14) corporations can generate a tradition of criminal practices in pursuit of legitimate corporate goals, and while:

(i)ndividual actors must still carry out the criminal deeds, there is ample evidence to show that the attitudes and characteristics of the individual offenders are often of little importance. Those who refuse to carry out the illegal activities demanded by their organization are simply replaced by others who will.

We believe, then, that the behavior of organizations amounts to more than the collective actions of autonomous individuals and that organizations are a legitimate focus of criminological inquiry.

## Methods

The current research uses the case study approach (Berg, 2001), which has previously been used to examine state-corporate crime (Kramer, 1992; Aulette and Michalowski, 1993; Kauzlarich and Kramer, 1993; Matthews and Kauzlarich, 2000). Specifically, we use what Stake (2000:437) calls an instrumental case study where “a particular case is examined mainly to provide insight into an issue or to redraw a generalization. The case is of secondary interest; it plays a supportive role, and it facilitates our understanding of something else.” Thus, while description of events at PGDP is important and interesting, our goals include using this case to determine the usefulness of Kauzlarich and Kramer’s (1998)<sup>1</sup> integrated theoretical framework for explaining state-corporate crime and to enhance understanding of this offense type.

The nature of available data is of primary concern in qualitative research (Platt, 1981; Yin, 1994) and, as explained below, recent events have reduced access to official documents on PGDP. Our data sources include government reports and media archives. Two newspaper archives indexing articles about PGDP were especially useful: *The Washington Post* archive, and *The (Louisville) Courier-Journal* archive. We have used primary data whenever possible; however, problems in accessing certain information called for alternative data sources. Since the attacks of September 11, 2001, the

Department of Energy (DOE) has removed some reports from its website until they are deemed appropriate for public consumption. While we obtained much data prior to this security measure, in some instances we have had to rely on secondary sources, such as media coverage, for additional information. In other instances, we have used secondary reports when the news media asked impartial experts to evaluate technical data contained in DOE reports and releases. It is important for the reader to understand why we relied in part on newspapers, rather than original sources, for some data; we are concerned with understanding the state-corporate relationship leading to harms at PGDP and following accepted practice in case study research (see Platt, 1981; Yin, 1994) have examined the most influential and informative documents.

### **History of the Paducah Gaseous Diffusion Plant**

The United States began enriching uranium in the early 1940s to produce fissionable material for the atomic bomb (USEC, 2001). The Atomic Energy Commission (AEC) eventually took control of the enrichment program, and the first plant began operation in 1945 (USEC, 2001). In October 1950, the U.S. government announced that a new plant to produce enriched uranium for both nuclear power production and nuclear weapons would be located near Paducah, Kentucky (Office of Oversight, Environment, Safety and Health, 2000). The decision to locate the plant near Paducah was popular among residents, as the area was experiencing a long period of economic hardship. The community welcomed the plant and the resulting economic prosperity brought new residents. The economic benefits were so far-reaching that “even the city’s brothel added a wing,” and Paducah became known locally as “Boomtown” (Malone, 2000a). The U.S. government’s decision to take advantage of economic need to foster community support for controversial and dangerous activities is not without precedent (Bullard, 1993; Bullard, 2000; Pellow, 2002).

Throughout its history PGDP has experienced changes in contractors, operators and regulators. When PGDP began producing enriched uranium in 1952, the DOE contracted the Union Carbide Chemical Company to operate the plant (Office of Oversight, Environment, Safety and Health, 2000). In 1984, the Martin Marietta Corporation replaced Union Carbide as the plant contractor (USEC, 2001). In 1993, the United States Enrichment Corporation (USEC) leased the production facilities from the DOE and managed the plant. USEC retained Martin Marietta, now the Lockheed Martin Corporation, as the plant contractor (USEC 2001). In 1997 USEC became

a private corporation, and the following year it assumed control of enrichment activities (Bechtel Jacobs Company, 2001).

There have also been changes in the regulatory agencies that had responsibility over activities at PGDP. In January 1975, functions previously under the control of the AEC were transferred to two different agencies: the Energy Research and Development Agency (ERDA) assumed responsibility for uranium enrichment, while the Nuclear Regulatory Commission (NRC) assumed responsibility for the “regulatory oversight of nuclear power plants” (USEC, 2001). In 1997, the DOE assumed control of ERDA responsibilities (USEC, 2001).

The following descriptions help put into perspective the quantities of radioactive material processed at PGDP:

(e)nough radioactive scrap metal to build a full-size replica of the battleship Missouri; enough low-level radioactive waste to cover more than 22 football fields a yard deep; enough polluted ground water to fill 680,000 residential swimming pools. If laid end to end, the more than 37,000 cylinders of spent uranium being stored outdoors would span 70 miles. (Carroll and Malone, 2000a)

In June 1999, a whistleblower, or *qui tam*, suit was filed against Lockheed Martin by three workers at PGDP and the Natural Resources Defense Council, an environmental group, under the *False Claims Act* (Warrick, 1999b). The suit alleged that Lockheed Martin falsified environmental safety reports and caused massive environmental damage by mishandling radioactive and chemical materials (Bartleman, 2003). The *False Claims Act* allows private citizens to file *qui tam* lawsuits. In a *qui tam* suit, whistleblowers collect a percentage of money resulting from the lawsuit, while being protected against retaliation stemming from the suit (Kohn, 2001). After a *qui tam* suit is filed, the U.S. government may join the plaintiffs and use its resources to pursue the case. In May 2003, the Justice Department reported that it would join the lawsuit only for the allegations that hazardous wastes were mishandled (Malone and Carroll, 2003).

Based on information from this lawsuit, *The Washington Post* broke the story that workers at PGDP had been “exposed to dangerous fission byproducts without their knowledge” (Warrick, 1999a). In the following years allegations and evidence of harm to workers, the community, and the environment has continued to mount.

## PGDP Harms

To fully demonstrate the harm arising from activities at PGDP we present separately the harm to workers, and harm to the public and environment.

### *Harm to Workers*

In the 1950s and 1960s, workers and management at PGDP did not *fully* understand the hazards of working with radiation and certain chemicals (Office of Oversight, Environment, Safety and Health, 2000). From early in the plant's history, management gave the impression that employee exposure to dangerous radioactive materials was minimal. This attitude is clearly reflected in managerial decisions that put employees in considerable danger. For example, Paducah managers encouraged workers to wear personal clothing rather than plant-issued protective clothing even though it was thought workers were being exposed to dangerous materials (Office of Oversight, Environment, Safety and Health, 2000). Furthermore, carelessness and a lack of knowledge led to contamination throughout the facility, including the plant's lunch room and theater (Office of Oversight, Environment, Safety and Health, 2000). Workers were generally happy in the belief that their efforts were protecting the country, and in the 1950s some workers even took part in government radiation experiments that involved breathing radioactive gas and drinking uranium (Office of Oversight, Environment, Safety and Health, 2000).

As early as 1953, concern was expressed about visible radioactive dust at PGDP, and in 1959 Union Carbide, which then operated the plant, requested studies by the AEC on the potential for health risks (Office of Oversight, Environment, Safety and Health, 2000). Several times in the plant's history, recommendations that workers be tested for potentially harmful exposures were ignored. For example, a 1960 memo revealed that even though it was recommended that 300 PGDP workers be tested for exposure to neptunium, management declined to do so out of fear the union would then request hazard pay (Office of Oversight, Environment, Safety and Health, 2000). Also, in 1985 a government task force recommended a study be done to determine whether plant workers were being exposed to uranium ash contaminated with high levels of plutonium (Malone, 1999); once again, the study was never conducted.

Because workers were exposed to radioactive and other harmful materials, there would be a natural concern about long-term health problems. A comparison of the incidence of cancer around PGDP with national rates

reveals ten leukemia deaths when only one was projected (Warrick, 1999d). Canadian researchers exhumed a former employee's body in 1983 and tested the bones for uranium. Although the results were not published at the time, *The Washington Post* reported in 1999 that the tests indicated uranium levels up to 133 times higher than normal (Warrick, 1999c). A 2001 DOE report acknowledges that "(a)s many as 400 Paducah Gaseous Diffusion Plant workers received an annual radiation dose up to 20 times the limit now considered safe" (Malone, 2001). In addition:

(u)p to 4,000 workers performed duties between 1952 and 1985 in plant areas where they could have received high radiation exposure. One in 10 received doses "that approached or exceeded" regulatory limits ... and many more workers went untested because managers did not think it necessary. (Carroll, 2000d)

The potential for harm to employees has continued and there appears to be inadequate supervision to prevent employees violating safety guidelines. Between 1994 and 1999, Nuclear Regulatory Commission inspectors found several problems including workers pounding on a uranium-plugged process line with a hammer, smuggling beer into the plant, sleeping during the handling of liquid uranium hexafluoride, and performing jobs without being properly trained (Carroll, 1999a).

### *Harm to the Public and Environment*

Reports indicate the public was not properly informed about potential hazards associated with PGDP (Office of Oversight, Environment, Safety and Health, 1999; Office of Oversight, Environment, Safety and Health, 2000). For example, liquid waste that included uranium and fission products was released "into ditches, ponds, and streams, with subsequent flow into the Big and Little Bayou creeks, ultimately reaching the Ohio river" (Office of Oversight, Environment, Safety and Health, 2000:20). Although plant officials were aware of such problems, they did not always act on such information, as illustrated by a 1977 internal plant memo that acknowledged uranium discharges were being "significantly underestimated" (Office of Oversight, Environment, Safety and Health, 2000). Because of such acts, wells around the plant became contaminated, leading the government to provide free municipal water to some residents and businesses (Office of Oversight, Environment, Safety and Health, 1999). Contaminated materials also were improperly

removed from PGDP property. The Office of Oversight report (Office of Oversight, Environment, Safety and Health, 2000) found that material released to the public—for example, old equipment that was sold—was not always properly screened for contamination. In addition, waste materials, such as scrap wood and metals, were not adequately controlled as members of the public would salvage these from PGDP property.

Evidence of potential harm to the community and environment has continued to emerge. In 1999, one lawsuit plaintiff described recent problems at the plant: a computer from the plant that was supposed to be donated to a school was discovered to be contaminated by radiation; some members of a work team on a radioactive site failed their training because, it turned out, they were functionally illiterate and could not read posted hazard signs; cleanup teams were sent into a contaminated building without protective breathing equipment; and no monitoring devices existed in places like cafeterias to ensure that workers who may have been exposed to radiation do not bring contamination with them (Carroll, 1999b).

Another recent problem included the 1999 discovery of “radioactive black ooze” seeping from ground near PGDP (Office of Oversight, Environment, Safety and Health, 1999). A year later, beryllium, a suspected carcinogen, was discovered in soil, surface water, and ground water samples beneath the plant; one soil sample had 155 times the natural level (Malone, 2000b). More effects of practices at PGDP were revealed in a study that found “(m)ore than half of 44 raccoons examined had above-normal radiation emissions...The findings are significant because raccoons eat almost anything, so if there is contamination low in the food chain, it would show up in them” (Carroll, 2000e). DOE maps released in 2000 showed that:

11 contaminants have spread extensively into the recreation and wildlife areas surrounding the plant...Amounts of highly radioactive neptunium were 509 times as high as what is normally found in the environment, and radioactive cesium was found at levels up to 326 times normal. (Malone, 2000d)

Even with reports such as these, the true extent of problems at PGDP will never be known. It is estimated that 27.4 percent of records about safety concerns were destroyed before USEC took control of the plant in 1993 (Carroll and Malone, 2000b). These records are thought to have included evidence of a lax attitude toward safety by first-line supervisors, inconsistent investigations of

accidents, purposeful violations of health and safety rules by management and rank-and-file workers, and use of old data and questionable analyses to assess environmental contamination (Carroll and Malone, 2000b). This evidence suggests steps were taken to conceal evidence relating to plant safety; the DOE has concluded that the destruction of these computer and paper records was “inappropriate” (Carroll and Malone, 2000b).

Despite the evident harms and rule violations, between the mid-1980s and 2000, the state of Kentucky fined the DOE only \$5,000. “Kentucky officials say they (were) hampered over the years by government secrecy, a lack of resources and, until 1992, questions about whether they could legally challenge the Energy Department” (Malone and Carroll, 2000). Government secrecy about nuclear activity is nothing new, and the present findings are consistent with previous discoveries (Kauzlarich and Kramer, 1998).

### **An Apology, Compensation, and Clean-Up**

In 1980, after PGDP employee Joe Harding died of cancer, the U.S. government refused to pay his wife survivor benefits, claiming his illness was not related to radiation exposure, and spent \$1.5 million fighting the claim (Shipley, 2001). Harding’s wife eventually settled for \$12,000 (Warrick, 1999c), but continued to fight the case along with others who alleged harm. These efforts contributed to passage of the \$1.9 billion *Energy Employees Occupational Illness Compensation Act*, which provides medical and financial help for workers and their families at a number of nuclear facilities where dangerous work was conducted. The compensation plan has a limit of \$150,000 per claim and does not cover lost wages due to “illness or injury from exposure to radiation and hazardous chemicals” (Carroll, 2000b).

On May 31, 1994, the Paducah Gaseous Diffusion Plant was identified for priority cleanup and added to the Environmental Protection Agency’s Superfund national priorities list. The DOE has established a clean-up schedule to be completed by 2010. More than \$1.3 billion has been allocated to deal with pollution in groundwater, surface water, surface soils, burial grounds, waste barrels, and unused process buildings, and to monitor the site and issue clean-up reports (Jones, 2000).

On Sept. 16, 1999, the federal government took the unusual step of issuing a formal apology for concealing information that caused PGDP workers to be placed in danger. Then-Energy Secretary Bill Richardson visited Paducah and at a community meeting stated:

On behalf of the U.S. government, I am here to say I am sorry ... We are apologizing to the workers in Paducah. From the evidence that has been uncovered recently, it's obvious that the U.S. government was not forthcoming about possible exposure to plutonium, and that was wrong. We should have been straight with our employees. (Malone and Carroll, 1999)

While the DOE has estimated it will cost \$1.3 billion to clean up PGDP (Jones, 2000), other estimates suggest the cost will be as high as \$5 billion (Malone, 2000c). There is also concern that even if the cleanup is completed by the 2010 deadline that will not mean the plant is "clean" in the way most people understand the term. Court action continues between federal and state authorities over what "clean" actually means (Carroll, 2000a). While cleanup operations are now underway there is concern that they may not be properly conducted; regulators have already cited the DOE for violating state-air quality regulations while clearing "Drum Mountain" (Gil, 2000). Drum Mountain is a 40 foot tall pile of discarded radioactive metal drums (Malone, 2000c).

### **Integrated Theoretical Framework**

To fully understand state-corporate crime, Kauzlarich and Kramer (1998) propose an integrated theoretical framework that considers the impact of specific "catalysts for action" at three levels of analysis. Traditional criminological theories typically focus on relations between individual actors and exclude consideration of organizational or social structural factors on behavior. While Kauzlarich and Kramer (1998) recognize the importance of the *interactional level of analysis* (face-to-face interaction, individual action) they also recognize this is insufficient for more fully understanding organizational behavior. It would be easy to blame the actions of individual employees for the harms at PGDP but such an approach is insufficient for understanding these harms as it overlooks the vital role of organizational and institutional factors. Organizational structure, goals, and culture are important determinants of both organizational and individual behavior; thus, an *organizational level of analysis* (structure and process) is also necessary to understand state-corporate crime. Finally, both organizational and individual behaviors are influenced by the broader social context, so an *institutional level of analysis* (historical, political, economical, and cultural factors) is necessary to complete the analysis of state-corporate crime. At each level of analysis, Kauzlarich and Kramer (1998) identify

the interaction of three "catalysts for action": motivation, opportunity structure, and social control. Kauzlarich and Kramer's (1998) integrated model helps illustrate how institutional, organizational, and individual actors contributed to the events at PGDP.

### *Institutional Level of Analysis*

**Motivation.** At the institutional level of analysis, the Cold War climate encouraged use and development of nuclear technology, created public support for the nuclear industry, and created a sense of urgency in the development of nuclear technology. In such an atmosphere, the perceived greater national good was given precedence over health hazards to employees or environmental damage. The perceived threat of nuclear weapons in the Soviet Union meant that organizational goals were to be quickly achieved, even at the expense of individuals and the environment. This likely contributed to acceptance of some "rule bending" in pursuit of apparently legitimate goals. A 2000 DOE report points out that during the Cold War, health, safety, and environmental concerns were less important than the pressing demands of the Cold War (Office of Oversight, Environment, Safety and Health, 2000).

A number of governmental goals provided the motivation for rapid development of the nuclear industry, and these goals could not have been achieved without the involvement of private corporations. Duffy (1997) describes the following governmental goals that motivated the rapid development of nuclear technology and the involvement of private corporations: energy needs, controlling nuclear proliferation, deterring the Soviets, and remaining the leader in nuclear development.

**Opportunity structure.** Although the government drove development of the nuclear industry, it would not have flourished without the involvement of private corporations. The opportunity for private corporate involvement was created by passage of the *Atomic Energy Act* of 1954. Previously the *Atomic Energy Act* of 1946 had "expressly forbidden private ownership of nuclear materials and had established an absolute government monopoly over nuclear energy" (Ford, 1982:41). The 1954 act reveals changing attitudes toward nuclear energy, as it allowed "private companies to build and operate commercial nuclear-power stations" (Ford, 1982:41). Private corporations had been reluctant to call for changes in legislation to allow their involvement in the nuclear industry because of its financial uncertainties; the cost of establishing nuclear production facilities, combined with its potential for risk, scared corporations away from this

technology. The federal government encouraged private corporations to get involved and offered them economic incentives to do so. Duffy (1997:34) states:

The “solution” to the government’s “problems” was the *Atomic Energy Act* of 1954 which, in effect, created both commercial nuclear power and a commercial nuclear power industry. In this sense, the development of commercial nuclear power is unusual in that it emerged from an effort initiated by government rather than by private industry.

This is an important point for our argument that harms at PGDP are initially an example of state-initiated state-corporate crime; from the beginning it was the federal government that initiated involvement of private corporations in the development of this field.

Government efforts to promote a peaceful image of nuclear power contributed to the opportunity to develop nuclear technology. These efforts included downplaying the danger of nuclear technology and the need for safety precautions, while emphasizing its advantages. In a 1953 address to the United Nations General Assembly, President Eisenhower presented his vision of “atoms for peace.” “The United States knows that peaceful power from atomic energy is no dream of the future. That capability, already proved, is here-now, today,” Eisenhower said. He went on to say that nuclear energy could be used to “provide abundant electrical energy in the power-starved areas of the world” (Ford, 1982:40). In 1954, construction of the nation’s first commercial nuclear power plant was presented to the public in dramatic fashion when Eisenhower appeared on television and, with a wave of his hand, “signaled an unmanned, radio-controlled bulldozer to begin breaking ground” for the plant (Stoler, 1985:16).

The events at PGDP can be classified as state-initiated state-corporate crime; they could not have occurred without government efforts. Government created the opportunity for development of the nuclear industry by initiating the involvement of private corporations, and waging a campaign that emphasized the nuclear threat to the United States while changing perceptions of nuclear technology as purely destructive.

**Social control.** At the institutional level, there has historically been little social control over the nuclear industry (Kauzlarich and Kramer, 1998). Secrecy has dominated the industry, and government’s ability to single out and replace people who violate its rules has helped divert criticism. Nuclear technology was developed in

an atmosphere of irresponsibility that minimized safety concerns. According to former AEC attorney Harold Green “nobody really ever thought safety was a problem. They assumed that if you just wrote the requirement that it be done properly, it would be done properly” (Ford, 1982:42). This laissez-faire approach to safety enforcement contributed to the absence of social control throughout the nuclear industry.

The comments of Edward Teller, head of the AEC’s Reactor Safeguards Committee, illustrate how advancing nuclear development was considered more important than safety concerns. In a 1953 discussion on whether to continue the practice of creating “exclusion distances” around nuclear reactors to keep the public at safe distance, Teller warned that enforcement of safety regulations “must not stand in the way of rapid development of nuclear power” (Ford, 1982:43). These comments reveal that despite awareness of dangers involved in developing nuclear technology, government was prepared to loosen its control over the nuclear industry to achieve its goals. A lax attitude at the institutional level creates an overall climate that reduces the likelihood rigorous control efforts will be a priority in the nuclear industry.

In the case of PGDP, social control was inadequate at the institutional level as regulatory agencies were often lax in their investigation of the facility. State officials in Kentucky were unclear as to the control they could exercise over activities at PGDP; therefore, financial penalties for safety violations were insufficient to deter risky practices most efficient for achieving organizational goals (Gil, 2000).

#### *Organizational Level of Analysis*

At the organizational level of analysis, there is considerable evidence that organizational goals encouraged lax security practices and poor decisions regarding employee and environmental safety. While safety concerns surfaced periodically, the general practice at PGDP was to downplay these concerns and continue with the most economical approach. Indeed, it is possible that some reductions in security measures were meant to demonstrate to employees the degree of organizational confidence in safety at PGDP.

**Motivation.** Evidence reveals that despite knowing the health risks to employees, plant managers were motivated to pursue production goals at the expense of employee safety and failed to effectively communicate safety concerns to employees. The Department of Energy’s Office of Oversight reported that during the 1950’s:



(N)ot all workers had a clear understanding of the need to wear anti-contamination clothing. Contributing to this situation was the discretionary application of Carbide's policy on anti-contamination clothing and a non-conservative approach to the provision of company clothes...Carbide management sought ways to acquaint newly acquired personnel with known hazards without impacting production. (Office of Oversight, Environment, Safety and Health, 2000:38)

**Opportunity structure.** Plant administrators habitually ignored safety warnings and, when faced with alternatives, repeatedly chose hazardous means as the most efficient way to meet organizational goals. These practices increased the opportunity for employee exposure to hazardous conditions. From the beginning at PGDP, health and safety programs were in place, but were inadequate:

The Health Physics Section from the commencement of operations until 1990 ranged in size from as few as two to six employees. The Industrial Hygiene Section typically consisted of one or two industrial hygienists and a technician...in the early decades, health and safety professionals had limited authority and resources to ensure that line management would implement recommended hazard controls. (Office of Oversight, Environment, Safety and Health, 2000:36)

While training sessions were held to inform employees of hazards, the Office of Oversight (2000) team noted that from the 1950s to the 1960s the number of hours devoted to hazard communication declined by as much as 50 percent. Thus, as knowledge of the dangers of working with nuclear materials increased, PGDP management decreased the amount of safety training for employees, therefore increasing the opportunity for employee harm. Over time safety program training was replaced with on-the-job training as the principal means to keep workers informed of hazards at the plant (Office of Oversight, Environment, Safety and Health, 2000). Investigators concluded that by the 1980s employees were given *less* training than during the 1950s, despite the greater knowledge of danger. Investigators further stated that although there were written materials to educate employees about plant hazards "(t)here is no evidence of the extent to which this information was either made available or required reading, nor is there any indication of supervi-

sors' diligence in ensuring that Plant health and safety hazards were being communicated to workers" (Office of Oversight, Environment, Safety and Health, 2000:39).

Although contamination control was known to be important for employee safety, such practices were neither mandatory nor rigorously enforced until the mid-1980s. At times, management provided workers with incorrect information on contamination control, such as telling that uranium compounds were safe enough to eat (Office of Oversight, Environment, Safety and Health, 2000). Recommendations for safety and contamination control were sometimes ignored; for example, although it was recommended that employees wear respiratory protection devices, line managers did not always direct workers to follow the recommendation (Office of Oversight, Environment, Safety and Health, 2000). In some cases, management discouraged the use of protective clothing, and in one part of the plant (the C-720 Control Valve Shop) "evidence suggests that Paducah personnel routinely exceeded personal clothing contamination limits without corrective actions being taken by management" (Office of Oversight, Environment, Safety and Health, 2000:45). These organizational practices created the opportunity for individual employees to violate safety requirements and place themselves at considerable risk.

**Social control.** Social control was generally lacking as plant management failed to adequately implement safety training and enforce employee compliance with safety recommendations. The Office of Oversight investigators concluded that:

(i)mplementation of the radiological protection program at PGDP was very inconsistent between 1952 and 1989. Limited health physics staffing, a failure to communicate exposure levels and transuranic hazards to workers, worker failure to follow radiological control measures, a failure to consistently enforce radiological control measures, and a lack of adequate understanding and appreciation of the hazards of uranium and transuranics all contributed to inconsistent implementation. (Office of Oversight, Environment, Safety and Health, 2000:78)

Plant management created a climate in which workers trusted that what they were doing was safe, and by downplaying the need to wear protective clothing, contributed to an environment that did little to encourage the use of precautions. Secrecy made this climate easy for management to perpetuate due to the "need to know basis" of information about plant activities, and employee trust of

their employer (Office of Oversight, Environment, Safety and Health, 2000).

### *Interactional Level of Analysis*

**Motivation.** At the interactional level, there was considerable motivation for PGDP employees to perform their assigned tasks. Employees had considerable financial motivation because they lived in an economically-depressed area before the opening of the gaseous diffusion plant. They were also socialized in an environment that assured the technology was safe and adequate protections were in place. Workers had additional motivation in the belief they were performing important tasks that contributed to national security.

**Opportunity structure.** At the individual level, there was considerable opportunity to engage in hazardous activity. It is apparent that workers were socialized into an environment in which illegal activities became the norm and were defined as acceptable methods for “getting the job done.” The absence of close supervision meant employees were given many opportunities to engage in hazardous activity.

**Social control.** From the beginning, PGDP employees had much to lose by refusing to follow organizational instructions; thus, it is not surprising that they engaged in questionable practices over an extended period. The economic climate meant employees could not afford to lose their sources of income. Individual workers employed a number of techniques of neutralization (Sykes and Matza, 1957) in performing their duties, including appeal to higher loyalties in the belief that their work was a patriotic duty benefiting the entire country. There was also no adequate system to control employee behavior and enforce safety guidelines. Employees were ill-informed of risks and left to make their own decisions about the need to take safety precautions. For these reasons, workers were denied the opportunity to make informed decisions concerning performance of duties and safety precautions.

### **Conclusion**

Our examination of harms at PGDP leads us to conclude that as government behavior changes these harms constitute instances of *both* state-initiated and state-facilitated state-corporate crime. The U.S. government made the decision to locate a nuclear plant at the Paducah site and subsequently encouraged a generally lax attitude towards safety, and harmed plant workers by deliberately exposing them to materials known to be harmful.

Government also placed plant development ahead of environmental safety despite evidence of the inevitability of environmental harm. We find Kauzlarich and Kramer’s (1998) integrated theoretical framework to be very useful in clarifying the complex relationship between catalysts for action at different levels of analysis, and helps clarify the roles of the state, private corporations, and individual plant workers in the harms at PGDP. Analysis of events and harms at PGDP reveals change in state contribution to state-corporate crime. Specifically, utilizing the “complicity continuum” of state-corporate crime proposed by Kauzlarich, Mullins and Matthews (2003) we find the state role evolves from that of instigator to facilitator of state-corporate crime at PGDP. Over the life of the plant the state takes deliberate steps to transfer plant ownership and operation to private corporations and transforms its role to that of regulator; given the abysmal record of governmental efforts to enforce safety regulations at PGDP we believe its role clearly changes from that of instigator to facilitator of state-corporate crime.

Kauzlarich et al. (2003) further the study of state-corporate crime by locating it within a “complicity continuum.” That is, these authors distinguish types of state crime by highlighting state behavior. They emphasize that state crime arises from both state action (commission) and inaction (omission), and identify four distinct categories of state crime. *Explicit acts of commission* are the most extreme acts of deliberate state action towards clearly-specified goals, and are exemplified by the Holocaust (Kauzlarich et al. 2003: 248). *Implicit acts of commission* occur when “state agencies tacitly support actions which result in social injury, but their connection is more distant than proximal” (2003:248). Kauzlarich et al. identify state-initiated state-corporate crimes as examples of implicit acts of commission. *Explicit acts of omission* “occur when the state disregards unsafe and dangerous conditions, when it has a clear mandate and responsibility to make a situation or context safe” (2003:249). We believe state-facilitated corporate crime falls into this category. Finally, *implicit acts of omission* refer to more general harmful social conditions the state has the power to eliminate or reduce, such as economic inequality. Kauzlarich et al. note that by “doing nothing – or next to nothing – to ameliorate such problems, the state is engaged in crime because it is allowing institutions and actions to remain inadequate, harmful, and marginalizing” (2003:250).

Government efforts to change its role in nuclear plant involvement is clear from the passage of the *Atomic Energy Act* of 1954 that allowed private corporate involvement in the nuclear industry; ultimately at PGDP

this role change resulted in transfer of plant ownership and operation to various private corporations, with the state taking on responsibility for safety regulation. It is clear that dangers associated with the nuclear industry were known, and that through the *Atomic Energy Act* of 1954 the US government initiated participation of private corporations. Given the government's role in encouraging corporations to participate in a dangerous business, it was government's responsibility to implement and enforce strict regulations to ensure safety of nuclear plant employees and the public, however, government efforts were entirely inadequate and sanctions were rarely enforced for violations of safety standards. At the organizational level, while safety guidelines were developed, safety programs were inappropriately staffed, and it was generally left to line personnel to make sure that safety measures were being followed. Given the climate created by government and management, and the failure of government to regulate and enforce safety standards PGDP employees were unlikely to fully appreciate the dangers of their work and thus unlikely to take adequate precautions.

The *Louisville Courier-Journal* provides a good summary of the harms caused to PGDP workers as well as the community and surrounding area:

Sloppy safety practices, concealed health concerns, and decades of ignorance, expediency and poor oversight have left workers, nearby wildlife and the land itself damaged by chemical and radioactive toxins. Workers have inhaled the radioactive dust, chemicals have seeped into the ground water, and debris dumped off the site has created pockets of radiation. And the silent devastation is being seen in creatures ranging from insects to bobcats—an ominous warning to the humans who share the same soil, water, and air. (Carroll and Malone, 2000a)

In this case, as acknowledged by the federal government (Carroll, 2000c), a series of decisions from the governmental level to the plant operators ensured PGDP workers, the environment, and public safety were victims of state-corporate crime. Kauzlarich and Kramer's (1998) theoretical framework helps clarify how such harms come about, while Kauzlarich et al.'s (2003) "complicity continuum" highlights how the state role in state-corporate crime can change over time.

## Endnotes

1. Since we are focused on how useful Kauzlarich and Kramer's (1998) integrated theoretical model of state-corporate crime is for understanding harm at PGDP we rely heavily on their work in defining the concept and framing issues discussed in the paper.

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## Criminal Use of Firearm Silencers\*

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**Abstract:** *Both the public and sentencing judges regard silenced firearms as more dangerous than ordinary unsilenced firearms, and the federal penalty for possession of a silenced firearm during crime is a 30-year mandatory minimum. The assumption that silenced firearms are more dangerous than ordinary firearms has never been empirically researched. This study examines federal and state court data to compile statistics on who is being prosecuted for possession of silencers and what crimes they are used to commit. This data indicates that both on the federal and state level those prosecuted for crimes involving silencers are far less likely to have a criminal record, and are far less likely to actively use their weapon than those people convicted using ordinary unsilenced firearms. The data indicates that use of silenced firearms in crime is a rare occurrence, and is a minor problem. Moreover, the legislative history of silencer statutes indicates that these provisions were adopted with little or no debate.*

*The silencer penalty has been justified by a need to crack down on “professional criminals” or to punish people using “dangerous weapons.” The evidence suggests that 30-year minimum sentences make no sense. Mandatory minimums should be repealed and sentencing judges permitted to treat each case on an individualized basis.*

**Keywords:** firearm; silencer; suppressor; sentencing; gun crime

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### Introduction

One of the harshest penalties in the federal system is a 30-year mandatory minimum sentence for possession of a silencer (used to reduce the noise of a gunshot) during a “crime of violence”<sup>1</sup> or drug trafficking:

Whoever, during and in relation to any crime of violence or drug trafficking crime (including a crime of violence or drug trafficking crime which provides for enhanced punishment if committed by the use of a deadly weapon or device) for which he may be prosecuted in a court of the United States, uses or carries a firearm, shall, in addition to the punishment provided for such crime of violence or drug trafficking crime, be sentenced to imprisonment for five years, and if the firearm is a short-barreled rifle, short-barreled shotgun to imprisonment for ten years, and if the firearm is a machinegun, or a destructive device, or is equipped with a firearm silencer or firearm muffler, to imprisonment for thirty years (emphasis added) (18 U.S.C. § 924(c)(1)).

This can result in lengthy prison sentences for otherwise minor crimes. Consider the case of Edward

Thompson who received three years for drug trafficking but additionally was convicted of possessing a firearm equipped with a silencer and possession of an unregistered silencer (*U. S. v. Thompson*, 82 F.3d 849 (9th Cir. 1996)). Possession of a firearm with a silencer increased Thompson’s penalty for drug trafficking from three years to forty years. This is a more severe penalty than is received by many defendants convicted of homicide or rape.

The basic assumption behind the statute appears to be that 1) firearms with silencers attached are more deadly than ordinary, non-suppressed firearms, and 2) silencers are likely to be used by professional criminals who deserve to be severely punished. This paper seeks to examine those assumptions and explore exactly how silencers are, or are not, used by criminals.

### Legal and Technical Overview of Firearm Silencers

#### *Silencer Statutes*

Federal statutes in the United States have required a permit for ownership of a silencer since 1934. In addition to the penalty for possessing a silencer during another crime, the possession of a silencer without a federal permit is a felony. Most prosecutions in the federal system

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are for possession of an unregistered silencer, or possession without a permit. The maximum sentence is 10 years, although the recommended sentence range under the sentencing guidelines is 27 to 71 months.<sup>2</sup> This is significantly longer than the penalty imposed by state law in states that ban silencers. For example, the Michigan statute banning silencers carries a maximum sentence of five years (Mich. Code 750.224), and nonviolent possessors of silencers are unlikely to receive any jail time (see *People v. Goldy*, 2004 WL 1392404 (Mich. App. 2004)). In federal prosecutions, a defendant can be charged with possession of a silencer during a crime, which carries a 30-year sentence, and if the silencer is homemade and not licensed or serial numbered, persons convicted of these offenses can receive up to 10 years as well (*U. S. v. Frazier*, 213 F.3d 409 (7th Cir. 2000)). People often make or possess silencers with no intention to use them for a nefarious purpose. In one case, the court found that a father and son had tried to make a silencer just as an experiment, and clearly had no intention of trying to use it to commit a crime (*U. S. v. Webb*, 1998 U.S. Dist. LEXIS 4711 (D. Kan. 1998)).

Only about a third of the states ban possession of firearm silencers. Most of the large states ban silencers, among them California, Illinois, Michigan, New Jersey, New York and Texas. In some European countries, firearm silencers are legal and not regulated in any way—both in countries with widespread gun ownership, such as France, and countries where firearms themselves are strictly regulated, such as Sweden (Paulson, 1996:9). The approach of various jurisdictions to silencers runs the gamut from prohibition to regulation to complete legalization, and such laws follow no predictable pattern. Silencers are illegal in Texas, but legal in Sweden (Tex. Penal Code § 46.05(a)4 (2004)). One possible explanation for this is that firearms are so rare in Sweden that silencers are simply beneath the radar of lawmakers, but that does not adequately explain the kind of diversity that is found across various Western jurisdictions.

Despite numerous laws on the books regarding both possession and use of silencers there has been virtually no attention focused on them by legal scholars. There does not appear to have ever been a study done on what sorts of crimes or people are prosecuted under these statutes. Basic questions such as “How often are silencers used in crime?” “What sorts of crimes are committed with silencers?” “Does possession of a silencer make discharge of a firearm more likely, and hence more dangerous?” have never been addressed.

Without any evidence about how silencers are actually used it seems impossible to determine *a priori*

whether prohibition, regulation or legalization is the best system. As one court noted, “possession of unregistered silencers is a victimless crime” (*U. S. v. Ritsema*, 89 F.3d 392, 395 (7th Cir. 1996)). As with all victimless crimes, we need to inquire what societal harm the law is intended to address. The term “victimless crime” is not intended as a value judgement; it merely describes a crime in which there is no “victim” to report the alleged offense. For most victimless crimes, such as drug abuse, some societal harm is the justification for making the activity a crime. Obviously, we want to know what harms may be associated with silencers.

One also wonders why there is such a high penalty for the use of a firearm under federal statutes, and what type of criminal is targeted. This is an important question for prosecutors and judges in deciding whether a person should be charged, convicted and sentenced. For example, should a person who makes a silencer and uses it to hunt in a national park receive the same 30-year enhanced sentence as a professional killer who successfully uses a commercially-manufactured silencer in an execution-style murder? Because the sentencing guidelines and statutory minimum are so severe, many judges have departed downwards from sentencing guidelines under the theory that kids with homemade silencers, or people who use them for “legitimate purposes,” were certainly not the sort of criminal that Congress had in mind. In *U.S. v. Webb*, 49 F.3d 636 (10th Cir. 1995), the district court departed downward from the sentencing guidelines for a man who made two primitive silencers out of foam and toilet paper rolls, which were used to shoot animals on his property; but the Appeals Court required a longer sentence, saying the guidelines, which were then mandatory, did not permit downward departure. Similarly, in *U.S. v. Stump*, 1997 U.S. App. LEXIS 842 (4th Cir. 1997), the trial judge found that the two silencers had been used by the defendant for legitimate “sporting purposes” and characterized the offense as a technical, “bare-boned” violation. The trial court thus sentenced the defendant to only two months imprisonment; but the Appeals Court ruled that the judge could not depart from the guidelines which required a minimum sentence of 27 months for illegal possession.

In other cases, courts need to decide if an accomplice can be convicted of possessing a silencer. An accomplice can only be charged with use of a silencer by a co-conspirator if the person could reasonably have expected one to be employed; determining that question depends on how common silencers are and what they are used to accomplish. In one such case (*U.S. v. Friend*, 50 F.3d 548 (8th Cir 1995)) the court acquitted the defendant of ac-

complice liability for the silencer possession (but not the attached gun) noting:

The police officers who discovered the well-hidden firearm testified that they were surprised to find it equipped with a silencer. . . . Nor did the government present any evidence describing how a silencer-equipped firearm might generally be used to further a drug distribution conspiracy. The police officer who testified that “over 80 percent of the investigations involving narcotics reveal some type of weapons” gave no testimony concerning the prevalence or use of silencers. And the prosecutor in closing argument admitted that “[a] gun with a silencer, however, is unusual.”

Lack of any statistical evidence makes ruling on such issues difficult.

Another question is whether possession of a silencer should be considered a crime of violence. One would imagine that determining whether possession of a silencer qualifies as a crime of violence should be based upon similar statistical evidence about how often silencer possession results in injury. Courts have assumed that firearms with silencers attached are much more likely to be discharged (with potentially lethal consequences). The court in *U. S. v. Willett*, 90 F.3d 404, 405 (9th Cir. 1996), declared that commission of a crime with a silencer “poses a greater risk than does the commission of the same crime with only a gun.” The court in *U.S. v. Dunlap*, 209 F.3d 472, 478 (6th Cir. 2000) described silencers as “extremely dangerous.” Neither court explained the basis of these conclusions or made any attempt at statistical analysis to support these assertions. Before now, no such study has been done.

The purpose of this paper is to try to answer these questions and provide some analysis of how silencers are used in crime, and who is being prosecuted. Initially, however, it is also important to try to discover why these statutes are on the books. If it can be determined what legislators thought they were accomplishing in passing them, or at very least what the various arguments are for punishing possession of silencers, then we will have a better theoretical framework in which to consider the statistical evidence presented in the second half of the paper.

#### *What is a Firearm Silencer?*

Some knowledge of how silencers work is necessary

to understand the issue. A “silencer” does not silence a firearm, but it muffles the sound. A good silencer can reduce the noise of a firearm by 20 decibels (Paulson, 1996:14-16).<sup>3</sup> This makes it less likely to be heard by potential witnesses or if it is heard the sound will not be recognized as a gun shot.

The less gunpowder there is in a cartridge, the less noise there is to reduce; hence, small caliber guns (such as a .22 caliber rimfire) are the easiest to “silence.” Also, most guns fire supersonic ammunition, and because of the ballistic crack (called a sonic boom for larger objects) a gun can only effectively be silenced if it fires subsonic ammunition.

All else being equal, a slower-moving bullet has less energy and is less deadly than a faster bullet. In purely physical terms a “silenced” firearm which fires subsonic ammunition is less dangerous than a gun that fires supersonic ammunition.

For comparison, a .22 rimfire bullet weighs about 30 grains (or 2 grams) and at 1000 feet-per-second has muzzle energy about 75 foot pounds. High powered hunting rifles have power in the range of 2,000 to 5,000 foot pounds—literally enough kinetic energy to lift an automobile a foot in the air, or fifty times more powerful than a .22. A small-caliber, low-velocity bullet typically used in conjunction with silencers is not nearly as deadly as high-powered rifles or shotguns. Low-velocity bullets also have a much shorter effective range. A subsonic round has an effective killing range of about 200 yards, as opposed to 1000 yards for a high-velocity bullet traveling three times the speed of sound (Paulson, 2002:14). Slower-moving bullets also have less penetrating power, making them less likely to penetrate walls, car doors or body armor. Paulson (2002:26-27) notes that hostage rescue teams often use subsonic ammunition precisely to avoid risk to bystanders. Since most homicide shootings occur at close range this probably would not matter to criminals, but low-velocity bullets present much less danger of a stray bullet injuring a third party.

A silencer always extends the length of the overall weapon, as well as increasing the barrel diameter. The increased difficulty of concealment may make silencers less appealing to criminals than they might be otherwise.

A silencer works by trapping the noise of the explosion inside the silencer. As the hot gases escape from the end of the barrel, the gases are trapped inside the silencer which muffles the sound. Many common everyday objects such as pillows, towels and comforters can be draped over a gun barrel and function as a silencer. One case describes how a murderer wrapped his gun in a towel and this was so effective it did not wake people

who were asleep in the house (*People v. Morris*, 2002 WL 1303412 (Cal. Ct. App.)).

Most silencers that result in prosecution are simply improvised devices that fit over the end of a barrel. Professionally-made silencers may screw into a threaded barrel, and continue to allow the use of the gun's sights (which is not possible with things like pillows).

If a criminal is more likely to actually discharge a silenced firearm than otherwise, then the firearm with a silencer may in fact be more dangerous than one without. For example, even though knives are considerably less deadly than guns, statistical evidence indicates that knives used in armed robbery are about three times more likely to be actually used to injure the victim than guns (Wright, Rossi, and Daly, 1983:209-212).<sup>4</sup> The accepted explanation for this is that when confronted with a firearm the victim is less likely to resist and hence less likely that the firearm will need to be discharged. Marvell and Moody (1995:249-50) note that “[W]ith robbery, criminals use weapons to deter victim resistance, and firearms are the most effective weapon for that purpose.” However, if the silent nature of a knife makes knife-wielding assailants more likely to actually use their weapon than gun-wielding assailants then that would tend to confirm the view that silenced firearms present a greater threat to society than an ordinary firearm. Conversely, however, if it is the perceived danger of the weapon which makes resistance (and therefore discharge) less likely (and since most people view a silenced weapon as “more threatening” than one without) silenced weapons would be the least likely to actually be fired in the context of an armed robbery. At least one pair of defendants explained their use of a silencer in precisely this way. They thought that “[t]he silencer would make them seem professional and their threat to kill [the target] therefore more credible than it would otherwise be” (*U. S. v. Ienco*, 92 F.3d 564, 566 (7th Cir. 1996)). This seems to be a common motive; criminals think victims will fear them more if the threat to use the gun is credible. In another case, a rapist told his victim he had a gun with a silencer in his pocket so if he shot her no one would hear (*People v. White*, 2003 WL 157525 (Cal. Ct. App.)). The rapist was lying, but the crime helps demonstrate that criminals will appear more threatening with a silencer. This provides a plausible answer to the question, “Why would a criminal carry a silencer unless he intended to fire the gun?”

### *Uses of Silencers*

One court has blithely declared that “A silencer is used only for killing other human beings” *People v. Pen*

2004 WL 859311 (Cal. Ct. App. 2004)). Other courts have found that there are legitimate sporting purposes for silencers (*U.S. v. Stump*, 1997 U.S. App. LEXIS 842 (4th Cir. 1997)). Actually, silencers are used for a number of lawful purposes. They are often used by police to shoot animals in residential areas. In addition to police, grounds-keepers, janitors and private security may use silencers to shoot rabid animals or rats inside buildings. Silencers can be used for hunting small animals such as rabbits or squirrels. Since a loud report from a gun will likely cause all the animals in field to run away or run into holes, a silenced weapon will allow a hunter to shoot many animals in field without scaring away others. The most common use of silencers is for target practice. Those who compete in competitive shooting practice every day. Use of a silencer allows a person to set up a shooting range in his or her basement without making noise to disturb the neighbors. It is also said that using a silenced firearm is helpful for first-time shooters to get used to firing a weapon, because first-time shooters often are disturbed by the loud noise (Paulson, 1996:14).

At least some people who have been found with unregistered silencers have claimed that they needed them for personal protection (*U.S. v. Taylor*, 1995 U.S. App. LEXIS 6314 (4th Cir. 1995)). Other people simply collect exotic weapons, and many people seem to make them for the same reason people build model airplanes and ships in bottles. In one case, the defendant and his son built a silencer as a kind of science project. Fortunately for the defendant, the two “silencers” they made did not work and he was acquitted, thus avoiding years in prison (*U. S. v. Webb*, 1998 U.S. Dist. LEXIS 4711 (D. Kan. 1998)).

One can quibble over whether any of the above are good reasons to own a silencer, and one can dispute whether the danger from silencers is too great to justify such uses.<sup>5</sup> However, all of the above uses are perfectly legal with a permit. To own a silencer a person must apply for a \$200 federal permit and undergo a criminal background check. The federal government issues about 2,000 silencer permits each year (U.S. Congress, 1984:121). It is estimated that more than 60,000 Americans legally possess and use silencers (Paulson, 1996:2). Tens of thousands of Americans each year use silencers for perfectly harmless activities (such as target shooting) or even beneficial activities (such as shooting rats and rabid animals). In any case, the fact that the federal government and most states permit the private ownership of silencers would seem to represent the judgement of law-makers that silencers have a legitimate civilian use. Perhaps a question to ask is how many people by comparison misuse silencers each year. As will be discussed below, there only appear to be about

30 federal prosecutions involving silencers each year, and it is very unlikely that there are more than 200 state and federal prosecutions per year involving silencers. It is possible that there is much more illegal use going on which is not prosecuted, but these numbers certainly suggest that silencers are a minor law enforcement problem.

### **Legislative History of Federal Silencer Regulation**

The history of silencer regulation is complicated, and the documentation of why various provisions were passed is sparse. Courts that have tried to determine the legislative history of some of these provisions have expressed dismay at the paucity of information in the legislative record (*U.S. v. Hall*, 171 F.3d 1133, 1139-40 (8th Cir. 1999)). Scholars who have examined the history of gun control statutes in general have concluded that they tend to be the result of complex compromises and determining legislative purpose is difficult (Hardy, 1986: 585).

In 1934, the federal government began to regulate machine guns, sawed-off shotguns and silencers by placing a \$200 tax on such weapons to discourage their sale (U.S. Congress, 1986b:219-220). The 1934 congressional debates provide no explanation about why silencers were licensed. Paulson (1996:10) opines that during the Great Depression, poaching game was thought to be a problem and silencers were licensed because of this concern.

In 1968 the federal government passed the first major federal gun control provisions. Anyone committing a felony which could be prosecuted in federal court received an additional one to ten years if a firearm was used (88 Stat. 1214, 1225 (Oct 22 1968)). The statute did not distinguish among different types of firearms, or include silencers.

In 1986 Congress adopted a 20-year enhanced sentence for crimes committed with a silencer—and this was increased to 30 years in 1988.<sup>6</sup> Congressional debates contain no clear statement of reasons why the additional penalty for use of silencers was enacted. The House report on the legislation says little about silencers but describes them as “used in assassinations and contract murders” (U.S. Congress, 1986b: 4). The most thorough article on the 1986 Act, of which the silencer provision was one small part, does not even mention the silencer provision (Hardy, 1986:585). However, looking at the congressional hearings held on the bill, it is clear that the silencer provision was a reaction to the murder of a Jewish talk-show host by white-supremacists. Alan Berg was a well-known radio personality in Denver, whose outspoken criticism of hate groups resulted in his murder in June of 1984. He was ambushed outside his home and

riddled with bullets from a .45 caliber sub-machine gun. The murder was widely publicized and resulted in a book being written about it (Singular, 1987).

In December of 1984, the FBI raided the home of their prime suspect, Gary Yarbrough: When agents searched the home, they found the MAC-10 [.45 caliber sub-machinegun] and four cross-bows, 100 sticks of dynamite, plastic explosives, hand grenades, semi-automatic rifles, infrared night vision scopes, gun silencers, booby traps, police scanners and 6,000 rounds of ammunition (“Aryan Group, Jail Gangs Linked,” *Washington Post*, Dec. 18, 1984, cited in U.S. Congress, 1986a:158).

It was assumed that the silencer had been used in the attack, because silencers were found in the same place as the apparent murder weapon. Witnesses testifying before the Judiciary Committee called attention to this possession of a silencer by the prime suspect. Sam Rabinove, Legal Director of the American Jewish Committee told the House Judiciary Committee:

I have with me several news articles, all of which in some way relate to the kind of racist violence [which] saw the death of Allen [sic] Berg in Denver, with the Aryan Nations, the Order, and other such racist extremist groups. In each of these articles, there is always the mention of a silencer, or a 9mm handgun (U.S. Congress, 1986a:142).

It turned out that Yarbrough was not involved in the murder. In 1987 (long after the silencer provision had been adopted), two other members of the neo-nazi group were convicted of the murder and given 150-year prison sentences (“150-Year Sentences Given to Two Killers of Radio Show Host,” 1987). There is no evidence that a silencer was used. The murder was reported by neighbors who heard gunshots, making the silencer theory unlikely (Singular, 1987:19-20).

In any event, a number of witnesses assured the House Committee that machine guns and silencers were “basic tools of racketeers, drug traffickers and professional killers” (Statement of American Academy of Pediatrics, U.S. Congress, 1986a:167). There was no statistical evidence cited as to the incidence of silencers in crime. The Bureau of Alcohol, Tobacco and Firearms was asked to provide information on the incidence of machine guns in crime, but no one bothered to ask for any

such data about silencers (U.S. Congress, 1986a:221; see also Hardy, 1986:673).<sup>7</sup>

Unfortunately, that is all the legislative record contains as far as silencers are concerned. Silencers were declared to be the tools of professional killers with no legitimate purpose. There are a number of other reasons one might advance for the silencer provisions which do not seem to have been considered. One might think that silencers are inherently more dangerous than other firearms. At least one court has declared that it is the dangerous nature of silencers which lead to their control (*U. S. v. Dunlap*, 209 F.3d 472, 478 (6th Cir. 2000)). Yet there is nothing in the legislative record to indicate the inherent danger of silencers was an issue. One congressman, before being corrected by the expert witness, thought silencers were used “to transform a gun into an automatic weapon” (U.S. Congress, 1986a:75). Otherwise, despite numerous people testifying against silencers at the hearings, no one actually claimed they were dangerous. Congressman Hughes, for example, in discussing the provisions regarding machineguns and silencers, began by declaring: “To have an operating machinegun in somebody’s house, it is a dangerous weapon. It is extraordinarily dangerous. It really is.” He then went on to discuss silencers in a totally different vein, merely declaring that there was no reason “why a sportsman would want a silencer” (U.S. Congress, 1986a:759-60). One might think that silenced firearms are more likely to be discharged than a normal firearm, or that they make it easier for a criminal to get away with a crime. No reasons for punishing use of silencers were advanced; the constant refrain was that these devices were used exclusively by professional criminals.

Whether the provisions are intended as punishment or deterrence is an important question for evaluating enhanced penalty provisions. The evidence suggests that enhanced penalties for use of a firearm in a crime do not deter their use in crime (Marvell and Moody, 1995:247).<sup>8</sup> There are a number of reasons this may be true. First, potential criminals often do not know what the penalties are and hence will not be deterred by them; second, the criminal may think “I will never be caught” and so does not think the potential penalty matters; third, the criminal may decide the advantage of using the weapon is greater than the risk of additional penalty. All of these factors are probably more true with silencer use than other firearms. The silencer provision is very obscure, and the average criminal has no idea that there is a 30-year enhanced sentence for their use in the commission of a crime. Even if the “professional criminal” is more likely to know the penalty than others, the result could simply be that professional criminals will use disposable objects for silencers

to avoid being caught, and so the law will most likely affect non-professionals who lack knowledge of both the law and the ease with which it can be avoided. It may be that people who consider using silencers think that if they do they will not be caught, or that their chances of being apprehended are so greatly reduced by using a silencer that it is worth the risk. So despite the harsh sentence attached to silencer use, the statute may still have little or no deterrent effect.

### Data on Silencer Use and Conviction

The rest of this paper will be devoted to analyzing court data involving prosecutions involving possession and use of silencers. There are three basic provisions governing silencer use in federal law. First is use of silencer during commission of a federal crime (18 U.S.C. § 924(c)(1)); second is possession of silencer by felon or other prohibited person<sup>9</sup> (18 U.S.C. § 922(g)); and third is possession/manufacture of an unregistered silencer and possession of silencer without a serial number (26 U.S.C. §§ 5822, 5841 5861, 5871). One goal of this research is to know how many convictions fit into each of these categories.

Additional questions that will be addressed include, first, how many federal convictions over the last 10 years involve mere possession of an unregistered silencer by otherwise law-abiding citizens? Second, how many convictions involve prohibited persons in possession, and what were the prior felonies or acts which caused them to be on the list? For example, were they previously convicted of violent or non-violent offenses, did the prior conviction involve firearms, and so forth. (A felon who had previously been convicted of first degree murder with a firearm is probably more dangerous than an illegal alien with a silencer who has no criminal record, or someone whose felony involved non-violent actions.) Third, how many people have actually been convicted of using silencers in violent crimes, and what were those crimes? For example, do people use silencers for murder and robbery, or simply carry them when they buy drugs?

### Methods

#### Data Source

Lexis and Westlaw databases were used because they permit complete text searching of cases. However, these databases do not include every federal court case. There are about 75,000 federal criminal prosecutions in the United States each year (see Table 1), and only about 25

**Table 1. Federal Criminal Prosecutions**

Year	Total criminal cases	Criminal defendants	Firearm prosecutions	Firearm defendants
2000	62,745	83,963	5,387	6,223
2001	62,708	83,252	5,845	—
2002	67,000	88,354	7,382	—
2003	70,642	92,714	9,075	—
2004	71,022	93,349	9,352	10,481
2005	69,575	92,226	9,207	—

*Source* : Administrative Office of US Courts - year end reports  
<<http://www.ojp.usdoj.gov/bjs/>>.

percent are reported by Lexis and Westlaw. Both Lexis and Westlaw have informed the author that they do not know exactly what percentage of total cases is reported. However, a simple Westlaw search for criminal cases indicated Lexis and Westlaw report about 15,000 criminal sentences or appeals each year.<sup>10</sup> In other words, the ten-year span of court case data used for this study conservatively contains 150,000 federal criminal prosecutions.<sup>11</sup>

Another way to estimate the extent to which the Lexis database covers the “universe” of court cases is to use criminal filings, or indictments. The Lexis database for criminal filings appears to be complete. Looking solely at cases involving silencers, Lexis lists 65 federal criminal filings over the last two years, suggesting that the 15 cases a year reported in the Lexis cases database account for about half of all prosecutions. Some people charged will never go to trial, but the number of criminal filings confirms that there are relatively few silencer prosecutions.

Because many offenses do not result in court cases, the data do not include all offenses committed during that time. Also, between commission of the crime and final disposition of the case it may be two or three years, so offenses that occurred towards the end of the ten-year period, even if they resulted in a court case, might not be included in the data.

*Decision Rules for Including Cases*

The search parameters included all federal cases reported by Lexis or Westlaw in which the word “silencer” appears in the opinion between January 1, 1995 and January 1, 2005. This search included all court cases (convictions or acquittals) over these ten years. The fewer than 100 cases per year which the search turned up were examined to see in which of those cases possession of a silencer was actually an issue. Every federal prosecution

in which there was a credible accusation of silencer use was included in the database. As shown in Table 2, this database includes 136 convictions for silencer possession, eight enhanced sentences for silencer possession, two cases in which possession a silencer was initially charged but the charge was dropped on a plea bargain, and seven cases in which a silencer was found during an illegal search and the charges were dismissed. In addition to these 153 cases there also were seven cases in which a defendant was accused by a witness of having a silencer, but the allegation did not result in any enhanced sentence or charge. There were also seven reported cases of defendants who were acquitted of possession of a silencer.

Since a conviction must prove possession or use of a silencer beyond a reasonable doubt, the vast majority of the cases are quite certain. Until recently, aggravating factors which were not charged but could result in an enhanced sentence did not need to be proved beyond a reasonable doubt but only by a preponderance of the evidence. In other words, the defendant received a sentence enhancement rather than a conviction because the possession of the silencer could not be proved beyond a reasonable doubt. Although the eight enhanced sentences are thus not quite as certain, they have also been included in the data as the existence of the silencer is more likely than not. The number of such cases is fairly small and their inclusion does not significantly alter the overall findings of this study. Of the eight enhanced sentences only one involves a serious crime (extortion), and three of the eight offenders had prior records. The two cases of plea bargaining in which the silencer charge was dropped were included because again it seems more likely than not that a silencer was actually present. In any case, there were only two instances and both involved minor drug trafficking offences.

When there is testimony to the existence of a silencer but insufficient evidence even to allow an increased sentence for an aggravating factor, such cases were not included in the data. Because possession of a silencer was not used by the court in sentencing as an aggravating

**Table 2. Federal Silencer Cases Reported Lexis/Westlaw 1995-2005**

Convictions for silencer possession	136
Enhanced sentence for silencer possession	8
Silencer charge dropped on plea	2
Evidence excluded to due to illegal search	7
Defendant acquitted	7
Allegation of silencer but no charge or enhancement	7
<b>Total</b>	<b>167</b>

factor, the judge must not have believed a silencer was actually possessed. Even though there are relatively few such cases, those few cases include one armed robbery, one assault, two racketeering, and a gang style murder. Because there are so few serious crimes in the database, inclusion of this handful of crimes would alter the final data with respect to serious crimes. Murder with a silencer is so rare that if the doubtful murder case were included it would increase the number of homicides committed with a silencer by 50 percent, from two to three reported cases in ten years. In the discussion of statistical use of silencers which follows, cases where there is only an unsubstantiated allegation of silencer use have not been included.

### Results

The Lexis/Westlaw database contains 153 cases over the past ten years in which the evidence suggests a silencer was used for a criminal purpose — including unlawful possession of a silencer where no other crime was committed. That gives an average of about 15 reported cases each year, and assuming this represents close to half of all prosecutions, one can assume 30-40 total cases per year. This is out of 75-80,000 federal criminal prosecutions each year. Overall numbers certainly suggest that silencers are a very minor law enforcement problem.

Moving from the overall numbers and looking at more specific offences, it appears that use of silencers in truly violent crime is even more rare. Thirty-six of the 153 defendants (23%) had prior criminal records, although many were for relatively minor offenses. For 17 of those the prior offense was not listed. The 19 whose prior records were listed broke down as follows (if there was

more than one prior then the most serious prior conviction is listed): 4 drug trafficking, 3 misdemeanors (disorderly conduct, domestic violence, possession of marijuana), 2 felony possession of drugs (but not trafficking), 2 assault, 1 murder, 1 arson, 1 rape, 1 burglary, 1 attempted grand larceny, 1 DWI, 1 carrying concealed weapon, 1 (previous) possession of silencer. So even for the 23 percent of defendants with a prior record, almost half of them (8 out of 19 reported) had fairly trivial, non-violent prior crimes (see Table 3).

There were 20 cases (13%) in which possession of silencer was the only charge (state or federal). These would not be subject to the 30-year enhanced sentence. Thirty-seven cases (24%) included other illegal weapons charges (such as possession of “short barrel” rifle, or an automatic weapon), but by a person who had no criminal record and no apparent intention to use the weapons for a violent purpose. Not surprisingly, many people who manufacture silencers also manufacture other firearms, which is illegal without a permit.

There were 50 cases (32%) in which silencers were found during drug raids, and in which drug trafficking was the most serious charge. Almost without exception the silencer was simply found on the premises when the residence was searched for drugs. In these 50 cases there is no evidence that the silencer found during the drug raid was ever used to injure anyone.

In 32 cases (21%) some crime other than drug trafficking was charged: 7 RICO or Continuing Criminal Enterprise, 6 robbery, 5 illegal sale of weapons, 4 murder, 2 attempted murder, 2 conspiracy to murder, 2 extortion, 1 sexual assault (state crime), 1 bank robbery, 1 assault and 1 burglary (state crime).

If we include sale of weapons in the victimless category (along with possession of illegal weapons, drug trafficking, and mere non-violent possession of weapons by a felon), then more than 80 percent of federal silencer charges are for non-violent, victimless crimes. If we consider all those convicted of RICO, CCE, extortion, robbery and conspiracy as “professional” criminals, these still represent less than 20 percent of defendants prosecuted.

In 14 cases of 160 silencer prosecutions (about 9%) the defendant was acquitted of all charges (7 cases) or the case was dismissed due to illegal search (7 cases). It should also be noted that there were 3 other acquittals in which the defendant was acquitted of use of a silencer during a crime but convicted of simple possession of an unregistered silencer.

The guns found with silencers were overwhelmingly small caliber, low power semi-automatic pistols. Of the

**Table 3. Criminal Record for Federal Silencer Defendants**

n = 19\*

<u>Most serious prior offense</u>	<u>Percentage</u>
Drug trafficking or possession	32 %
Misdemeanor	16
Assault	11
Burglary/larceny	11
Weapons charge	11
Drunk driving	5
Murder	5
Arson	5
Rape	5

\* Prior offense was given for only 19 of 36 defendants with prior records.

reported cases, 46 listed the caliber of the firearm associated with the silencer. For those cases in which caliber is noted, 52 percent were .22, 32 percent were 9mm (.354 caliber), 10 percent were .38, 2 percent were .25 caliber, 2 percent were .45 caliber, and 2 percent were either 9mm or .22.<sup>12</sup> So of the 46 cases with listed calibers we have only one large caliber handgun—the .45. While a 9 mm could make up for its small caliber by using a higher-velocity bullet, a silenced 9mm would need to fire a subsonic round and thus would not be as deadly as a non-silenced 9mm.

*Use or Discharge of Guns to which a Silencer is Attached*

There are very few cases of the actual use of a silencer in a crime, that is, a firearm is discharged with a silencer attached. Of the federal court cases reported in the Lexis/Westlaw database between 1995 and 2005, there are only two cases of a silencer being used in a murder in the United States. One was a case of an armed robbery of a postal truck in which the driver was shot (*U.S. v. Gallego*, 191 F.3d 156 (2d Cir. 1999)). In the other case, best described as a gang style “hit,” one of the partners in the gang was murdered with a silenced firearm in 2000 (*U. S. v. Williams*, 372 F.3d 96 (2d Cir. 2004)). There is one case of attempted murder with a silencer found in the federal courts involving two servicemen in Germany (*U.S. v. Roeseler*, 55 M.J. 286 (2001)). It is difficult to know whether to count this case in the statistics since it occurred in Germany, but it has been included with the 153 cases in this study. In one other military case, the defendant used a silencer to shoot out his ex-girlfriend’s window and was tried for assault. Oddly, under military law they were not charged with silencer use, and apparently could not be charged under U.S.C. 924(c). The shooting the window incident does look like a case where the fact that the weapon was silenced may have made discharge more likely. One suspects that if he had not had a silencer on the gun he probably would have just thrown a rock through the window.

In addition to the four cases in which a silenced firearm was actually fired, there are eight more cases in which a silencer was actively used during commission of a crime but not used to physically injure anyone. In six cases offenders had silencers attached to their guns during armed robberies, but the firearm was never discharged. Westlaw reports more than 2,000 prosecutions for robbery on the federal level during the period covered by this study, so these six cases represent less than 0.3 percent. There was also one other attempted murder and one case

of poaching in which a silencer was actively used during a crime.

To summarize, for the federal silencer prosecutions there is an injury rate of 2 percent (even counting the attempted murder that occurred in Germany), and an active employment rate of less than 8 percent (12 cases). In more than 92 percent of cases the silencer involved in the prosecution was not actively used in any way, but was simply found in the possession of the defendant.

If we compare these figures to all federal firearm prosecutions, we find that ordinary firearms are far more likely to be actively employed, as well as used to injure a victim. For comparison purposes a survey of federal firearm prosecutions was run using the Westlaw database. This survey found that for a random sample of federal firearm prosecutions, 7 percent involved actual injury to a victim, while another 17 percent involved active use of the firearm (for example, brandishing a firearm during robbery), while 76 percent of federal firearm prosecutions involved no use.<sup>13</sup> This survey also found that 33 percent of people prosecuted for firearm possession had previously been convicted of a felony, while another 9 percent were otherwise prohibited from possessing a firearm (such as because they were subject to a restraining order). A survey limited to the Ninth Circuit had virtually identical results, with 34 percent prior felony conviction and 7 percent prohibited from possessing a firearm for some other reason. This 42 percent rate of prior conviction compares with only a 23 percent rate of prior conviction for silencer prosecutions (see Table 4).

Comparing the silencer conviction data with ordinary firearm conviction data shows that guns “equipped with a silencer” are only one-third as likely to be used to kill or injure, one-half as likely to be actively employed, and one-half as likely to be used by someone with a prior record. Guns equipped with a silencer, rather than being more dangerous and more likely to be used by professional criminals or repeat offenders, are far less dangerous and less likely to be employed by professional criminals.

**Table 4. Use of Silenced and Non-Silenced Firearms in Federal Prosecutions**

	All firearms (n = 300)	Silenced firearm (n = 153)*
Discharged	7 %	2 %
Actively employed	24	8
Defendant had prior record	42	23

\* Represents all cases within ten-year period of 1995 to 2004.



*Comparisons with California State Cases*

The vast majority of murder (and other violent crime) is prosecuted locally. Murder is not generally prosecuted on the federal level unless there is some special circumstance, such as that the victim was a federal employee, or the murder was economically motivated or part of organized crime. While only a small percentage of violent crime is prosecuted federally, in 1997 there were more than 3,000 homicides prosecuted in federal court, and that number has been increasing in recent years (American Bar Association, 1998:89). In the ten-year period of this study, there were approximately 40,000 homicides prosecuted in federal court and considerably fewer than .01 percent involved a silencer.

Still, federal data may not be representative and therefore it is worth examining data from state prosecutions. The state chosen is California, because it is a large and diverse state (and thus will provide a fairly large sample). Unfortunately, a far smaller percentage of state cases are reported than federal. Westlaw reports about 6,500 criminal cases per year in California courts. The number of California criminal cases reported is fairly small because a large number of criminal cases plead guilty in the California system—only 3 percent of criminal charges result in jury trials (Judicial Council of California, 2004:47). Some defendants who plead guilty can also appeal their sentence. Most convictions are appealed, and the vast majority has written opinions.<sup>14</sup> More serious crimes (such as homicide) are both contested and appealed far more often than minor crimes (such as possession of an illegal weapon). Westlaw reported about 1,700 murder or homicide prosecutions (on appeal) in California courts for the five years from 2000 to 2004. California prosecutes about 1,200 homicides each year (Morgan and Morgan, 2005: 26) so for five years data are available for 1,700 out of 6,000 cases (or 28%). The California data are skewed towards more serious crimes, and we would be unlikely to see many of the less serious crimes often reported in federal courts. Nevertheless, there are a fairly large number of serious crimes such as murder, rape and so forth. Despite the handicap of minor weapons charges being under-reported, the California cases confirm the data from the federal courts.

Unlike the federal system, California has no additional mandatory minimum for commission of a crime using a silencer, but possession of a silencer is a felony in California (Cal Pen Code § 12520 (2005)) carrying a normal penalty of a year or two in prison. Possession of a firearm or silencer by a felon is also a crime and it is presumed that if the defendant were a felon he would

have been so charged.

The California data were gathered just like the federal data. Lexis and Westlaw databases were used to identify available cases of prosecution involving silencers. One major difference between the state and federal datasets is that this part of the study will only look at California data going back five years, rather than the ten years as for the federal data. The reason for this is that the California data prior to 2000 are very sparse. Because there are so few cases reported prior to 2000 it makes little sense to include them in the data. The search, looking for the word “silencer” in the text of opinions, resulted in 18 cases in five years (out of a total reported caseload of about 25,000 criminal cases).

As expected, the state charges tend to be more serious than the federal ones, but there are a number of similarities. Only 4 of the 18 defendants (22%) apparently had prior records. This is almost identical to the 23 percent found to have criminal records in the federal courts. Only 4 or 5 defendants (22%-28%) actually used the silencer to commit a crime. While 9 of the 18 defendants committed serious crimes, the other half committed what can be characterized as “victimless crimes” involving drug or weapon possession. While this is a higher rate of non-victimless crime than found in federal prosecutions, it is explained by the fact that minor crimes are less often reported in the state system. In fact, if we look at reported cases of California prosecutions involving any type of firearm, only 12 percent of those cases were limited to victimless crimes (this is examined below in greater detail).

There are three cases in which a silencer was actually used in a murder, one more murder for which a silencer might have been used, and one attempted murder using a silencer (plus two more cases in which a murderer was found in possession of a silencer but it had not been used in the crime). Out of 1,700 recorded homicide prosecutions in California over the last five years, there were only three or four which involved silencers; and since the data include only about a quarter of reported homicide prosecutions, we can assume about three prosecutions per year for murder using a silencer in California.<sup>15</sup> This is higher than the rate found in federal prosecutions, but still it is an almost insignificant number: 3.5 out of some 1,700 murder prosecutions (0.2%). Out of 5,000 to 6,000 reported felony cases in California each year fewer than four involve silencers.

There is one case of armed robbery using a silencer. Armed robbery is a serious enough crime that it is frequently reported in the California cases—there are more than 1,000 reported cases of armed robbery involving

firearms from 2000 to 2005. Use of a silencer in armed robbery appears to be extremely rare, constituting fewer than 0.1 percent of reported cases involving firearms. Because the number of armed robberies involving silencers is so small, it is not possible to tell whether there could be a higher rate of actual discharge of firearms equipped with silencers. There is no evidence that guns equipped with silencers are more likely to be fired during armed robberies.

As with the federal data, a survey of state prosecutions involving firearms was done to compare with silencer crimes. A Westlaw search was done for 200 California prosecutions involving firearms.<sup>16</sup> Thirty-one percent involved murder or manslaughter; 32 percent involved attempted murder, assault or kidnapping; 16 percent involved armed robbery; and 10 percent involved different types of threats, such as threatening witnesses or reckless endangerment. Only 13 percent of California cases involve what would be called victimless crimes, such as narcotics violations, or possession of a firearm by a felon. This 13 percent victimless crime rate for ordinary firearms corresponds to a 49 percent victimless crime rate for those convicted of silencer possession in California courts.

In 55 percent of firearm cases the firearm was actually fired, in 26 percent more the firearm was actively used to threaten a victim, while in 19 percent of the cases the firearm was not used at all. With silencer prosecutions in 13 or 14 of the 18 prosecutions (72% or 78%) the silencer was not used in any way during the crime. Finally, 22 percent of defendants in silencer prosecutions had a criminal record, while 49 percent of those prosecuted in California for crimes involving ordinary unsilenced firearms had a criminal record (see Table 5).

This confirms that silencer use in crime looks to be extremely rare, and strongly suggests that there is no correlation between use of a silencer and gravity of the offense.<sup>17</sup>

## Conclusions and Recommendations

The above numbers suggest several important conclusions. First, use of silencers in crime is rare. Even when silencers are possessed they are even less frequently used. Silencer use is *not* primarily connected to organized crime. There were a few such cases, but in general, use of silencers appears to be a poor proxy for organized crime. Silencers probably are more threatening to their victims on a psychological level when used in crimes such as armed robbery. There is no evidence to suggest that criminals who possess silencers are more likely to be violent. For example, in the 50 cases of silencers found in drug raids, none of the defendants used a silencer to shoot at police, and in only a few of these cases was there any resistance at all.

Whether silencers should be illegal at all is a good question. While most of the federal cases examined here came from states where silencers are illegal (New York, Illinois, California), those also seem to be states where there is high crime. The number of silencer cases is not high enough to really determine if states where silencers are legal make their use in crime more likely. There is no real evidence that it does, but given the paucity of solid evidence all one is left with is a judgement about the comparative danger versus potential risk. The risk looks small, but the benefits appear fairly small too (given that there are readily available alternatives like air pistols or crossbows). One might conclude that if silencers were more common their use in crime would also increase, but there is no real way to tell.

A more telling criticism of laws against silencers is the ease with which they are avoided. Since one can effectively muffle a firearm by doing nothing more than wrapping it in a towel it is unlikely that laws banning professionally manufactured (or home-made) silencers are likely to have any real effect on crime. In one case, for example, the murderer used a towel as “a make-shift silencer” and yet because it was only a towel this was not an additional crime (*People v. Garcia*, 2006 WL 3307392, \*7 (Cal. Ct. App.)). True professionals, who know what the penalties are and who know how to muffle a firearm with improvised devices, can avoid the penalty quite easily. The laws are more likely to ensnare kids and hobbyists (or just common, dumb criminals) rather than professional killers. This suggests that laws banning silencers or even draconian sentencing enhancements are unlikely to have any effect on crime. Either the criminal will not know about it, or if he does he will simply use a pillow to avoid the risk of punishment.

With respect to lengthy mandatory sentences, there

**Table 5. Use of Silenced and Non-Silenced Firearms in California Prosecutions**

	All firearms (n = 200)	Silenced firearm (n = 18)*
Discharged	55 %	25 %
Actively employed (but not fired)	26	0
Used for violent crime	88	50
Used in victimless crime	13	50
Defendant had prior record	49	22

\* Represents all cases within five-year period of 2000 to 2004.

appears to be no justification at all for a 30-year minimum. There is no evidence that attaching a silencer to gun makes its discharge more likely. There are so few cases of silencers being used in armed robberies that one cannot conclude anything from that type of situation; however, it does appear overall that for federal prosecutions involving silenced versus non-silenced weapons, it is non-silenced weapons that appear proportionally more likely to be used. The only harm that seems to result from possession of a silencer is that the victim will likely feel more threatened when a silenced weapon is brandished in a robbery or kidnapping. That may be a reason for a slightly increased sentence. Addition of a year or two to a sentence for possession of a silencer during a serious crime (which is basically what California does) seems reasonable. Yet a 30-year sentence enhancement makes no sense at all. It makes no sense to treat a person who had a silenced .22 rimfire which is never brandished, much less fired, as more dangerous than a person with a .44 magnum or a shotgun which is fired and is used to injure a victim. Judges often try to find ways around invoking such harsh sentences, but the risk is that people guilty of very minor crimes may end up with draconian sentences. There is also a real danger of entrapment. There are many cases in which federal agents or informers ask a drug dealer to get them a silencer (and one case in which a defendant was framed when police planted a homemade silencer, *U.S. v. Epley*, 52 F.3d 571 (6th Cir. 1995)). This allows federal agents to manufacture extremely lengthy sentences for otherwise minor offenses.

A far better system would be to allow judges to add an enhanced penalty if the defendant is found to be a professional criminal. Possession or use of a silencer would be a factor which could be used to determine this. This sort of system would allow judges to target the professional criminals or “hit men” against whom the law is theoretically targeted.

## Endnotes

1. “Crime of violence” as defined by 18 U.S.C. § 3156 is fairly broad and includes any crime which involves a substantial risk of physical force against persons or property.

2. Until 2005 the sentencing guidelines were mandatory. In *Booker v. United States* (2005) the Supreme Court declared that the guidelines were advisory only. This does not affect the 30-year mandatory minimum for use of a silencer in a crime, but it does allow federal courts discretion to sentence those possessing a silencer

without a permit to any sentence less than the maximum ten-year penalty.

3. For reference, here is the noise level (in decibels) of different kinds of guns: capgun (156), balloon pop (157), fireworks (162), rifle (163), handgun (166), and shotgun (170).

4. The authors conclude that a gunshot wound is approximately three times as deadly as a knife wound, but knives are used to kill or injure the victim in armed robberies three times as often as a gun. Hence the authors conclude that if knives were substituted for guns in armed robberies the result could be far more injuries and probably about the same number of deaths. In other words, for twenty armed robberies with a knife and twenty with a gun, we might see two people shot and six people stabbed. The shootings result in one killed and one wounded; the stabbing result in one person killed and five wounded. Other authors have found that the rate of death from knife wounds may be less than 33 percent of gun wounds. Zimring (1968) found that the rate of fatal injury with knives is anywhere from 20 percent to 40 percent of a gun depending on how one uses the statistics.

5. One judge has declared that no one “needs a silencer.” *U.S. v. Hall*, 171 F.3d 1133, 1555 (8th Cir. 1999) (Panner J., concurring). The world is full of unnecessary (but generally harmless) objects. The only reasonable question to ask is whether the benefits of the private ownership outweigh the dangers.

6. The 1986 bill was the “Firearm Owners Protections Act”; the 1988 bill was the Anti-Drug Abuse Act of 1988. The 1988 bill was more than 200 pages, and the increase from 20 years to 30 years for crimes committed with an automatic weapon or silencer was just one tiny part of this large bill; I have been unable to find any mention of silencers in the debates and reports on the Anti-Drug Abuse Act (P.L. 100-690).

7. The Bureau of Alcohol, Tobacco and Firearms was also contacted for this paper and informed the author that they kept no statistics on silencer use. E-mail on file with author.

8. To summarize their basic findings: enhanced penalties for use of firearms in crime were first adopted by the federal government in 1968 and were subsequently adopted in most states in the decade which followed, yet the rate of firearm use in crime is higher today than it was

in the late '60s. The authors also looked at a state-by-state basis and concluded that the same trend is true in almost every state that has adopted such enhanced penalties.

9. Persons prohibited from possessing a firearm under this section include (1) felons (2) fugitives from justice; (3) unlawful users of, or addicts to, any controlled substance (4) mental defectives (5) illegal aliens (6) dishonorably discharged veterans (7) renounced citizenship; (8) subject to a restraining order (9) misdemeanor convicts of domestic violence.

10. Federal Courts of Appeals heard about 60,000 appeals in 2004. Westlaw lists 24,000 cases reported. Written opinions of the federal courts of appeals are reported in Lexis and Westlaw, but some appeals are resolved in summary proceedings without a written opinion.

11. I have run similar searches for other years including a more narrow search for conviction for use of a weapon during crime. For example, we know that in 1997 there were 1830 defendants charged and 1305 defendants were convicted of possession of a firearm in commission of a crime under 18 U.S.C. § 924(c). Data from Administrative Office of the United States Courts (American Bar Association, 1998:87). I then ran a Lexis search for cases charging a violation of 18 U.S.C. 924(c) in 1997 and turned up 945 cases on both the district and appeals level. That number is somewhat inflated since there can be multiple appeals, but this suggests about 50 percent reported. To see if it would vary much from year to year of the study I ran the same search for 2004 and found 1065 cases, or about 10 percent more.

12. In the one case of "either 9mm or .22" we are told that there was a 9mm and a .22 one of which had a silencer attached but it is not clear which.

13. This search took the first 100 cases that turned up in Westlaw under "firearm" and involved 100 prosecutions involving firearms between July 5 and July 14, 2005. I then ran two longer term circuit specific cases, pulling the last 100 cases officially reported in both the Second and Ninth Circuits. These results were quite similar with respect to injury rates, though they found a fairly large difference in use rates. The Ninth Circuit cases found an 8 percent injury rate (6 murders and 2 assaults, plus one case of discharge into a building which did not result in injury), and an additional 29 percent rate

of active employment. The Survey of the Second Circuit yielded identical injury rates (8%) with six murders, one attempted murder and one assault with a firearm.

14. In 2004 there were 5,800 criminal felony convictions, *Court Statistics* at 47.1, 6500 appeals filed (since a case may have more than one appeal), *id.* at 28, and 5500 written opinions. All appear to be reported in Westlaw. All California prosecutions are entitled "People v. \*" so I ran a Westlaw search for California cases entitled "People v." This resulted in 6605 cases for 2005, 6236 for 2004, 6670 for 2003, 6446 for 2002.

15. This is counting the three definite, plus the one possible, as 3.5 multiplied by 4 (assuming a 25 percent reporting rate), or 14 in five years.

16. For comparison with the silencer prosecution data I compared 200 randomly selected prosecutions in California courts -- basically the first 100 prosecutions involving firearms reported by Westlaw for 2003 and for 2005. The statistics from 2003 and from 2005 were virtually identical, though the statistics cited are using all 200 cases.

17. It could be argued that if a gunshot is quiet that it will be less likely to be heard, and a crime will be less likely to be reported. However, if the silencer is used in a robbery or assault then the victim will be able to tell the police that a silencer was used. Even in murder cases with no witness, ballistics will normally be able to tell if a silencer was used. In *People v. Ewell* (Cal. Ct. App. 2004) the court explained :

Unusual scratches on the bearing surfaces of the six bullets recovered from the crime scene and autopsies led Allen Boudreau, a firearms expert, to determine that all six bullets were fired by the same weapon, that the weapon had a ported barrel (a barrel in which holes had been drilled), and that a homemade sound suppressor (silencer) was used. . . . He concluded that tennis ball particles, such as those found on Glee's clothing and in the piece of carpet which had been under Glee's body, would have been ejected had a bullet been fired through a sound suppressor made with tennis balls; and that steel wool particles, again such as those found on Glee's clothing, would also have been ejected from a homemade sound suppressor.

Police detectives from Chicago police department also have assured this author that unless the bullet passed through the victim and could not be recovered, ballistics reports would normally be able to tell of the bullet had gone through a silencer. The two individuals are Rudy Nimocks and James Malloy, interviewed March 17, 2005. They stated also that in their fifty years of detective work they could only recall one case in which a silencer might have been used to commit a crime. Thus it seems very unlikely that there is a lot of silencer use in crime which is simply undetected.

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## Book Review of *Road to Whatever: Middle-Class Culture and the Crisis of Adolescence*

Mike Males

Center on Juvenile and Criminal Justice and [www.YouthFacts.org](http://www.YouthFacts.org)

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### ***Road to Whatever: Middle-Class Culture and the Crisis of Adolescence***

By Elliott Currie

2005. New York, NY: Metropolitan Books,  
Henry Holt & Company.  
ISBN: 13:978-0-8050-6763-7.

University of California, Irvine, criminologist Elliott Currie is the latest author to proclaim suburban, middle-class adolescents in crisis. Currie, author of *Whitewashing Race: The Myth of a Color-Blind Society* and *Crime and Punishment in America*, blames post-Reagan America's "new Darwinism," "culture of negligence and exclusion," and punishing attitudes for middle-class teens' "widespread alienation, desperation, and violence."

Currie's book fits into historical fears of the corruption of middle-class youth, from G. Stanley Hall's classic 1900-era anthro-psychologies to the 1950s intense scrutiny of white-teen delinquency (trumpeted in a cascade of books, films, and government investigations such as the Kefauver Committee's), the Sixties' fascination with inexplicably demented privileged white wastoids, and the 1980s' "River's Edge" panics over murderous suburban kids. Currie details his profiles of young people from classes and drug treatment centers, chosen because they were troubled by addictions, homelessness, crime, and self-destructive behaviors during their teen years. Their stories of suffering and danger after being cast out of their families, schools, and treatment institutions are poignant and often incisive.

But unlike similar books that treat grownups as victims of troubled teens or heroes rescuing them, Currie relentlessly lambastes modern adults—parents, school personnel, counselors, treatment staff—for perpetrating "the new middle class...harshness and heedlessness" that "is quick to punish and slow to help." Modern Americans refuse "to acknowledge how often and how badly middle-class adolescents are failed or endangered by their families," rule-crazed public schools function as "instruments for sorting and categorizing" rather than "building the competence and intellectual capacities of all their students," and blame-fixing therapeutic regimes

are mired in "a worldview so deeply ideological as to be disconnected from elementary reality."

Currie argues with good documentation that institutions charged with treatment and/or punishment of wayward youth more often "generate new, and frequently worse, problems." While youths' troubles stemmed from severe rejection, self-blaming, caring for themselves at young ages, and cruel deprivations of street life, professionals viewed them with "the conventional wisdom... that their charges had had it too easy and, accordingly, had never had to accept limits or take responsibility." Adults' "ideologically grounded regime of punishment" exacerbated troubled youths' alienation, but when youths (often through luck or their own unaided efforts) found rare programs or schools willing to tolerate and help them, they straightened out remarkably.

Currie builds on the sagas of troubled youth to indict post-Reagan America's "shoulder-shrugging individualism that excused most adults, and indeed society as a whole, from what we normally think of as adult responsibilities for nurture and support." Unlike many progressive thinkers, Currie doesn't blame some "system" for today's "peculiarly harsh and irresponsible culture;" after all, modern American adults created this system to serve our interests, indifferent to its damage to young people. The remedies he proposes begin with fundamental changes in Americans' attitudes toward community responsibility.

Currie's last five chapters are convincing and often eloquent, far more grounded and responsible than "troubled teen" works written by self-congratulating therapists and self-absolving parents. The problem with *Road to Whatever*—and it is serious—lies in its introduction and first chapter. Currie launches an otherwise compelling work with a barrage of dire misinformation about middle-class teens that profoundly misidentifies the "crisis" and allows adults off the hook Currie later seeks to hang them on.

Though claiming "disturbing...statistics back up" his impressions that "white youth are now the group at *highest* risk of some of the most troublesome and deadly of adolescent ills," Currie produces just about none. Indeed, general measures show the opposite. In Currie's state, California, statistics indicate white, middle-class ado-

lescents have never been safer or healthier than they are today. While high poverty rates, afflicting mostly black and Latino youth continue to accompany excessive levels of arrest, gun violence, HIV infection, school failure, and other ills, white teens are safer from nearly every serious risk than the white grownups who endlessly fret over them.

The plunge in white teens' per-capita delinquency rates over the last three decades, through the latest (2004) available figures, is astounding: felonies (down 65%), homicide (down 77%), rape (down 58%), violent crime (down 16%), drugs (down 46%), property offenses (down 74%), and misdemeanors (down 42%). California also recorded spectacular drops in white youths' rates of violent death (down 54%), suicide (down 52%), drug overdose (down 67%), murder (down 31%), traffic fatalities (down 50%), drunken driving deaths (down 60%), firearms death (down 47%), and births to teen mothers (down 48%).

National trends are similar. Record numbers of white high schoolers are graduating, enrolling in college, and volunteering for community work. Only 3 percent told Monitoring the Future they're "very dissatisfied" with themselves. Record low numbers report delinquency, violent victimization, and injury in or outside school. These are not the statistics of a generation afflicted with "widespread alienation, desperation, and violence." From the best available information, white youth are among the least troubled segments of society.

Where Currie goes most wrong (and he's hardly alone) is using adolescents as a metaphor for what he justifiably dislikes about modern America. Currie argues past youth generations were safer under "the moral vision that prevailed in much of middle-class America in the 1950s and 1960s," including its "basic notions of collective responsibility." Yet, if there ever was a white-youth crisis, it erupted during the late 1960s and early 1970s, with peaks in violent deaths, suicides and self-destructive demise, random violence, arrests, drug overdose, and other crises of the kind Currie mistakenly attributes to today's young. Alienated, murderous, drug-wasted middle-class white kids? Remember the Manson Family?

Currie's comparison of today's teenage drug risks to those of their parents growing up 30-40 years ago is extraordinarily off-base. "I never saw any heroin during my entire adolescence, nor, as far as I know, did any of my friends... We had never heard of crystal methamphetamine," he writes. "...Today, for adolescents in virtually every community in the United States the drug scene has changed so dramatically that it is as if we were talking about another planet... nearly every drug you can think of is available to (teens) with disturbing ease," with "far

more...opportunities for American adolescents to do something seriously risky... than there used to be."

Why, then, is white teens' manifest drug abuse, especially overdose, so dramatically rarer today? In 1970, four times more California white teenagers died from drugs, including *10 times* more from heroin, than in the latest years reported (2002 and 2003). Instead of examining readily available risk statistics, Currie compares a few severely troubled modern teens to bucolic memories of his middle-class childhood—a lapse common to other youth-panic books such as Mary Bray Pipher's *Reviving Ophelia* and Meredith Maran's *Dirty: Inside the Teenage Drug Epidemic*.

In fact, today's readily documentable "crisis," the real one Currie's book convincingly chronicles, is widespread malaise among middle-class *grownups*. Virtually all the parents of the troubled youths Currie profiles suffered severe behavior problems of their own, including rampant addiction, depression, suicide attempts, violence, and family instability—an aging Baby-Boomer crisis that statistics do back up. Among white, middle-aged Californians, rates of drug abuse death rose 250 percent, violence arrest increased 140 percent, and imprisonment leaped 700 percent since the 1970s. Felony trends are simply unbelievable: in 1977 (the first year the Criminal Justice Statistics Center compiled complete statistics), 54,000 white youths aged 10-17 and 27,000 white grownups aged 30-69 were arrested for felonies; in 2004, 15,000 white youth and 98,000 white middle-agers. Failure to acknowledge America's burgeoning midlife crisis is one of social scientists' most striking failures and a source of displaced hostility toward youth.

This pattern recurs in one of the few statistics Currie mentions. Federal Drug Abuse Warning Network figures for hospital emergency cases, he claims, show "adolescent drug abuse took a sharp upward turn in the 1990s, and the rise was sharpest for some of the drugs white and middle-class youth were most likely to abuse." Not so. DAWN tabulations actually show teens were the only age that *didn't* show increased drug abuse during the 1990s, either in hospital treatments or deaths. In contrast, *every* adult age group suffered *dramatic* drug abuse increases, led by a 230 percent jump among ages 35-54 (the parents again). This is especially true for deadliest drugs: cocaine, heroin, methamphetamine, and alcohol mixed with drugs.

The issue of which generation is in crisis is not academic. As Currie documents, being labeled "the problem" in modern America is stigmatizing, inviting punishment and abandonment, not caring and help. His "youth crisis" theme prevents an otherwise insightful work from asking

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a vital question: if adults' behaviors, attitudes, and treatment of youth sharply deteriorated in recent decades (as I agree with Currie that they did), how do we explain the dramatic *improvements* in teen behaviors?

Perhaps harsh interventions do make youth act better, though a host of studies find popular cure-alls (curfews, zero-tolerance school policies, get-tough therapies, boot camps, prison-happy policing) ineffective. There is little evidence to support the idea that adults, including professionals, can grab credit for teens becoming less criminal, dangerous, and endangered today. It seems more likely that, just as Currie's most troubled teens turned their lives around, perhaps less troubled ones are evolving ways to learn from and compensate for, rather than repeat, the mistakes of their elders. Start *Whatever* with Chapter 2, and Currie's written a compelling book worthy of scholarly and classroom use.

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