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Family Structure, Family Processes, Economic Factors, and Delinquency

Similarities and Differences by Race and Ethnicity

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Using data from the Add Health Study, the authors examined relationships among family structure, family processes, and economic factors with delinquency and to what extent similarities and differences may exist for Whites, African Americans, and Hispanics. Results from negative binomial regression analyses indicated that, in general, of the family processes, maternal attachment was consistently found to be an important predictor of nonserious and serious delinquency irrespective of family structure, economic factors, and race and ethnicity. The results are discussed within the context of Hirschi's original interpretation of social control theory, and future directions for research are suggested.

Keywords: *family structure; family processes; economic factors; race/ethnicity; delinquency*

In criminological theory, the family is thought to be of central importance in ensuring conformity among sons and daughters, especially at the early stages of their lives (e.g., Sampson & Laub, 1993; Simons, Simons, & Wallace, 2004). Much of the literature in this area indicates that monitoring child behavior, applying consistent discipline, and developing parent-child attachments generally encourages youth to conform to conventional standards (e.g., Demuth & Brown, 2004; Gottfredson & Hirschi, 1990). Although there is general agreement on these factors, several issues have remained unresolved concerning the relationship between family and delinquency among youth. One such issue, for example, is why, compared to children from intact families, children living in single-parent families participate in more delinquency (e.g., Apel & Kaukinen, 2008; Free, 1991; Juby & Farrington, 2001).¹ Although this finding is relatively consistent within the literature, there is not a theoretical consensus as to why this occurs (Rebellon, 2002). A second issue is the failure of both theory and research to assess the applicability of the perspectives and results to racial and ethnic groups other than Whites (Cernkovich, Giordano, & Rudolph, 2000; Perez-McCluskey & Tovar, 2003).

The purpose of the present study is to add further clarity to these issues by using three theoretical models—two versions of social control theory and one version of economic

strain/stress theory—to examine the extent to which family variables and economic factors affect participation in nonserious and serious delinquency and to what extent the results are related to race and ethnicity. More specific, this study assesses whether differences exist in the relationship between family structure (i.e., intact vs. nonintact) and delinquency and if this association is influenced by family processes (i.e., maternal attachment, maternal supervision, and parental control) and/or economic variables (i.e., membership in the public assistance and maternal employment status). We also examine the similarities and differences that may exist in these relationships across White, African American, and Hispanic youth.

Background

Three of the more common perspectives used to explain the relationship between family structure and a variety of youth outcomes, including delinquency, are (a) Hirschi's (1969) version of social control theory, (b) the social control/parental absence model, and (c) the economic strain/stress model (see Amato & Keith, 1991; Demuth & Brown, 2004; Pettit, Bates, & Dodge, 1997; Wells & Rankin, 1991). In the sections that follow, each framework is discussed to provide insight on how family structure, family processes, and/or economic factors may contribute to, or increase the opportunity for, juvenile delinquency.

Social Control/Attachment Theory

Hirschi's (1969) version of social control theory contends that individuals conform because they have strong affective attachments to parents, stakes in conformity, involvement in conventional activities, and belief in social norms. Conversely, those youth who have weak attachments, low stakes in conformity, little involvement in conventional activities, and/or poor attitudes regarding societal norms are more likely to participate in delinquent behavior. Hirschi originally argued that the attachment between parent and child is paramount and that the strength of this relationship is the most important factor in deterring delinquent behavior. In other words, it is the quality, and not the quantity, of bonds that determines delinquency.

Therefore, a child in a single-parent household who has a strong attachment to his or her custodial parent is expected to evidence less delinquency than a child in a two-parent household who has weak attachments to both parents. Existing research typically contradicts this assumption by demonstrating that children from single-parent households are more delinquent than those from two-parent homes (e.g., Juby & Farrington, 2001; Wells & Rankin, 1991). The relationship between family structure and delinquency, however, and as predicted by the social control/attachment perspective, is often more evident when family processes such as parent-child attachment, parental monitoring, and supervision are taken into account (e.g., Van Voorhis, Cullen, Mathers, & Chenoweth Garner, 1988). Demuth and Brown (2004), for example, discovered that family structure was much less important than family processes in relation to encouraging delinquency among youth. In fact, their results support Hirschi's (1969) original assertion that "a parent's physical presence is likely to have a smaller impact on delinquent behavior than a parent's psychological and emotional presence" (Demuth & Brown, 2004, p. 78).

Also implicit within Hirschi's (1969) earlier version of social control theory is the applicability of the perspective to all youth, regardless of race or ethnicity. In fact, Hirschi noted that he found nothing to contradict the "assumption that the causes of delinquency are the same among Negroes as among whites," and for this reason he stated that "we need not study Negro boys to determine the causes of delinquency" (p. 80). More recent research is also consistent with this position. Sokol-Katz, Dunham, and Zimmerman (1997) discovered that family structure was indirectly related to minor and serious delinquency through its impact on family attachment and that this relationship was not race specific. Thus, similar to Demuth and Brown (2004), Sokol-Katz et al. argued that what is important "is the type and quality of the family relationship" (p. 212) rather than family structure or race, per se.

Despite these findings, there is other evidence that suggests the impact of family process variables on delinquency may vary by race or ethnicity (Perez-McCluskey & Tovar, 2003; Smith & Krohn, 1995; Vazsonyi & Flannery, 1997). More specific, Cernkovich and Giordano (1987) found that several dimensions of family attachment explained greater variance in delinquency among Whites than African Americans. Furthermore, they concluded that "these differences offer further support for the contention that it is important to distinguish among various dimensions of family interaction and attachment so that one can specify which ones operate similarly and which operate differently across particular groups" (p. 315).

Social Control/Parental Absence Model

Much later in his career, Hirschi revised his original position that single parenting may be just as effective in producing positive child outcomes as dual parenting (see Gottfredson & Hirschi, 1990). Instead, he suggested that parental absence presents significant problems that are rarely resolved by increased attachment. He made this argument because high levels of attachment between a parent and child were thought to be difficult to maintain in the absence of the other parent. Others within the social control perspective agreed with this position and suggested that single-parent households are, by nature, a social setting that hampers the establishment of bonds to conformity because half of the parental unit is absent and unable to provide proper control, supervision, and socialization of the child (e.g., Rebellon, 2002; Sampson & Laub, 1993). This suggests that children in one-parent families may have more motivation and opportunity to engage in unconventional activities, including delinquency, than those from two-parent households (Apel & Kaukinen, 2008; Rebellon, 2002). This position corresponds to the argument made by the parental absence model in the family literature (see Amato & Keith, 1991).

As stated earlier, prior research has offered support for the social control/attachment perspective, but studies have also produced results consistent with expectations posited by the social control/parental absence model. Rankin and Kern (1994), for example, found that strong attachment to two parents has a more significant inhibiting effect against delinquency than strong attachment to only one parent. Moreover, among households experiencing weak parent-child attachments, those headed by single parents are less able to effectively socialize and/or restrain their child or children from participating in delinquent behavior (e.g., Nye, 1958; Simons et al., 2004).

In contrast to the original interpretation (e.g., Hirschi, 1969), this version of social control theory challenges the notion of whether or not family processes are equally effective among all family structures in preventing delinquency. It also suggests that there should be variation across racial/ethnic groups because they differ in their opportunities to monitor, supervise, and respond to the behaviors of their children. Underlying this contention is the larger number of single-parent households among African Americans and Hispanics relative to Whites (Census Bureau, 2000; Wells & Rankin, 1991). Furthermore, some argue that this relationship may be confounded in general by racial/ethnic differences in family relationships, including the parental socialization of children (e.g., Gottfredson & Hirschi, 1990, p. 153).

In a study by Perez-McCluskey and Tovar (2003), family structure was found to significantly affect general delinquency. The effect was reported to be direct for Whites and Hispanics, even after controlling for family attachment, parental supervision, and family involvement. Family structure, however, which along with several other variables was treated as a control, had no impact, neither direct nor indirect, on general delinquency for African American youth. Further complicating the matter, all three family processes variables were discovered to be significant determinants of general delinquency for Whites. Yet for Hispanics, parental supervision was the only significant predictor, whereas for African Americans only parental attachment was important. Overall, African Americans and Hispanics were found to be more similar than different on the family dimensions, whereas Whites and African Americans seemed more different than alike. However, tests for differences by race/ethnicity were generally not found to be statistically significant (Perez-McCluskey & Tovar, 2003, p. 51). Still, Perez-McCluskey and Tovar (2003) pointed out that "differences between whites and minority groups suggest that family processes as operationalized by parental attachment, parental supervision, and family involvement do not have the same effect on delinquency across groups" (p. 55).

Economic Strain/Stress Model

The economic strain/stress model, in contrast to the two versions of social control theory, proposes that a lack of economic resources directly influences criminal and deviant behavior or increases the chances of such behavior because child-rearing processes and parent-child relationships are negatively affected by financial strain (e.g., Perez-McCluskey, 2002; Pettit et al., 1997). For example, the stress associated with economic problems is often viewed as contributing to parental depression and irritability, which in turn may lead to erratic supervision and discipline of children (e.g., Conger et al., 1992).

From a methodological perspective, this version of the economic strain model argues that the link between family structure and delinquency is related to the socioeconomic status of the household (Amato & Keith, 1991). Thus, although delinquency may be more common in single-parent households (Wells & Rankin, 1991), this relationship is thought to exist because of the strong correlation between poverty and single parenthood and not because of the structure, or composition, of the family itself.

Along these lines, researchers have found that the relationship between family structure and delinquency is most significantly influenced by economic hardship and has disruptive effects on

parental attachment and supervision (e.g., McNulty & Bellair, 2003a). Much of this research, however, has focused on macro-level contexts, such as community disadvantage and its association with delinquency among youth (e.g., McNulty & Bellair, 2003b; Peeples & Loeber, 1994). Although the results from studies on the effects of family and/or household socioeconomic status on delinquent behavior have been mixed (e.g., Wright, Caspi, Moffit, Miech, & Silva, 1999), homes characterized by low socioeconomic status and/or low educational background have been shown to negatively affect child rearing (e.g., Conger et al., 1992; Pettit et al., 1997) and to encourage attitudes and behaviors conducive to delinquency (e.g., Anderson, 1990). Accordingly, the effect of poverty on the single-parent home and delinquency has been found to be indirect through its disruptive impact on parenting (Simons et al., 2004).

Because this is a class-based perspective, issues pertaining to delinquency by race/ethnicity and family structure are generally assumed to reflect class differences in child rearing and other family process factors (Cernkovich et al., 2000; Pettit et al., 1997). African American and Hispanic youth are not only more likely than Whites to be in a single-parent household but also more likely to be poor (Proctor & Dalaker, 2003). Thus, initial differences in delinquency would be anticipated among African American and Hispanic youth relative to similarly situated Whites but should disappear once economic resources are taken into account.

McLeod, Kruttschnitt, and Dornfeld (1994) examined the extent to which differences existed by race (i.e., White and African American) in regard to the effects of economic disadvantage and single parenthood on parental distress (alcohol use), parenting practices (maternal affection and the use of spanking), and the antisocial behavior of children (e.g., cheats or tells lies, trouble getting along with teachers). These researchers found support for the economic/stress model in that poverty and being a single parent were significant predictors of the dependent variables, but the effects of impoverishment and single parenthood on the parenting practices and antisocial behavior of children, for the most part, did not differ significantly by race (McLeod et al., 1994).

In a similar vein, when testing a modified version of strain theory, Perez-McCluskey (2002) found that there was no difference in academic performance among White, African American, and Latino boys who received public aid. In other words, ethnicity did not seem to be as important as class status when it came to scholastic achievement. However, Perez-McCluskey did discover that family involvement variables, such as time spent with family members, affected ethnic groups differently. For example, in both the Denver Youth Survey and the Rochester Youth Development Study, family involvement showed no connection with delinquent values and delinquent peer association for Whites. In contrast, Latino boys were less involved in delinquency than Whites or Blacks when their involvement with family increased. Similar results were also found by Smith and Krohn (1995), who reported that economic hardship, family life, and family processes affect delinquency, but these relationships do not necessarily take similar paths for Whites, African Americans, and Hispanics.

Implications for the Present Research

These two versions of social control theory and the economic strain model offer distinct positions on the association between family structure and delinquent behavior and the specific

social processes that may influence this relationship. Each perspective, for the most part, is either relatively silent on the extent to which racial/ethnic similarities and differences may exist or contends that greater delinquency may be evident among minority youth because of differences in child rearing or economic resources that may be compounded by living in a single-parent household. However, research that focuses specifically on family composition in combination with family and structural processes and race/ethnicity is lacking. Furthermore, of the limited research that has been conducted, findings have yielded support for each position. Inconsistent information, however, exists concerning how the effects of family structure, family functioning, and economic resource variables relate to delinquency for White, African American, and Hispanic youth (cf. McLeod et al., 1994; Perez-McCluskey & Tovar, 2003; Smith & Krohn, 1995). Thus, the lack of research in this area and the inconsistent results that have been produced serve as the impetus for the present inquiry.

Based on our interpretation of the social control/attachment model, the social control/parental absence perspective, and the economic strain/stress approach, two questions guide this research. These questions are as follows: (a) To what extent is delinquency affected by family composition, family processes (i.e., parental attachment, supervision), and economic factors (i.e., being public assistance, unemployed)? and (b) Do these relationships differ by race/ethnicity?

Method

Data and Sample

Data used for this research came from the National Longitudinal Study of Adolescent Health (Add Health).² The study was based on a nationally representative sample of 80 high schools and 52 "feeder schools" (i.e., middle or junior high schools) that were stratified by region, urbanicity, school type, ethnic mix, and size. Seventh to twelfth grade students were randomly chosen from the class rosters of the selected schools and were interviewed in their own homes. One parental figure, typically the respondent's mother, completed an interview as well. Adolescent and parental combined data are referred to as the in-home sample ($N = 20,745$). The data used for the current study were from the first wave of the Add Health in-home sample (1995) and were restricted to reports from White, African American, and Hispanic respondents whose parental data were provided by their biological mother ($n = 9,636$).³

Description of Variables

The coding schemes and distributions of variables in the study are presented in Table 1. The family structure variable was created based on information provided by the adolescent respondent's mother regarding her experiences with marital or marriage-like relationships. Based on her responses, participants were placed in either intact (current marital status of mother was married and biological father lived in household) or non-intact (current marital status of mother was divorced, widowed, or never married) groups.⁴

Table 1
Description of Variables

Variable	Code	n	%	M	SD	Range
Independent						
Family structure	0-intact 1-nonintact	8,373 1,263	87 13			
Family processes						
Maternal attachment	Low to high			26.35	3.59	6-30
Maternal supervision	Low to high			3.29	1.45	1-5
Parental control	0-no 1-yes	3,083 6,553	32 68			
Economic factors						
Public assistance	0-no 1-yes	8,706 930	90 10			
Maternal employment	0-no 1-yes	1,583 8,053	16 84			
Race	1-White 2-Black 3-Hispanic	6,476 2,246 914	67 23 10			
Controls						
Female	0-male 1-female	4,643 4,993	48 52			
Age	low to high			15.56	1.85	11-21
Maternal education	low to high			2.65	1.10	1-5
Risk taking	low to high			8.78	2.50	4-20
Peer attachment	low to high			4.27	0.78	1-5
Peer deviance	low to high			2.46	2.59	0-9
Presence of other adult	0-no 1-yes	9,216 420	96 4			
Number of siblings	low to high			1.42	1.16	0-12
Time since disruption	low to high			1.44	4.23	0-17
Nonserious				0.77	1.25	0-6
Serious				0.79	1.27	0-8

NOTE: N = 9,636.

The race variable was constructed based on responses to six questions that asked about the racial origin of the adolescent respondent (i.e., White, Black or African American, Hispanic or Latino, American Indian or Native American, Asian or Pacific Islander, or Other). This information was then used to create dichotomous variables that allowed for comparisons between youth from different racial groups (e.g., White to African American).

Family processes were measured by three variables that attempted to capture the quality of relationship with the mother and the degree of maternal supervision and parental control. Maternal attachment was a scale that consisted of responses to six items that assessed the level of closeness to mother (e.g., "Most of the time, your mother is warm and loving toward you"). Responses to the items were measured on a 5-point scale (1 = *not at all*, 2 = *very little*, 3 = *somewhat*, 4 = *quite a bit*, 5 = *very much*). Maternal supervision was measured by responses to a question that asked how often the mother was home when the

respondent returned from school ($1 = \text{never}$, $2 = \text{almost never}$, $3 = \text{some of the time}$, $4 = \text{most of the time}$, $5 = \text{always}$). Parental control was operationalized by responses to a single question that asked if the respondent's parents let him or her make his or her own decision about the time to be home on weekend nights. Reversed coding was employed to represent no parental control versus parental control ($0 = \text{no}$, $1 = \text{yes}$).

Variables that attempted to capture the economic resources of the household were included as well. Public assistance was a scale composed of *no* (0) and *yes* (1) responses to five questions that asked the respondent's mother if she was currently receiving public assistance such as welfare or other supplemental income (e.g., AFDC, food stamps, housing subsidy). To address skewness in the summed measure, we decided to dichotomize the variable so that $0 = \text{no}$ and $1 = \text{yes}$. In addition, mothers were asked if they were currently working outside the home ($0 = \text{no}$, $1 = \text{yes}$), and this was used as a measure of maternal employment.

A number of factors that are likely to influence delinquent behavior were also included in each model as control variables. Gender was a dummy variable differentiated by $0 = \text{male}$ and $1 = \text{female}$. Age was measured as a continuous variable and ranged from 11 to 21 years old. Education level of the mother was measured by a single question, and responses ranged from $1 = \text{some high school or less}$ to $5 = \text{professional training beyond a 4-year college degree}$.

Based on theory and prior research (e.g., Gottfredson & Hirschi, 1990; Hagan, Simpson, & Gillis, 1987; Rankin & Quane, 2002), we control for other common predictors of delinquency including measures of risk taking, peer attachment, and peer deviance. Although the data set did not contain questions that directly related to participation in risk-taking behaviors, responses to four questions that centered on risk aversion were used as a proxy for this variable (e.g., "When you have problems to solve, one of the first things you do is get as many facts as possible"). Response categories ranged from $1 = \text{strongly agree}$ to $5 = \text{strongly disagree}$ and were reverse coded to create the risk-taking scale. Responses to a single question that asked respondents to assess how much they feel that their friends care about them ($1 = \text{not at all}$ to $5 = \text{very much}$) were used to measure peer attachment. Peer delinquency was a scale that consisted of responses to three items that asked respondents to indicate how many of their three best friends smoked at least one cigarette a day, drank alcohol, and/or used marijuana at least once a month.

The final control variables included in the analyses were single-item indicators that measured the presence of another adult in the household ($0 = \text{no}$, $1 = \text{yes}$), the number of siblings the respondent had (ranging from 0 to 12), and time since disruption (ranging from 0 to 17 years). These variables were included because they have important implications for the amount of supervision and monitoring provided in single-mother households as well as being typical control variables in studies of single-parent families (Amato, 2000; Amato & Keith, 1991).

Two dependent variables were included in the present analyses. Six items that consisted of responses to questions regarding property damage, shoplifting, and interpersonal delinquent behavior were used to measure minor or nonserious delinquency. Individual items were coded 0 if the youth did not report engaging in the act during the past 12 months and 1 if he or she did. These responses were then summed to create a nonserious delinquency

scale. More serious delinquent behavior was assessed by a separate set of eight items that referred to participation in activities such as burglary, robbery, and physical violence during the past year. Again responses were coded 0 if the youth did not engage in the act and 1 if he or she did and then summed to create a serious delinquency measure. Individual items and reliability coefficients for the additive scales are presented in the appendix.

Analysis Plan and Procedures

The analysis plan was guided by the two questions we developed based on our interpretations of the social control/attachment model, the social control/parental absence model, and the economic strain/stress model. Recall that Question 1 focuses on the relationships among family structure, family processes, economic strain variables, and race/ethnicity with delinquency. Accordingly, the first step in the analysis involved stepwise regression to predict the individual effects of family structure on delinquency, followed by the family processes variables and the measures representing economic strain, then race/ethnicity, and last a full model that included all of the aforementioned variables in the equation. The second question guiding the research involved the extent to which the effects of family structure, family processes, and economic indicators on delinquency applied similarly or differently to Whites, African Americans, and Hispanics. Thus, the second step in the analysis entailed the estimation of separate models for each race/ethnic group that included each of the variables of interest. Next, this step was repeated with the models differentiated by family structure and race/ethnicity.

To address this plan, multivariate analyses in the form of negative binomial regression were conducted because both delinquency measures had a large number of zero values and overdispersion. Under these conditions, negative binomial regression models are recommended because they most closely approximate the distribution of these variables (Long & Freese, 2001). Also, coefficient comparison tests involving z scores were performed to examine the extent to which significant effects varied by race/ethnicity. This method tests for the differences between two regression coefficients across independent samples or models (Patterson et al., 1998). Finally, to simplify the discussion, we present results only for the effects of family type, family processes, and economic factors on nonserious and serious delinquency. Each regression model, however, controlled for the independent variables previously discussed. The findings for these variables are available on request from the first author.⁵

Results

What Is the Relationship of Family Structure, Family Processes, Economic Resources, and Race/Ethnicity on Delinquency?

Recall that stepwise regression was used to examine the individual effects of family structure, family processes, economic factors, and race/ethnicity on nonserious and serious delinquency. The standardized survey-weighted negative binomial regression coefficients for equations predicting each dependent variable are presented in Table 2, differentiated by Part A (nonserious delinquency) and Part B (serious delinquency).

Table 2
Negative Binomial Regression Coefficients Representing Models for Delinquency

	Model 1	Model 2	Model 3	Model 4	Full Model
Part A: Nonserious Delinquency	(1)	(2)	(3)	(4)	(5)
Family structure					
Intact to nonintact	-0.01				0.02
Family processes					
Maternal attachment		-0.21**			-0.21**
Maternal supervision		-0.05**			-0.04
Parental control		-0.05			-0.05
Economic factors					
Public assistance			-0.18		-0.19
Maternal employment			-0.15		0.10
Race/ethnicity					
White or Hispanic to Black				-0.01	0.02
White or Black to Hispanic				0.33**	0.34**
	Model 1	Model 2	Model 3	Model 4	Full Model
Part B: Serious Delinquency	(1)	(2)	(3)	(4)	(5)
Family structure					
Intact to nonintact	0.24**				0.05
Family processes					
Maternal attachment		-0.11**			-0.15**
Maternal supervision		0.02			0.01
Parental control		0.08			0.06
Economic factors					
Public assistance			0.26**		0.12
Maternal employment			0.05		0.01
Race					
White or Hispanic to Black				0.53**	0.51**
White or Black to Hispanic				0.28**	0.25**

NOTE: All models included control variables.

** $p < .01$.

In Part A of Table 2, we found that family structure was not a determinant of nonserious delinquency (column 1), but two of the family processes variables, maternal attachment and supervision, were initially predictive of the dependent variable (column 2). Youth with a stronger attachment to their mother and those who experienced more maternal supervision reported lower involvement in nonserious delinquency than did youth with weaker attachments and less supervision. Neither of the economic indicators had statistically significant effects on the dependent variable (column 3). For race/ethnicity, Hispanic youth reported greater involvement in nonserious delinquency than Whites and African Americans (column 4). Next, full models were estimated that included family structure, the family processes measures, the economic indicators, and race/ethnicity (column 5). The effects of maternal attachment and being Hispanic on nonserious delinquency remained significant,

whereas the reported relationship between maternal supervision and the dependent variable disappeared.

In Part B of Table 2, it was evident that repeating the analysis for serious delinquency yielded some initial differences compared to the results for nonserious delinquency. Three notable differences included the presence of statistically significant effects with serious delinquency involving youth from a nonintact household (column 1), being poor as captured by the public assistance measure (column 3), and being African American (column 4). As with nonserious delinquency, maternal attachment (column 2) and being Hispanic (column 4) were also determinants of the dependent variable. Results from the full model also demonstrated that once all the variables were taken into account, the effects of family structure and public assistance disappeared (column 5).

Up to this point in the analysis, the results for both nonserious and serious delinquency yielded support for the social control/attachment perspective as originally posited by Hirschi (1969). Specifically, once family structure, family processes, economic factors, and race/ethnicity were considered, youth who had low maternal attachment reported higher levels of involvement in both forms of delinquent behavior than did those who had high maternal attachment. These findings provide insights into the first question guiding the present research and are also consistent with results of previous studies, including those reported by Demuth and Brown (2004). Next, we addressed the question concerning the extent to which the previous relationships among family structure, family processes, and economic factors and delinquency vary by race/ethnicity.

To What Extent Do the Effects of Family Structure, Family Processes, and Economic Indicators on Delinquency Differ by Race/Ethnicity?

To examine this question, recall that the analysis was conducted in two steps. First, the effects of family structure, family processes, and economic factors on delinquency were addressed by estimating separate models for Whites, African American, and Hispanics (Part A). Next, equations were modeled involving each race/ethnic group within each household type (Part B). This analysis was conducted separately for both nonserious delinquency (Table 3) and serious delinquency (Table 4).

As shown in Part A of Table 3, family structure was a statistically significant determinant of nonserious delinquency for African Americans (column 2). African Americans from nonintact households reported greater participation in nonserious delinquency than did their White and Hispanic counterparts. Tests comparing the coefficients for each race/ethnic group, however, failed to yield evidence of a statistical difference.

Similar to the results involving the full models in the earlier stages of the analysis (Part A, Table 2), maternal attachment once again emerged as a statistically significant predictor of the dependent variable. The inverse effect of maternal attachment on nonserious delinquency existed for all three race/ethnic groups (column 1 through column 3). Another noteworthy finding is that, for the first time, an economic indicator (i.e., public assistance) had a significant effect on the dependent variable, but only for White youth (column 1). The relative effect on the dependent variable, however, did not differ from African Americans and Hispanics.

Table 3
Negative Binomial Regression Coefficients Representing Models for Nonserious Delinquency Differentiated by Race/Ethnicity, and Family Structure and Race/Ethnicity

	White	Black	Hispanic			
	(1)	(2)	(3)			
Part A: Race/Ethnicity						
Family structure	-0.07	0.27**	-0.05			
Family processes						
Maternal attachment	-0.21**	-0.21**	-0.16**			
Maternal supervision	-0.04	-0.03	-0.09			
Parental control	0.03	0.01	0.28			
Economic factors						
Public assistance	-0.29**	-0.08	-0.20			
Maternal employment	0.10	0.29	-0.04			
Part B: Family Structure and Race/Ethnicity	Intact			Nonintact		
	White	Black	Hispanic	White	Black	Hispanic
	(1)	(2)	(3)	(4)	(5)	(6)
Family processes						
Maternal attachment	-0.22**	-0.21**	-0.15**	-0.10	-0.27**	-0.43**
Maternal supervision	-0.05	-0.08	-0.11	-0.02	0.06	-0.12
Parental control	-0.04	-0.01	-0.17	0.01	-0.06	-0.61**
Economic factors						
Public assistance	-0.35**	-0.25	-0.30	-0.13	0.04	0.05
Maternal employment	0.08	0.03	-0.14	0.45	0.62**	1.45**

NOTE: All models included control variables. Tests using coefficient comparisons failed to provide the presence of a statistically significant difference at $p < .01$.

** $p < .01$.

Thus, taken together the findings once again offer support for the social control/parental attachment perspective as originally developed by Hirschi (1969). In this case, the results provide evidence to support his contention that the effects of attachment on delinquency universally apply across different race/ethnic groups. Next, we specifically address our second question by examining the extent to which these relationships are tempered jointly by household structure and race.

As presented in Part B of Table 3, the effects of maternal attachment on the dependent variable across the models differentiated by household structure and race/ethnicity were inverse and, with one exception, statistically significant for both intact and nonintact households and each racial group (columns 1 through 6). These findings again confirmed the contention of universality in family processes, in this case maternal attachment, across family structure and race/ethnicity as espoused by the original interpretation of social control theory (Hirschi, 1969). Although parental control reduced nonserious delinquency for

Table 4
Negative Binomial Regression Coefficients Representing Models for Serious Delinquency Differentiated by Race/Ethnicity, and Family Structure and Race/Ethnicity

	White	Black	Hispanic			
Part A: Race/Ethnicity	(1)	(2)	(3)			
Family structure	0.03	0.12	0.24			
Family processes						
Maternal attachment	-0.15**	-0.11**	-0.27**			
Maternal supervision	0.01	-0.01	0.01			
Parental control	0.04	0.08	0.25			
Economic factors						
Public assistance	0.13	0.18	-0.19			
Maternal employment	0.01	0.19	-0.34			
	Intact			Nonintact		
Part B: Family Structure and Race/Ethnicity	White	Black	Hispanic	White	Black	Hispanic
	(1)	(2)	(3)	(4)	(5)	(6)
Family processes						
Maternal attachment	-0.14**	-0.09	-0.28**	-0.20**	-0.16**	-0.37**
Maternal supervision	0.03	-0.01	-0.01	-0.08	-0.04	-0.19
Parental control	-0.02	-0.05	-0.17	-0.24	-0.15	-0.27
Economic factors						
Public assistance	0.11	0.05	-0.07	0.18	0.29	-0.23
Maternal employment	0.02	0.13	-0.34	-0.07	0.20	-0.34

NOTE: All models included control variables. Tests using coefficient comparisons failed to provide the presence of a statistically significant difference at $p < .01$.

** $p < .01$.

Hispanics residing in nonintact families (column 6), tests involving coefficients comparisons across models failed to reveal evidence of a statistically significant difference relative to Whites and African Americans in such households.

At first glance, support also seemed to be present for the economic strain perspective, although the direction of the effects was not always consistent with what the theory would predict. For example, the effect of intact households receiving public assistance and decreased involvement in nonserious delinquency appeared to be conditioned by being White (columns 1 through 3). Being African American (column 5) and Hispanic (column 6), however, conditioned the effect of coming from a nonintact household and having an employed mother with increased participation in nonserious delinquency. Although these differences existed within each of the models, tests comparing the coefficients (e.g., being White from an intact, public assistance household relative to being African American or Hispanic from an intact, public assistance household) failed to produce statistically significant results. Thus, support was lacking for the argument made by the economic/strain

perspective that the relationship between socioeconomic status on delinquency is conditioned by family structure and/or race of the household.

Next, the analyses were repeated to examine the effects that family structure, family processes, economic factors, and race had on serious delinquency. First, separate models were estimated for each race/ethnic group (Part A, Table 4), followed by models representing the joint or interaction effects between household structure and race/ethnicity (Part B, Table 4). For the most part, the overall results paralleled those reported for nonserious delinquency.

In Part A of Table 4, the only significant predictor of serious delinquency was maternal attachment, and the effects existed for Whites, African Americans, and Hispanics. As with nonserious delinquency, scoring higher on maternal attachment predicted lower levels of serious delinquency for each race/ethnic group (column 1 through column 3). Tests of the relative effects of attachment on the dependent variable for Whites, African Americans, and Hispanics failed to indicate statistically significant differences across these groups.

It is evident that maternal attachment, with one exception, was again a consistent factor across household structure and race/ethnicity in explaining serious delinquency (Part B, Table 4, columns 1 through 6). None of the other family processes variables or the economic variables predicted the dependent variable. Tests using coefficient comparisons failed to produce evidence of statistically significant differences by the family processes or economic factors across family structure and/or race/ethnicity as well. Thus, once again, Hirschi's (1969) original interpretation of social control theory was confirmed, whereas support was lacking for both the social control/parental absence model and the economic/strain perspective. In short, the answer to the second research question is that the effects of family processes and economic factors on delinquency do not vary by household structure and/or race/ethnicity.

Discussion

As noted throughout this discussion, two versions of social control theory and an economic strain perspective offer varying claims concerning the relationships among family structure, family processes, and economic factors and delinquency (e.g., Gottfredson & Hirschi, 1990; Hirschi, 1969; Simons et al., 2004). One version of social control theory emphasizes the importance of maternal attachment as an inhibitor of delinquency irrespective of household structure, whereas another version argues that youth from single-parent households will engage in more delinquency because of the belief that family processes will be weaker than those present in two-parent households. The economic strain model espouses a similar contention as the social control/parental absence perspective, but instead of focusing on the number of parents in a household it highlights the importance of insufficient economic resources. In terms of race/ethnicity, the social control/parental absence and economic strain models suggest that African Americans and Hispanics will score lower on family variables than Whites because these youth are more likely to come from single-parent households or because they face greater economic hardship. This is in contrast to Hirschi's (1969) original interpretation of social control theory that suggested that family processes are universal across all race/ethnic groups.

With this as the background, the primary objective of the present research was to determine which theoretical framework and corresponding interpretation provides us with the most useful approach to understanding the relationship among family structure, race/ethnicity, and involvement with delinquency and if these relationships vary by race/ethnicity. Our findings suggest that, with very few exceptions, differences do not exist in the relationship among family structure, family processes, and economic factors with regard to juvenile delinquency. Family structure itself is not predictive of nonserious or serious delinquency once family processes and economic factors are considered. In addition, of the family process variables, only maternal attachment was consistently found to be an important predictor of both types of delinquency in both types of households (i.e., intact and nonintact). Thus, overwhelming support was found for Hirschi's (1969) original interpretation of social control theory.

Although these findings were somewhat unexpected, it should not be surprising that the quality of the parent-child bond may play an important role in the development of delinquent behavior. Our results add to a growing body of research that appears to suggest family processes, and parent-child attachment in particular, have a stronger influence on delinquency among youth than other factors such as family structure and economic circumstances of the household (also see Cernkovich & Giordano, 1987; Demuth & Brown, 2004; Mack, Leiber, Featherstone, & Kutlina, 2007). Because the effects of maternal attachment on delinquency also held for Whites, African Americans, and Hispanics, this yields further support for the claim of universality among race/ethnic groups (e.g., Hirschi, 1969) rather than variability across them (e.g., Perez-McCluskey & Tovar, 2003).

It is important to note that some of the observed interrelationships between delinquency and family structure, race/ethnicity, and economic standing cannot be accounted by maternal attachment alone. Hispanic youth reported higher levels of nonserious delinquency than Whites and African Americans, and these effects remained even after controlling for family processes and economic factors. So too did the effects of being Hispanic and African American on involvement with serious delinquency.⁶ This was somewhat unexpected given that none of the three theoretical perspectives guiding this research predicts these findings.

Part of the failure to account for some of the race/ethnicity effects on delinquency could stem from our inability to include more varied dimensions of family processes (i.e., family involvement or family identification). These types of variables have been found to vary across racial/ethnic groups in prior research and are not necessarily in opposition to a social control perspective (e.g., Cernkovich & Giordano, 1987). Similarly, the focus of our study was on pure variations of social control theory and economic/strain theory. An integrative perspective that includes a subcultural component where attitudes, adaptations, and behaviors conducive to delinquency are emphasized could possibly enhance our ability to better understand these race/ethnic differences in delinquency and what roles family structure, family factors, and economics may play in the process (e.g., Anderson, 1990; Bourgois, 1996; Heimer, 1997; McNulty & Bellair, 2003b; Rankin & Quane, 2002; Sampson, 1987).

Another shortcoming of the present study and direction for future research involves several of our economic measures. More specific, the economic variables may not capture the full range of financial resources thought to be relevant within the economic strain model. For example, we were not able to include household income as an economic indicator

because there were too many missing cases on this variable. Demuth and Brown (2004), however, included this measure in their study and found family income to have little effect on delinquency. Instead, it may be more useful to include such economic resource variables as social capital or impoverishment and joblessness because these are more reflective of long-term and persistent concentrated disadvantage (e.g., McNulty & Bellair, 2003b; Sampson, 1987; Sampson & Wilson, 1995). The inclusion of the aforementioned variables would also overcome the weakness of our economic measures that stems from an oversampling of highly educated African Americans in the Add Health Study (see Chantala & Tabor, 1999). More research that employs measures that adequately include the truly poor and therefore provides a more thorough test of the economic/strain perspective is needed.

Furthermore, we included only micro-level resource measures, but research has shown that macro-level economic factors (i.e., percentage poverty) may be more relevant when addressing the race/ethnicity and family structure, economic resource, and delinquency relationship (Sampson, Raudenbush, & Earls, 1997). In fact, McNulty and Bellair (2003b) discovered that statistical differences in serious delinquency between Whites and minorities were explained by variation in community disadvantage for African Americans and involvement in gangs for Hispanics. McNulty and Bellair (2003b) concluded that further development of theory is needed "that links individual/family and community level (structural and cultural) processes . . . for a detailed understanding of the causal mechanisms leading to violence in general, and of the differential involvement of racial/ethnic groups in particular" (p. 734).

We also restricted our analyses to single-mother households, and future research may want to include single-father households as well as stepfather- or stepmother-headed homes. In addition, although we included controls for the presence of another adult and siblings, future researchers in this area may want to consider the specific role or roles and presence of grandparents and/or other extended family members. For example, prior research has shown that among African American and Hispanic households, grandparents provide added supervision and serve as positive role models for youth (e.g., Billingsley, 1992; Bourgois, 1996; Willie, 1991; cf. Anderson, 1990).

Despite our relatively modest findings, this study contributes to the existing literature by addressing an issue that is still relatively neglected. We accomplished this by comparing White, African American, and Hispanic youth from both intact and nonintact households to assess their involvement in delinquency and to consider what roles family processes and economic factors might provide in the dynamics of these relationships. A clear strength of this research is that we are able to base our analyses on more recently collected data that are relatively large in size. Overall, the results provide further support for the notion that family processes (i.e., maternal attachment) are more significant predictors of delinquent behavior among youth than family structure and economic factors. Furthermore, the effects of maternal attachment appear to be universal among Whites, African Americans, and Hispanics. The task for future research is to continue the investigation of these relationships to provide greater clarity about how families and economic resources (along with other factors) influence delinquency among varied race/ethnic groups.

Appendix

Scale Items and Alpha Coefficients

Variable	Individual Item	Alpha
Maternal attachment	Most of the time, your mother is warm and loving toward you. You are satisfied with the way your mother and you communicate with each other. Overall, you are satisfied with your relationship with your mother. How close do you feel to your mother? How much do you think she cares about you? When you do something wrong that is important, your mother talks about it with you and helps you understand why it is wrong.	.85
Public assistance	Are you receiving public assistance, such as welfare? Last month, did you or any member of your household receive: Supplemental Security Income? Aid to Families with Dependent Children? Food stamps? A housing subsidy or public housing?	.77
Risk-taking	When you have problems to solve, one of the first things you do is get as many facts about the problem as possible. When you are attempting to find a solution to a problem, you usually try to think of as many different ways to approach the problem as possible. When making decisions, you generally use a systematic method for judging and comparing alternatives. After carrying out a solution to a problem, you usually try to analyze what went right and what went wrong.	.74
Peer delinquency	Of your 3 best friends, how many: Smoke at least 1 cigarette a day? Drink alcohol at least once a month? Use marijuana at least once a month?	.75
Nonserious delinquency	In the past 12 months how often did you: Paint graffiti or signs on someone else's property or in a public place? Deliberately damage property that did not belong to you? Take something from a store without paying for it? Drive a car without the owner's permission? Steal something worth less than \$50? Steal something worth more than \$50?	.67
Serious delinquency	In the past 12 months how often did you: Get into a serious physical fight? Hurt someone badly enough to need bandages or care from a doctor or nurse? Go into a house or building to steal something? Use or threaten to use a weapon to get something from someone? Take part in a fight where a group of your friends was against another group?	.75

(continued)

Appendix (continued)

Variable	Individual Item	Alpha
Serious delinquency	<p>During the past 12 months, how often did each of the following things happen:</p> <p>You pulled a knife or gun on someone.</p> <p>You shot or stabbed someone.</p> <p>During the past 30 days, on how many days did you carry a weapon-such as a gun, knife, or club-to school?</p>	.85

Notes

1. The link between family structure and delinquency appears to be particularly significant when official data are used rather than self-report measures and for certain types of conduct problems, such as status offending (e.g., Free, 1991; Rankin & Kern, 1994; Wells & Rankin, 1991).

2. This research uses data from Add Health, a program project designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris and funded by Grant P01-HD31921 from the Eunice Kennedy Shriver National Institute of Child Health and Human Development, with cooperative funding from 17 other agencies. Special acknowledgment is due to Ronald R. Rindfuss and Barbara Entwistle for assistance in the original design. People interested in obtaining data files from Add Health should contact Add Health, Carolina Population Center, 123 W. Franklin St., Chapel Hill NC 27516-2524 (addhealth@unc.com). No direct support was received from Grant P01-HD31921 for this analysis.

3. The decision to restrict our sample to White, Hispanic, and African American respondents whose biological mother provided the parental data was made because there were not enough cases in the other race/ethnicity categories or when someone other than the biological mother provided the parental data to make meaningful group comparisons. This was especially evident once family type subgroups were determined.

4. Respondents were placed in the nonintact group if the current marital status of mother was divorced, respondent ever lived with biological father, and number of disruptions experienced by respondent was one; current marital status of mother was widowed, respondent ever lived with biological father, and number of disruptions experienced by respondent was one; or current marital status of mother was single, never married and respondent never lived with biological father. Although this is a conservative measure of nonintact family structure, the decision to define the nonintact group this way was made to control for the confounding effects of complex factors that can determine family structure (for a discussion of this issue, see Martinson & Wu, 1992). We were also limited by restrictions of the Add Health data set, which was originally collected to examine social contexts that influence adolescent health and risk behavior rather than family issues per se. Therefore, one of the tasks for future research will be to consider the relationships examined here with more complex measures of family structure.

The decision to treat all nonintact households as one in the same was based on results from previous research with the Add Health data that revealed few differences to exist between households differentiated by divorce, death, and never married in relationships with family processes, economic factors, and delinquency (Mack et al., 2007). Also, although ideally our analyses would have included single-father comparison groups as well (see Demuth & Brown, 2004), the small number of respondents in these subgroups did not allow for differentiation by family structure and/or race and ethnicity, and therefore we did not consider them in the present research. We also did not include stepfather or stepmother comparison groups because we were unable to determine how many disruptions had occurred prior to the remarriage, and we were concerned about the confounding effects that this might create.

5. Given the complex nature of the Add Health sample design, the analyses for the present study were conducted using Stata (for more detailed information, see Chantala & Tabor, 1999). We standardized all continuous independent and control variables before conducting the multivariate analyses to allow for comparisons

among regression coefficients within models. The irr option was used when estimating the survey-weighted negative binomial regression models. Inspection of the variance inflation factors revealed acceptable levels of shared association, suggesting that there were no problems with multicollinearity. The zero-order correlation results are available on request from the lead author. Because the survey estimators in Stata are not true maximum likelihood estimators (they are called pseudo maximum likelihood estimators instead), the computation of $-2 \log$ likelihood for each model is inappropriate.

6. The findings of greater involvement in delinquency for Hispanics and, to some extent, African Americans (serious delinquency) is consistent with other studies using the Add Health data (McNulty & Bellair, 2003a, 2003b) and research in general (Elliott, 1994). However, there also exists a body of research that shows few or small race/ethnicity differences in offending (e.g., D'Alessio & Stolzenberg, 2003; Peterson, Esbensen, Taylor, & Freng, 2007; Piquero & Brame, 2008).

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