

RECONSIDERING THE RELATIONSHIP BETWEEN SES AND DELINQUENCY: CAUSATION BUT NOT CORRELATION*

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Many theories of crime have linked low levels of socioeconomic status (SES) to high levels of delinquency. However, empirical studies have consistently found weak or nonexistent correlations between individuals' SES and their self-reported delinquent behavior. Drawing upon recent theoretical innovations (Hagan et al., 1985; Jensen, 1993; Tittle, 1995), we propose that this apparent contradiction between theory and data may be reconciled by recognizing that SES has both a negative and a positive indirect effect upon delinquency that, in tandem, results in little overall correlation between the two. We tested this proposal with longitudinal data from the Dunedin Multidisciplinary Health and Development Study. We used measures of parental SES recorded at study members' birth through age 15, social-psychological characteristics at age 18, and self-reported delinquency at ages 18 and

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21. We found that low SES promoted delinquency by increasing individuals' alienation, financial strain, and aggression and by decreasing educational and occupational aspirations, whereas high SES promoted individuals' delinquency by increasing risk taking and social power and by decreasing conventional values. These findings suggest a reconciliation between theory and data, and they underscore the conceptual importance of elucidating the full range of causal linkages between SES and delinquency.

Socioeconomic status (SES) has played a dominant role in the history of sociological explanations of delinquency (e.g., Cloward and Ohlin, 1961; Merton, 1938; Shaw and McKay, 1942; Wolfgang and Ferracuti, 1967). Various sociological theories hold that low SES brings about individuals' participation in delinquency through a variety of causal mechanisms. This assumed negative effect of SES upon delinquency fits researchers' intuition as well as general public opinion. There is a problem, though. Empirical studies consistently have found weak or nonexistent correlations between individuals' socioeconomic background and their self-reported delinquent behavior. This has created a peculiar mismatch between theory and empirical research: Do low levels of SES cause high levels of delinquency, as per theory, or are the two only weakly correlated or noncorrelated, as per empirical findings? The answer given in this article is yes to both questions, and our explanation hinges on the idea that causation does not necessarily denote statistical correlation.

We develop our approach to this issue with three propositions: (1) The effect of SES upon delinquency is primarily indirect, operating through various causal mediators (Tittle and Meier, 1990); (2) through some mediators, such as those identified in classical criminological theories, low SES causes high levels of delinquency; and (3) through other mediators, such as those identified in power control theory and social-psychological theories of conformity, high SES causes high levels of delinquency (e.g., Hagan et al., 1985; Kohn, 1969). Taken together, these propositions suggest that the coexisting negative and positive effects of SES upon delinquency cancel each other out across individuals, thus attenuating any overall correlation between the two phenomena (Jensen, 1993; Tittle, 1995). We test these propositions by identifying a series of social-psychological characteristics that link SES and delinquency, both negatively and positively. These social-psychological mediators allow for analysis of the various effects of SES upon delinquency.

STUDIES OF SES AND DELINQUENCY

Socioeconomic status has played a fundamental role in explanations of delinquency. It has long been assumed that individuals' propensity for

delinquent behavior is rooted in their macrosocial environment, and thus theories of delinquency have typically begun with individuals' social context. A key aspect of this social context is SES. More attention has been given to social class in explanations of crime and delinquency than perhaps to any other variable (Weiss, 1987:71).

Given the theoretical centrality of SES in explanations of delinquency, a rather significant empirical problem has arisen: Studies have found that general measures of SES and delinquency are often, and perhaps usually, not correlated. This counterintuitive finding was initially discovered in the first studies of self-reported measures of delinquency (e.g., Nye et al., 1958). Since then, most studies of this issue have found the same null relationship between omnibus measures of SES and delinquency (e.g., Hirschi, 1969, 1972; Johnson, 1980; Tittle and Meier, 1991; Tittle et al., 1978; Weiss, 1987). Jensen and Thompson (1990:1021) summarized the research literature as follows: "The safest conclusion concerning class structure and delinquency is the same one that has been proposed for several decades: class, no matter how defined, contributes little to explaining variation in self-reports of common delinquency."

This robust null finding has obvious theoretical implications. If SES and delinquency are not highly associated in empirical data, should they be so in theories? Without SES, some theories of delinquency would lose their conceptual underpinning; thus, the relationship between the two is of central theoretical importance.

One response to this theoretical quandary has been to recast the SES-delinquency issue as one of specification: Under which circumstances are SES and delinquency most strongly correlated? This approach, however, suffers several problems. Empirically, a review of the specification literature by Tittle and Meier (1990; see also 1991) found no consistent support for any of the most commonly hypothesized specifying conditions. Conceptually, this approach to the SES-delinquency issue suffers from an inherent loss of parsimony, for the single theoretical relationship between general measures of SES and crime fragments into many relationships between types of measures across groups of people across settings.

RECONSIDERING THE SES-DELINQUENCY RELATIONSHIP

In this article, we return to the general relationship between SES and delinquency and offer an explanation for why individuals' SES and delinquency are not, and in fact should not be, strongly correlated. Several observations about the relationship between SES and delinquency precede and anticipate our approach to this issue. Hirschi (1969:73) speculated

that the true, negative effect of SES upon delinquency might be suppressed by a third variable. Jensen (1993:378–379; 1995:155) and Tittle (1995:295) offered the possibility that countervailing causal mechanisms link SES and delinquency. Rooted in these theoretical observations, we develop our explanation with three propositions about SES and delinquent behavior.

THE LINK BETWEEN SES AND DELINQUENCY IS INDIRECT

Our first proposition is that the effect of SES upon delinquency is primarily indirect and operates through various mediating variables. Individuals' SES alters a variety of life contexts and chances, such as neighborhoods, local environmental conditions, cultures, economic opportunities, family conditions, peer networks, attitudes, and behaviors. These factors, in turn, can have more proximal effects upon delinquency, thus linking SES to delinquency (Tittle and Meier, 1991:294). In this article we focus on social-psychological mediators such as attitudes, values, and personal traits.

LOW SES CAUSES DELINQUENCY

Our second proposition is that low SES can increase individuals' propensity for delinquency through various causal mediators, that is, SES has a negative effect upon delinquency. Various criminological theories have negatively linked, either explicitly or implicitly, SES and delinquency through social-psychological mediators. For example, Merton's (1957) strain theory holds that crime results when a society strongly emphasizes culturally valued goals without providing the corresponding culturally approved means with which to achieve those goals. This produces strain in individuals, which is assumed to be most prevalent among those in the lower socioeconomic classes because they possess the fewest social and economic opportunities. One response to strain is for individuals to innovate—accepting conventional goals but attaining them with illegitimate means, that is, deviance and crime. Therefore, financial strain can explain a negative link between SES and delinquency. Other negative linkages implicated in contemporary theories have low SES producing crime via heightened aggression and alienation and lessened educational and occupational aspirations, social closeness, and self-control (e.g., Wolfgang and Ferracuti, 1967; Wiatrowski et al., 1981).

HIGH SES CAUSES DELINQUENCY

Our third proposition proposes the opposite of the second proposition: High SES can increase individuals' propensity for delinquency through

various causal mechanisms, that is, SES has a positive effect upon delinquency. This seemingly counterintuitive idea is found in several criminological and social-psychological theories, most notably power control theory (Hagan et al., 1985, 1987, 1990). This theory posits several positive connections between social class and delinquency. One connection is through risk taking. Risk taking is especially encouraged among the upper classes as a means to enhance upward social mobility; however, it has the unintended negative consequence of fostering juvenile delinquency (Hagan et al., 1985). Thus, risk taking can positively link SES and delinquency. Another positive connection made by Hagan and colleagues is through social power. Individuals in the upper levels of society have more social power and thus may with impunity hold attitudes that are conducive to crime. They see themselves as above society's precepts; they have more resources with which to respond to any negative societal reactions to their deviance; and they assess themselves as being at relatively low risk of detection and punishment for their deviant acts (Hagan et al., 1985, 1987). Thus, increased social power and decreased risk of detection for criminal activities can positively link SES and delinquency. Another positive linkage is through high SES producing fewer conventional values (Kohn, 1969).

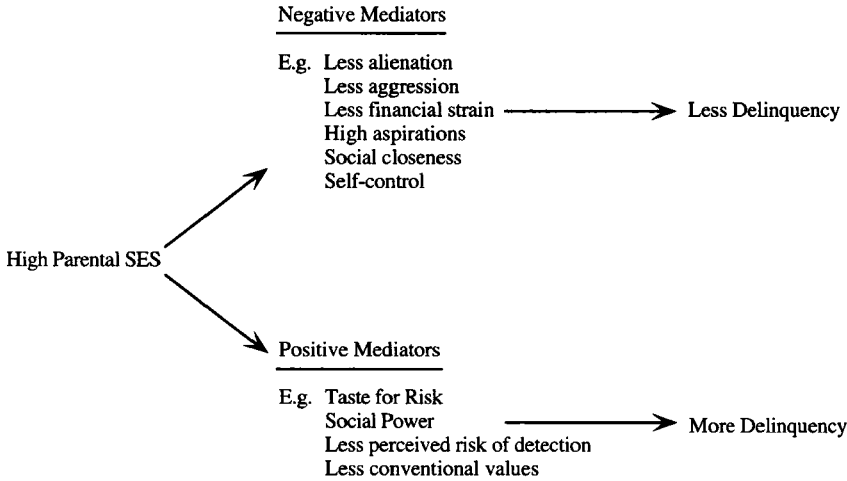
CAUSATION BUT NOT CORRELATION

Combining these three propositions, we expect that SES has both negative and positive indirect effects on delinquency. If this is the case, the negative and positive effects would cancel each other, resulting in either a weak or nonexistent correlation between measures of SES and delinquency across individuals in the population. A statistical truism holds that correlation does not necessarily denote causality. Indeed, the reverse is equally true: Causation does not necessarily denote correlation. We hypothesize that such is the case here. Through some social-psychological characteristics individuals' *low* SES produces high levels of delinquency, and through others, *high* SES produces delinquency. Thus, we expect many causal connections, but little correlation, between individuals' SES and their self-reported delinquency.

CONCEPTUAL MODEL

We illustrate our conceptual model in Figure 1. High SES *decreases* delinquency through some social-psychological mediators, including less financial strain, less aggression, less alienation, high educational and occupational aspirations, social closeness, and self-control. High SES *increases* delinquency through other mediators, including taste for risk, social power, less perceived risk of detection, and less conventional values. The

Figure 1. Conceptual Model of the Effects of Parental SES on Delinquency



coexistence of these negative and positive links, we believe, explains the lack of strong empirical correlations between SES and delinquency in the population.

We analyze this conceptual model in three steps. First, using data described below, we assess the zero-order association between standard measures of SES and delinquency. Second, we estimate a series of regression equations that isolate the separate negative and positive effects of SES on delinquency. Third, to test the sensitivity of our findings, we replicate our analyses with alternative measures of SES and delinquency.

DATA AND MEASURES

The data used to test these hypotheses come from the Dunedin Multidisciplinary Health and Development Study. Subjects in this study were members of an unselected birth cohort that has been studied extensively since birth. The sample and the history of the study have been described in detail previously (Silva and Stanton, 1996). Briefly, the study is a longitudinal investigation of the health, development, and behavior of a complete cohort of children born between April 1, 1972 and March 31, 1973 in Dunedin, New Zealand, a city of approximately 120,000 people. Data were collected at birth and at age 3 for 1,037 study members (52% males and 48% females—91% of the eligible births). This base sample has been reassessed with a diverse battery of psychological, medical, and sociological measures at ages 5, 7, 9, 11, 13, 15, 18, and 21. Overall, the study has

enjoyed high rates of participation at each wave. It has participation levels of $n = 991$ for age 5, $n = 954$ for age 7, $n = 955$ for age 9, $n = 925$ for age 11, $n = 850$ for age 13, $n = 976$ for age 15, and $n = 1,008$ for age 18. At the most recent wave, age 21 in 1993–94, 992 (97.3%) of the study members participated. Various studies have established the generalizability of findings from the Dunedin study to other industrialized countries (see Caspi et al., 1998 and Wright et al., 1998 for a discussion of these studies).

MEASURING SOCIAL CLASS AND DELINQUENCY

This study capitalizes upon the longitudinal nature of the Dunedin study by using parental SES during childhood and early adolescence (birth through age 15) to predict delinquency in late adolescence and early adulthood (ages 18 to 21) as mediated by social-psychological characteristics measured at age 18.

The SES of study members' families was measured with a six-point scale assessing parents' occupational status. The scale was developed by Elley and Irving (1976), and it places each occupation into one of six categories based upon the educational levels and income associated with that occupation in data from the New Zealand census. The scale ranges from 1 = "unskilled laborer" to 6 = "professional." The variable used in our analyses, Parental SES, is the average of the highest SES level of either parent across the interviews of the Dunedin study from the study member's birth through age 15. This variable reflects the socioeconomic conditions experienced by study members while they grew up. The reliability of this scale was $\alpha = .92$. For our sensitivity analyses, we analyzed two additional measures of social class. Parental Education was measured with a three-point scale indicating parents' highest level of education (university degree, a high school or a vocational degree, or did not finish high school) when the study member was age 15. Family Income (in units of \$10,000 NZ) was also measured at age 15.

Delinquency was measured at age 21 with a private, self-reported delinquency interview based on the standardized instrument developed by Elliott and Huizinga (1989). This variable, Delinquency at Age 21, indicates how many different illegal acts the study members committed at least once in the 12 months prior to their age 21 interview. To be clear, this is a variety scale (i.e., how many types of acts), not a frequency scale (i.e., how many times acts were committed). The 48 individual items composing this variety scale represent a wide range of offenses, including theft, burglary, assault, fraud, and drug offenses (for details of the frequencies of offense types by gender and SES see Moffitt et al., 1994). The reliability of this scale was $\alpha = .86$. For the high-SES study members (top 50%) the reliability was $\alpha = .82$, and for the low-SES members (bottom 50%) it was $\alpha = .88$.

For our sensitivity analyses, we analyzed three additional measures of delinquency. Frequency of Delinquency at age 21 is a frequency scale (logged) of the total number of illegal acts, regardless of the type of act, that were self-reported at the age 21 interview. Self-reported Delinquency at Age 18, like the age 21 measure, is a variety score of self-reported delinquent acts. It indicates how many of 43 different illegal acts the study members committed at least once in the 12 months prior to their age 18 interview. Index Offenses at age 21 is a scale of index offenses developed by Elliott and Huizinga (1983). Taken from the general self-report delinquency questionnaire, it includes aggravated assault, gang fights, stole motor vehicles, stole something worth more than \$50, broke into a building or vehicle, and strong-armed theft.

MEASURING SOCIAL-PSYCHOLOGICAL MEDIATING VARIABLES

We use 11 social-psychological mediating variables to link Parental SES to Delinquency, variables commonly implicated in contemporary theories. Seven of these mediating variables use measurement scales developed from the Multidimensional Personality Questionnaire (MPQ; Tellegen, 1982), as modified for the Dunedin study (Caspi et al., 1994). Each MPQ scale is composed of about 20 true-false items.

Of the negative mediating variables, the variable Self-Control is based upon self-reported and informant data. The self-reported data come from the "control" scale of the MPQ. A high score on this scale indicates that study members had a propensity to be reflective, cautious, careful, planful, and not impulsive. The informant data come from a reverse-coded single-item measure for which informants assessed on a three-point scale the extent to which they thought study members had problems with impulsivity, such as rushing into things without thinking about what might happen. The reliability of the items in the self-reported self-control scale plus the informant item was $\alpha = .79$. The variable Social Closeness is also an MPQ scale. Study members with high scores on this scale said that they were sociable, liked other people, and turned to others for comfort. The reliability of this scale was $\alpha = .75$. The variables Educational Aspirations and Vocational Aspirations measured study members' aspirations for their educational and occupational careers. Educational Aspirations was measured at age 15 and then updated at age 18, and it records study members' estimate of when they expected to leave school. It is coded into seven categories: Form 3 (about 8th grade) through form 7 (about 12th grade), polytechnical school, and university attendance. Vocational Aspirations was measured at age 18, and it records what sort of work the study members hoped to be doing at age 25. The occupations they reported were coded into levels of occupational status with the Elley and Irving

(1976) scale described above. The variable Aggression, like Self-Control, uses both self-reported and informant data. The self-reported data are an MPQ scale. Study members with high scores on this scale were those who said they would hurt others for their own advantage and would frighten and cause discomfort for others. The informant data come from a single-item measure in which informants assessed on a three-point scale the extent to which study members had problems with aggression, such as fighting or controlling anger. The reliability of the items in the self-reported aggression scale plus the informant item was $\alpha = .79$. The variable Alienation is an MPQ scale. Study members with high scores on it said that they felt mistreated, victimized and betrayed by others, and the target of false rumors. The reliability of this scale was $\alpha = .76$. The variable Financial Strain is a combination of three separate measures. Using three- and four-point scales, study members reported how difficult it was for them to support themselves/ their families financially at the time of the interview; how worried they were about inadequate income or poverty in the future; and how unhappy they were with their standard of living.

Of the positive mediating variables, the variable Taste For Risk is a reverse coding of the MPQ scale labeled "harm avoidance." Study members with high scores were those who preferred exciting, dangerous activities over safe, tedious activities. The reliability of this scale was $\alpha = .71$. The variable Social Power is an MPQ scale called "social potency." High-scoring study members were those who said that they were forceful and decisive in social situations and were fond of influencing others and of leadership roles. The reliability of this scale was $\alpha = .76$. The variable Low Perceived Risk of Detection is the average of four separate items. In each of them study members were asked, hypothetically, how many times they thought that they would get caught (from 0 to 10) if they committed a certain crime on 10 different days. The four crimes queried about were shoplifting, stealing a car, breaking into a place to steal something, and using a stolen bank card to get money. The reliability of this scale was $\alpha = .69$. The final variable, Conventional Values, is an MPQ scale called "traditionalism." Study members with high scores were those who desired a conservative social environment and strict moral standards. The reliability of this scale was $\alpha = .63$.

RESULTS

We present three empirical tests in this section. First, we tested if there was any statistical association between SES and delinquency among study members in the Dunedin study. Second, we tested for the existence of *both* a negative and a positive effect of SES upon delinquency. Third, we

retested these negative and positive effects using alternative measures of SES and delinquency.

THE LACK OF CORRELATION BETWEEN SES AND DELINQUENCY

The simple correlation between socioeconomic status (Parental SES) and delinquency (Delinquency at Age 21) among study members was $r = -.02$ and not statistically significant ($p = .53$). It is possible, however, that the relationship between SES and delinquency is not linear and therefore would not be detected with a simple correlation. Specifically, it has been suggested that individuals in the upper and lower strata of society have the highest proportional involvement in criminal offenses and that the middle strata has the lowest (Reckless, 1967:112). This would imply a U-shaped relationship between SES and delinquency.

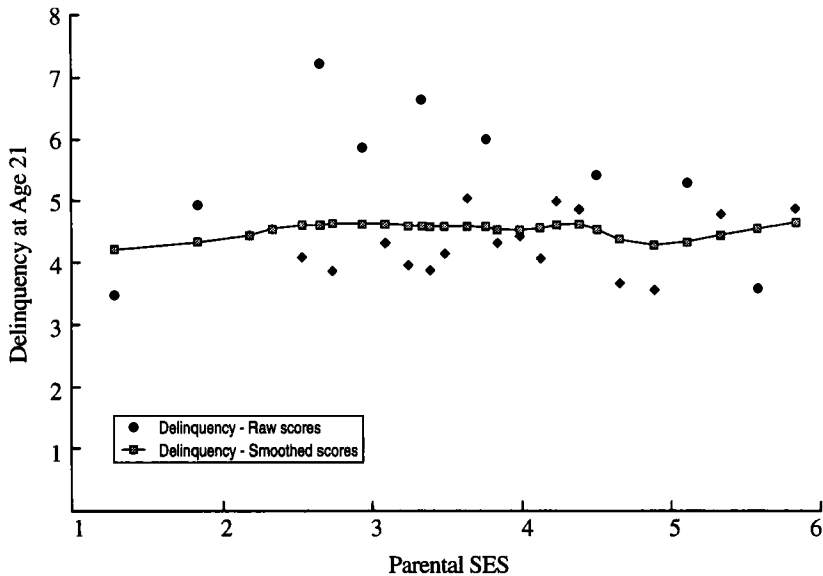
To test for this possibility, we plotted levels of delinquency as a function of SES for groups of Dunedin study members. We then used a combination of running median and Hanning linear smoothers to smooth this plot. This approach does not assume any particular functional form for the relationship between the two variables, so it would detect a nonlinear relationship. The results of this smoothing procedure are presented in Figure 2. In this figure, data from the 956 Dunedin study members were grouped into 27 data points. Visual inspection of this figure suggests that no significant statistical relationship was present between Parental SES and Delinquency at Age 21, for levels of self-reported delinquency were constant across all levels of SES. Thus, we found here what so many previous studies have found and what is the counterintuitive social fact that is the stimulus for this article: There appears to be no empirical association between general measures of SES and delinquency.

THE NEGATIVE AND POSITIVE EFFECTS OF SES ON DELINQUENCY

We hypothesized that the above lack of association results from SES having a negative and a positive effect upon delinquency that cancel each other out. We tested this hypothesis with social-psychological mediating variables that link SES to delinquency.

Table 1 presents the simple correlations between SES, delinquency, and 11 social-psychological mediating variables. The correlations between SES and the mediating variables were mostly statistically significant. The study members who grew up in high-SES families were less alienated, reported less financial strain, were less aggressive, and had higher educational and occupational aspirations. In addition, they reported a greater taste for risk taking, more social potency, and fewer conventional values.

Figure 2. Levels of Delinquency at Age 21, by Parental SES



The correlations between the mediating variables and delinquency were all statistically significant. The study members who committed the most delinquency were those who reported more financial strain, were more aggressive, were more alienated, had lower educational and occupational aspirations, had less social closeness, and had less self-control. In addition, they reported a greater taste for risk, more social potency, lower perceived risk of detection of crimes, and fewer conventional values.

These correlations support the hypothesized relationships summarized in Figure 1. To test more directly the effects of SES upon delinquency, we regressed delinquency upon SES and various combinations of the social-psychological mediating variables. The results of these ordinary least squares (OLS) regressions are presented in Table 2.

The first column in Table 2 presents 12 zero-order equations in which delinquency was regressed upon each of the independent variables separately. As with the correlations in Table 1, these zero-order estimates were all statistically significant except for Parental SES. This insignificant zero-order Parental SES coefficient represents a baseline with which to compare the coefficients in the remaining equations.

The next column presents model 1, an equation that regressed delinquency upon SES plus the social-psychological mediators through which high SES is hypothesized to increase levels of delinquency. By empirically

Table 1. Correlations of Socioeconomic Status and Delinquency with Social-Psychological Mediating Variables

Mediating Variables	Parental SES	Delinquency
Socioeconomic Status		
Parental SES		-.02
Variables Through Which Low SES is Hypothesized to Increase Levels of Delinquency		
Financial Strain	-.11***	.21***
Aggression	-.15***	.49***
Alienation	-.18***	.23***
Educational Aspirations	.33***	-.18***
Vocational Aspirations	.25***	-.25***
Social Closeness	.05	-.22***
Self-Control	.05+	-.37***
Variables Through Which High SES is Hypothesized to Increase Levels of Delinquency		
Taste for Risk	.12***	.29***
Social Power	.15***	.16***
Low Perceived Risk of Detection	.06+	.23***
Conventional Values	-.07*	-.38***

+ $p < .10$.
* $p < .05$.
*** $p < .001$.

modeling the positive effects (i.e., including them in the regression equation), we leave resident in the SES measure its negative effect. This isolates and estimates the negative effect of SES upon delinquency. In this equation, the four hypothesized positive mediators were in the expected direction and were statistically significant. The estimated effect of Parental SES upon delinquency, net of these mediators, was statistically significant and *negative*. That is, when controlling for the positive mediators of the SES-delinquency relationship, higher levels of SES predicted significantly *lower* levels of delinquency.

The third column presents model 2, an equation that regressed delinquency upon SES plus the social-psychological mediators through which high SES is hypothesized to decrease levels of delinquency. This model tested for the positive effect of SES upon delinquency. In this equation, all seven hypothesized negative mediators had effects in the expected direction and five of them were statistically significant. By empirically

modeling the negative effects (i.e., including them in the regression equation), we isolate and estimate the positive effect of SES upon delinquency. The estimated effect of Parental SES upon delinquency, net of these mediators, was statistically significant and *positive*. That is, when controlling for the negative mediators of the SES-delinquency relationship, higher levels of SES predicted significantly *higher* levels of delinquency.

The final column in Table 2 presents model 3, an equation that regressed delinquency upon SES plus all 11 of the social-psychological mediating variables. Here, the estimated effect of Parental SES was statistically insignificant. This demonstrates that the various causal mechanisms linking SES to delinquency, which are shown in models 1 and 2 to be in opposite directions, cancel each other out. That is, when controlling for all of the mediating variables (model 3), we got the same result as when not controlling for any of them (e.g., with a simple correlation): no statistical association between SES and delinquency.

ALTERNATIVE MEASURES OF SES AND DELINQUENCY

We tested the sensitivity of our analyses to different specifications of SES and delinquency by rerunning the analyses in Table 2 five times—twice with different measures of SES and three times with different measures of delinquency. Each time the same pattern emerged. Socioeconomic status had a positive indirect effect upon delinquency through some mediators and a negative indirect effect through others.

Our first two reanalyses used alternative specifications of SES—parental education and family income, and these two variables produced results nearly identical to those found with parental occupational status (in Table 2). We reran the analyses in Table 2 using these alternative measures of SES. As shown in Table 3, neither parental education nor family income had a statistically significant zero-order association with delinquency at age 21. Both, however, had statistically significant *negative* effects upon delinquency when the positive mediating variables were included in the equation (i.e., variables Taste For Risk through Conventional Values in Table 2), and both had statistically significant (or near significant) *positive* effects when we controlled for the negative mediating variables (i.e., Financial Strain through Self-Control).

Our next three reanalyses used alternative specifications of delinquency—frequency of delinquent acts at age 21, variety of delinquent acts at age 18, and index offenses at age 21. The frequency scale showed a nearly identical pattern of findings as did the corresponding age 21 variety scale in Table 2. The remaining two measures of delinquency had weak, but statistically significant, negative zero-order associations with parents' occupational status. These negative associations increased in magnitude

Table 2. OLS Equations Regressing Delinquency Upon SES and Social-Psychological Mediating Variables

Independent Variables	Self-Reported Delinquency at Age 21			
	Zero-Order Equations	Model 1	Model 2	Model 3
Socioeconomic Status				
Parental SES	-.081 (.129)	-.306 ** (.119)	.320 ** (.117)	.156 (.114)
Variables Through Which Low SES is Hypothesized to Increase Levels of Delinquency				
Financial Strain	2.12 *** (.316)		.970 *** (.286)	.934 *** (.276)
Aggression	3.94 *** (.229)		2.99 *** (.275)	2.47 *** (.272)
Alienation	.052 *** (.007)		-.003 (.007)	.005 (.007)
Educational Aspirations	-.524 *** (.098)		-.182+ (.095)	-.231 ** (.092)
Vocational Aspirations	-.802 *** (.114)		-.373 *** (.109)	-.396 *** (.105)
Social Closeness	-.053 *** (.008)		-.018 * (.008)	-.007 (.008)
Self-Control	-2.84 *** (.235)		-1.04 *** (.253)	-.359 (.255)
Variables Through Which High SES is Hypothesized to Increase Levels of Delinquency				
Taste for Risk	.061 *** (.007)	.034 *** (.007)		.017 ** (.006)
Social Power	.029 *** (.006)	.015 ** (.006)		.012 * (.006)
Low Perceived Risk of Detection	.485 *** (.069)	.265 *** (.067)		.151 * (.061)
Conventional Values	-.098 *** (.008)	-.079 *** (.008)		-.053 *** (.008)
R^2		.19	.30	.36

+ $p < .10$.
 * $p < .05$.
 ** $p < .01$.
 *** $p < .001$.

NOTES: $N = 956$. Cells present unstandardized ordinary least squares (OLS) coefficients with standard errors in parentheses. Some independent variables had missing cases for about 2%–3% of the study members. We controlled for these by adding missing-data indicators to the regression equations, but none of these indicators significantly predicted levels of delinquency.

Table 3. Reestimations of Equations from Table 2 with Alternative Measures of SES and Delinquency

Independent Variables	Partial Regression Coefficients, Controlling for Mediating Variables in		Partial Regression Coefficients, Controlling for Mediating Variables in	
	Zero-Order Equations	Model 1 of Table 2	Model 2 of Table 2	Model 3 of Table 2
Alternative Specifications of SES				
Parental Education		Dependent Variable: Self-Reported Delinquency at Age 21		
	-232 (.229)	-618 ** (.212)	.455 * (.205)	.155 (.200)
Family Income				
	-012 (.093)	-130 (.085)	.159 * (.081)	.072 (.078)
Alternative Specifications of Delinquency				
Parental SES		Dependent Variable: Self-Reported Delinquency at Age 18		
	-.338 * (.141)	-.584 *** (.126)	.186 (.120)	.009 (.116)
Parental SES		Dependent Variable: Frequencies (Logged) of Self-Reported Delinquent Acts at Age 21		
	-.040 (.057)	-.146 ** (.053)	.107 * (.054)	.030 (.053)
Parental SES		Dependent Variable: Index of Offenses at Age 21		
	-.072 *** (.021)	-.091 *** (.021)	-.006 (.021)	-.017 (.021)

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

NOTES: $N = 956$. Cells present unstandardized ordinary least squares (OLS) coefficients with standard errors in parentheses.

when we controlled for the “positive” mediating variables, and they attenuated to statistical insignificance when we controlled for the “negative” mediating variables.

To summarize, these alternative measures of SES and delinquency show the same pattern of findings as our initial analyses: SES had both negative and positive indirect effects on delinquency through social-psychological mediators. When there was an initially insignificant statistical relationship between SES and delinquency, these indirect effects could make it significantly negative or positive. When there was an initially weak relationship, these indirect effects could magnify or nullify it.

SUMMARY AND DISCUSSION

In this article we have reexamined the relationship between SES and delinquency. While various classical theories of delinquency have posited a negative relationship between the two, empirical studies have found little statistical association between them. How can this apparent disparity between theory and data be explained? Drawing upon recent theoretical insights, we propose that SES has a negative effect upon delinquency through some mediators, that SES has a positive effect upon delinquency through other mediators, and that these negative and positive effects coexist and can cancel each other out. As a result, there can be many causal links between SES and delinquency but little overall correlation.

Our empirical analyses support this proposed explanation. From previous criminological and social-psychological research, we identified 11 social-psychological characteristics that negatively and positively mediate the effect of parental SES upon adolescent delinquency. By selectively controlling for these mediators, we isolated and estimated the negative and positive effects of SES upon delinquency, and they were statistically significant.

This article, then, reconciles theories and empirical studies of SES and delinquency, for we find that SES both has a negative effect upon delinquency and is not highly correlated with it. The missing piece to this puzzle is the existence of a positive effect as well. That there can be causality between SES and delinquency, despite a lack of correlation, is good news indeed for the analysis of crime, for “the simple omission of class from the study of crime would impoverish criminology” (Hagan, 1992:1).

Perhaps criminologists have largely overlooked positive SES-delinquency links because they have tended to focus upon explaining the causes of deviance among the lower social classes. In contrast, social psychologists may have anticipated these positive links because they have tended to focus upon explaining the causes of conformity among the lower classes. Thus, it appears that researchers’ definitions of social problems—deviance

versus conformity—may have guided their perspectives on the effects of SES.

We hope that our findings stimulate further studies of the causal connections between individuals' location in society and their propensity for antisocial behavior. Hagan (1992) emphasized the importance of this task when he wrote that, in linking social class to delinquency and crime, "we need to more directly conceptualize and measure our own linking causal mechanisms" (p. 5). Further research could examine other mediating mechanisms, such as neighborhood, family, and school. These other mechanisms might also demonstrate cross-canceling mediational effects of SES on delinquency.

In addition, there may be causal interplay between types of SES-delinquency mediators. For example, neighborhood contextual effects might influence the linkage between SES and delinquency through social-psychological characteristics. This is because neighborhood contexts have been shown to influence various delinquency-relevant individual characteristics, such as lowered career aspirations (Hagan, 1993), aggressiveness (Krivo and Peterson, 1996), weakened social ties (Sampson and Groves, 1989), and financial strain (Johnstone, 1978). Therefore, if we assume that families' SES levels influence their selection of neighborhoods, and that neighborhoods affect individuals in the family, neighborhoods might mediate the effects of SES on delinquency-relevant, social-psychological characteristics. Alternatively, if we assume that neighborhoods affect families' attainment of SES as well as their individual characteristics, the correlation between SES and social-psychological characteristics might be in part spurious due to neighborhood effects. This type of multilevel analysis points to potentially fruitful research on the effects of SES on delinquent behavior.

In addition to its theoretical implications, this article may be relevant to efforts to prevent crime. It appears that base rates of individual-level characteristics associated with crime, such as the social-psychological mediators discussed in this article, vary by individuals' level of SES. If so, it might be efficacious for prevention programs working with young people in a given segment of society to focus upon those crime-related characteristics found most commonly in that segment. For example, in the lower social classes, prevention programs might find the most success in attempting to reduce levels of aggression and alienation while increasing educational and occupational aspirations. Conversely, in the higher social classes, programs might do well to emphasize conventional values and the risks of crime.

REFERENCES

- Caspi, Avshalom, Terrie E. Moffitt, Phil A. Silva, Magda Stouthamer-Loeber, Robert F. Krueger, and Pamela S. Schmutte
1994 Are some people crime-prone? Replications of the personality-crime relationship across countries, genders, races, and methods. *Criminology* 32:163-195.
- Caspi, Avshalom, Bradley R. Entner Wright, Terrie E. Moffitt, and Phil A. Silva
1998 Early failure in the labor market: Childhood and adolescent predictors of unemployment in the transition to adulthood. *American Sociological Review* 63:424-451.
- Cloward, Richard and Lloyd Ohlin
1961 *Delinquency and Opportunity*. Glencoe, Ill.: Free Press.
- Elley, Warrick B. and James C. Irving
1976 Revised socio-economic index for New Zealand. *New Zealand Journal of Educational Studies* 7:153-167.
- Elliott, Delbert S. and David Huizinga
1983 Social class and delinquent behavior in a national youth panel. *Criminology* 21:149-177.
1989 Improving self-reported measures of delinquency. In Malcolm W. Klein (ed.), *Cross-National Research in Self-Reported Crime and Delinquency*. Dordrecht: Kluwer.
- Hagan, John
1992 The poverty of a classless criminology—The American Society of Criminology 1991 Presidential Address. *Criminology* 30:1-18.
1993 The social embeddedness of crime and unemployment. *Criminology* 31:465-491.
- Hagan, John, A. R. Gillis, and John Simpson
1985 The class structure of gender and delinquency: Toward a power-control theory of common delinquent behavior. *American Journal of Sociology* 90:1151-1178.
- Hagan, John, John Simpson, and A. R. Gillis
1987 Class in the household: A power-control theory of gender and delinquency. *American Journal of Sociology* 92:788-816.
1990 Clarifying and extending power-control theory. *American Journal of Sociology* 95:1024-1037.
- Hirschi, Travis
1969 *Causes of Delinquency*. Berkeley: University of California Press.
1972 Social class and crime. In Gerald W. Thielbar and Saul D. Feldman (eds.), *Issues in Social Inequality*. Boston: Little, Brown.
- Jensen, Gary F.
1993 Power-control vs. social-control theories of common delinquency: A comparative analysis. In Freda Adler and William S. Laufer (eds.), *Advances in Criminological Theory*. Vol. 4. New Brunswick: Transaction Publishers.
1995 Salvaging structure through strain: A theoretical and empirical critique. In Freda Adler and William S. Laufer (eds.), *The Legacy of Anomie Theory*. New Brunswick: Transaction Publishers.

- Jensen, Gary F. and Kevin Thompson
1990 What's class got to do with it? A further examination of power-control theory. *American Journal of Sociology* 95(4):1009-1023.
- Johnson, Richard E.
1980 Social class and delinquent behavior. *Criminology* 18:86-93.
- Johnstone, John W. C.
1978 Social class, social areas, and delinquency. *Sociology and Social Research* 63:49-72.
- Kohn, Melvin L.
1969 *Class and Conformity: A Study in Values*. Chicago: University of Chicago Press.
- Krivo, Lauren J. and Ruth D. Peterson
1996 Extremely disadvantaged neighborhoods and urban crime. *Social Forces* 75:619-650.
- Merton, Robert K.
1938 Social Structure and anomie. *American Sociological Review* 3:672-682.
1957 *Social Structure and Social Theory*. Glencoe, Ill.: Free Press.
- Moffitt, Terrie E., Phil Silva, Donald Lynam, and Bill Henry
1994 Self-reported delinquency at age 18: New Zealand's Dunedin Multidisciplinary Health and Development Study. In Josine Junger-Tas and Gert-Jan Terlouw (eds.), *The International Self-Report Delinquency Project*. Amsterdam: Kugler.
- Nye, Ivan F., James F. Short, and Virgil Olson
1958 Socioeconomic status and delinquent behavior. *American Sociological Review* 63:381-389.
- Reckless, Walter C.
1967 *The Crime Problem*. 4th Ed. New York: Appleton-Century-Crofts.
- Sampson, Robert J. and W. Byron Groves
1989 Community structure and crime: Testing social-disorganization theory. *American Journal of Sociology* 94:774-802.
- Shaw, Clifford and Henry D. McKay
1942 *Juvenile Delinquency and Urban Areas*. Chicago: University of Chicago Press.
- Silva, Phil A. and Warren A. Stanton (eds.)
1996 *The Dunedin Study: From Child to Adult*. New York: Oxford University Press.
- Tellegen, Auke
1982 *Brief Manual for the Multidimensional Personality Questionnaire*. Minneapolis: University of Minnesota Press.
- Tittle, Charles R.
1995 *Control Balance: Toward a General Theory of Deviance*. Boulder, Colo.: Westview Press.
- Tittle, Charles R. and Robert F. Meier
1990 Specifying the SES/delinquency relationship. *Criminology* 28:271-299.
1991 Specifying the SES/delinquency relationship by characteristics of contexts. *Journal of Research in Crime and Delinquency* 28:430-455.

- Title, Charles R., Wayne J. Villemez, and Douglas A. Smith
1978 The myth of social class and criminality: An empirical assessment of the empirical evidence. *American Sociological Review* 43:643-656.
- Weiss, Joseph G.
1987 Social class and crime. In Michael R. Gottfredson and Travis Hirschi (eds.), *Positive Criminology*. Newbury Park, Calif.: Sage.
- Wiatrowski, Michael D., David B. Griswold, and Mary K. Roberts.
1981 "Social Control Theory and Delinquency." *American Sociological Review* 4: 525-541.
- Wolfgang, Marvin E. and Franco Ferracuti
1967 *The Subculture of Violence: Towards an Integrated Theory in Criminology*. London: Tavistock Publications.
- Wright, Bradley R. Entner, Avshalom Caspi, Terrie E. Moffitt, and Phil A. Silva
1998 Because you had no place to stay: Doubled-up housing during the transition to adulthood. *Social Service Review* 72:92-111.

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