

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

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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.

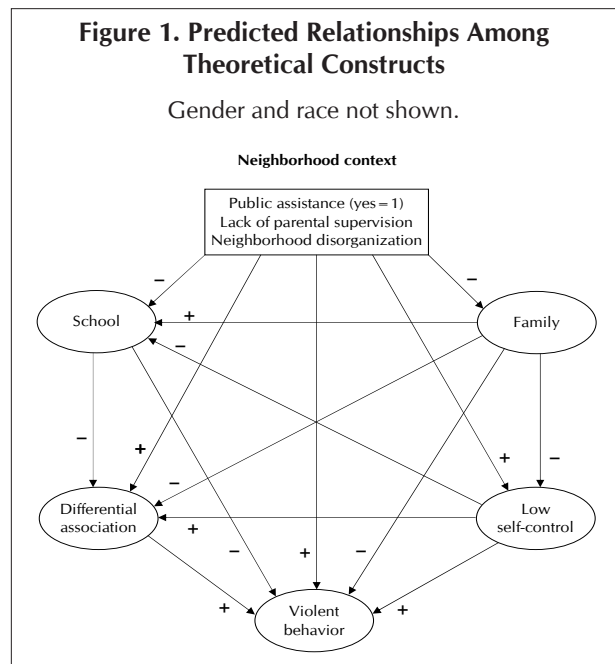
Differential Association. Differential association was a three-item measurement model ($\alpha = .59$) asking respondents how much they agreed or disagreed (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree) with “Getting into trouble in my group is a way of gaining respect” (V29), “The 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



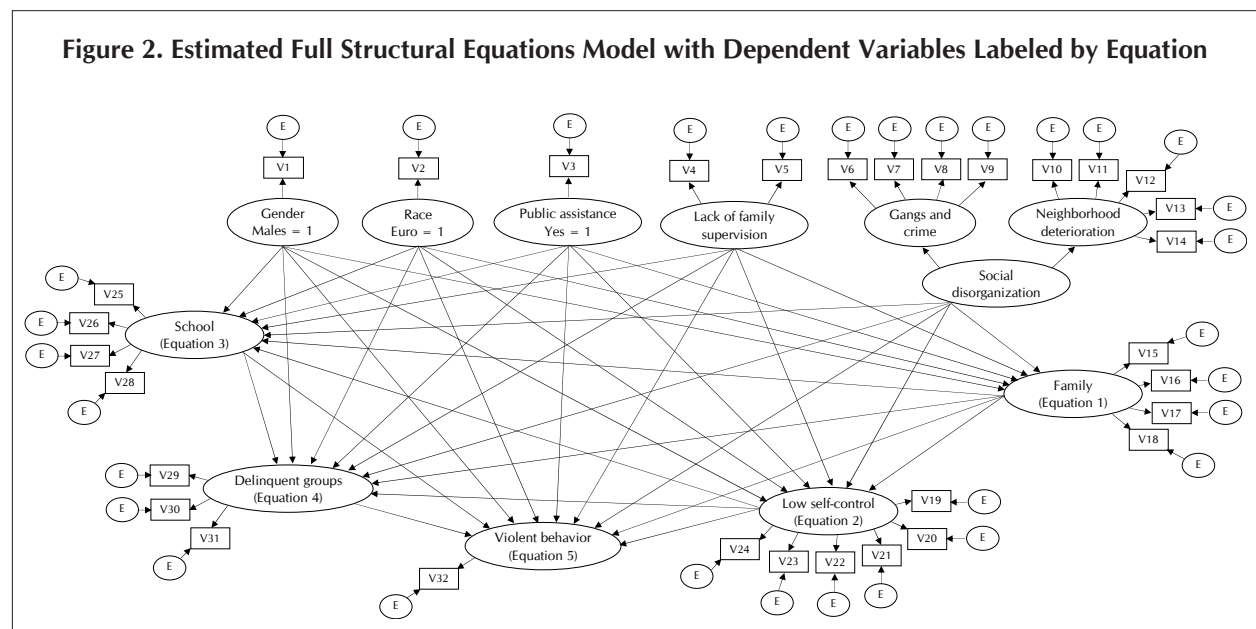
public assistance should correlate with neighborhood disorganization. Thus, to the extent that race and public assistance correlate with neighborhood disorganization, some external validity is provided to those measures of social disorganization. In each of the equations, gender and race are controlled 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 χ^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



a large sample, obtaining a nonsignificant χ^2 would entail collapsing the measures into indices, thereby reducing the χ^2 and degrees of freedom. It would probably further entail allowing correlations between disturbance or error terms in order to reach a nonsignificant χ^2 . To do these things just to obtain a nonsignificant χ^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

Observed indicators	Mean	Standard deviation	Skewness	Kurtosis
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
Lack of parental supervision			
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
Neighborhood disorganization			
<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
Family attachment			
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
Low self-control			
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
School attachment			
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
Differential association			
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

Variables	Gender	Race	Public assistance	Lack of parental supervision	Neighborhood disorganization
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> ²	.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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