

Violence in the Transition to Adulthood: Adolescent Victimization, Education, and Socioeconomic Attainment in Later Life

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There is increasing speculation about links between violent victimization in childhood and adolescence and socioeconomic disadvantage in later adulthood, yet little work, either theoretical or empirical, has examined this issue. This paper integrates research on social and psychological consequences of victimization with theory and research on socioeconomic attainment to propose a theoretical model that situates adolescent victimization in the socioeconomic life course. Examination of data from a national sample of American adolescents (ages 11–17 in 1976) indicates a chain-like sequence in which victimization diminishes educational self-efficacy, which subsequently undermines educational performance and attainment. Through diminished educational attainment, adolescent victimization has substantial and wide-ranging effects on socioeconomic attainment in early adulthood. Theoretical and policy implications of these findings are discussed.

A key issue for research on adolescence is the degree to which it sets the stage for later life. Adolescent experiences are studied to identify contexts, orientations, experiences, and behaviors that determine later life-course

fortunes (Caspi, Wright, Moffit, & Silva, 1998; Elder, 1998; Elder & Crosnoe, 2002; Pulkkinen & Caspi, 2002; Rutter, 1989). Of particular importance is the identification of factors that put people at risk for problematic transitions (Robins & Rutter, 1990; Sampson & Laub, 1993; Werner & Smith, 1992). Accompanying dramatic increases in youth violence in the 1980s and 1990s, an important and emerging area of research on adolescence has focused on exposure to violence, particularly direct victimization, and how such experiences undermine successful and efficacious transitions to adulthood (Gorman-Smith & Tolan, 1998; Hagan & Foster, 2001; Macmillan, 2001). Yet, one area not considered extensively in prior research is the impact of victimization on the socioeconomic transitions to adulthood. This gap in our knowledge is surprising considering recent speculation that exposure to violence undermines socioeconomic attainments. For example, a feature story in *The Atlantic Monthly* concluded:

Physical safety and psychological security are the foundations—the essential preconditions—for a child’s health, education, and overall development. A good school, an accessible doctor, a rich library, a 15 percent increase in the Head Start budget—these are of little use to a child sharing an apartment with his mother’s abusive, violent, drug-selling boyfriend, or to a child who fears the very sidewalks, or to one who cannot find a safe haven even in a classroom. In failing to insulate our children from criminal activity, we are jeopardizing the future of millions of American youngsters. (Zinmeister, 1990, p. 49)

Echoing a similar sentiment, Farkas and Vicknair (1996, p. 558) concluded:

More broadly, we believe that the nation’s most pressing social concern should be the poor school performance and exposure to violence of many low-income, minority, and central-city youth. The costs to these children in emotional pain and blighted opportunity are immense.

Yet, with growing concern that early violent victimization can cause later socioeconomic disadvantage, relatively little is known about general life-course consequences of victimization, including processes of educational and socioeconomic attainment that are central to theory and research on the transition to adulthood (Booth, Crouter, & Shanahan, 1999). This paper furthers our understanding of the consequences of victimization and the factors that influence socioeconomic disadvantage in adulthood by specifying and testing a life-course-based conceptual model that links

violent victimization in adolescence with long-term processes of educational and socioeconomic attainment.

Life Course Links Between Victimization and Socioeconomic Attainment

A key theme in both life course and socioeconomic attainment research is the longitudinal progression of lives (Elder, 1992). Research illuminates developmental chains that determine attainments in later life (Rutter, 1989). Although well developed in some areas of social sciences, a life-course approach has only recently been applied in the study of crime (Sampson & Laub, 1993). There is even less work that examines the life-course dimensions of victimization (Finkelhor, 1994). Yet, research on risk factors for and consequences of violent victimization suggests the relevance of a life-course approach for understanding the socioeconomic consequences of violent victimization.

Violence typically refers to "behaviors by individuals that intentionally threaten, attempt, or inflict physical harm on others" (Reiss & Roth, 1993, p. 2) and risk of violent victimization is highly concentrated in adolescence. Moreover, adolescence is characterized by comparatively high prevalence of victimization. For example, the National Crime Victimization Survey (NCVS) rate of violent victimization for adolescents (ages 12 to 19) is twice the national average (51.1 per 1,000 vs. 23 per 1,000; Pastore & Maguire, 2001). Even this estimate may be a substantial undercount. Studies of national samples of adolescents, including the National Youth Survey (NYS) and the Monitoring the Future Survey indicate 1-year prevalence rates of approximately 25 per 100 persons (Wells & Rankin, 1995), rates 7 to 8 times greater than the national average seen in the NCVS. Multivariate analyses of Canadian, American, and British data also show large age differentiation in victimization risk (Cohen, Kluegel, & Land, 1981; Gottfredson, 1984; Sacco, Johnson, & Arnold, 1993).

A second body of research demonstrates negative social and psychological consequences of violent victimization. Most attention has focused on postvictimization mental distress (see reviews in Kendall-Tackett, Williams, & Finkelhor, 1993; Lurigio, 1987; Steketee & Foa, 1987), fear and perceived risk (Box, Hale, & Andrews, 1989; Skogan, 1987), and behavioral adaptations (Hindelang, Gottfredson, & Garofalo, 1978; Skogan & Maxfield, 1981). Although largely empirical, this work echoes a conceptualization of violent victimization as a power relationship in which one party dominates another (Hagan, 1989). Victims of violence are denied agency in the sense that the experience of attack or threat—for

example, through robbery, sexual assault, or assault—is characteristically involuntary. It is thus not surprising that research highlights feelings of reduced agency and self-efficacy. For example, Fischer's (1984) in-depth study of 50 crime victims found that victimization profoundly affects a person's sense of social order:

Being criminally victimized is a disruption of daily routine. It is a disruption that compels one, despite personal resistance, to face one's fellow as predator and oneself as prey. ... As life goes on, the victim finds him/herself pervasively attuned to the possibility of victimization—through a continued sense of reduced agency, of the other as predatory, and of community as inadequately supportive. (p. 166)

Perceptions of agency, social order, and self-efficacy are thus undermined by violent victimization (see also Bard & Sangrey, 1979; LeJeune & Alex, 1973; Janoff-Bulman & Frieze, 1983; Lurigio, 1987; Peterson & Seligman, 1983).

Although the psychological consequences of victimization, at least in the short term, seem apparent, other research suggests that the consequences of victimization are often relatively minor. Methodological investigations of recall in victimization surveys indicate that a large number of victims actually fail to remember even serious victimization events (Skogan, 1990). Likewise, studies of psychological distress stemming from criminal victimization find few long-term effects (Norris, Kaniasty, & Thompson, 1997). One explanation for these findings is that many criminal events are not serious (Block & Block, 1984), and this may be particularly true of the types of crime that typically occur among adolescents (Garofalo, Siegel, & Laub, 1987).

Therefore, research on the consequences of victimization is highly suggestive that violent victimization influences psychological aspects of human lives. Yet, for the most part, developmental or life-course consequences of victimization, including educational and socioeconomic attainments that have been a dominant aspect of research on the transition to adulthood, have yet to be considered. As such attainments are built on a foundation of everyday attitudes and acts of self-efficacy, they may be undermined by experiences of violent victimization in adolescence.

Adolescent victimization and life-course processes of educational and occupational attainment. Socioeconomic attainment is studied as a life-course phenomenon that is built around sequenced life stages and intergenerational transmission (Elder, 1992). Although the original status-

attainment model (Blau & Duncan, 1967) emphasized the inter-generational dimensions of status attainment, the later Wisconsin model introduced human agency into processes of status attainment (Sewell & Hauser, 1975). Although accounting for family socioeconomic status and ability, this model also incorporates measures of social and psychological agency, including educational and occupational aspirations, as mediators between background factors and educational and socioeconomic outcomes. Social psychological agency in adolescence is an important intervening link between origins and later adult socioeconomic attainments (Sewell & Hauser, 1975).

Against this backdrop, the developmental impact of adolescent violent victimization on socioeconomic achievement in early adulthood stems from strand, or chain, effects (Rutter, 1989) in the life-course status-attainment process. Experiences occurring during pivotal developmental stages set in motion chains of events that give shape and meaning to the life course. Even when they do not directly produce long-term psychological change in an individual, such experiences may still influence developmental trajectories and ultimately life-course outcomes. A central objective of such research is the identification of the processes and mechanisms involved.

Our review of previous research has suggested that violent victimization undermines perceptions of agency and self-efficacy. At the same time, individuals who lack self-efficacy are less likely to perceive they have personal control or agency over events that affect them (Bandura, 1997; Gecas, 1989). This implies that victims of violence may be less likely to assume agency by investing in future-oriented activities. Although previous victimization research has referenced global or undifferentiated self-efficacy (e.g., see Lurigio, 1987), self-efficacy also applies to specific tasks or social domains, such as educational and occupational attainment (Bandura, 1997; Gecas, 1989) and may be particularly significant for adolescents in the transition to adulthood (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Grabowski, Call, & Mortimer, 2001). Consequently, an initial link between adolescent victimization and socioeconomic fortunes is the role of adolescent victimization in diminishing educational self-efficacy, which manifests itself in lower investments in educational processes. In turn, diminished educational self-efficacy undermines educational performance and overall attainment. The implication is that adolescent victimization will increase problems in school, result in lower grades, and lead to fewer years of education. Because educational attainment is a key determinant of socioeconomic status in later life (Blau & Duncan, 1967; Sewell & Hauser, 1975), this chain of adversity should culminate in reduced socioeconomic achievements in

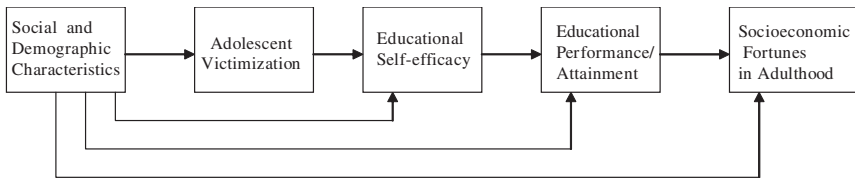


FIGURE 1 Conceptual model linking adolescent violent victimization to socioeconomic fortunes in early adulthood.

later life. Overall, this model (shown in Figure 1) suggests a sequence of life-course events and experiences that link violent victimization in adolescence to diminished socioeconomic attainments in later adulthood.

Previous research. Although we suggest a process by which victimization in adolescence influences later educational and socioeconomic attainment, existing research is both sparse and largely confined to studies of abused and neglected children. Still, existing work supports our expectations. Abused and neglected children have lower IQ scores (Rogeness, Amrung, Macedo, Harris, & Fischer, 1986; Sadeh, Hayden, McGuire, & Sach, 1994), are less oriented toward educational and vocational goals (Hjorth & Ostrov, 1982), and have poorer general academic performance (Eckenrode, Laird, & Doris, 1993; Gelles & Straus, 1990; Rogeness et al., 1986; Salzinger, Feldman, Hammer, & Rosario, 1991; Tarter, Hegedus, Winsten, & Alterman, 1984; Wolfe & Mosk, 1983). Victims of abuse and neglect also have lower educational attainment in early adulthood (Perez & Widom, 1994).

Although this work suggests a relationship between early experiences of violence and educational development, interpreting these findings as victimization effects is problematic. First, parental abuse is both less common and more systematic than nonfamilial violence (Boney-McCoy & Finkelhor, 1995), raising questions of generalizability. Second, there is significant overlap among child abuse, neglect, and poor familial relations (Hirschi, 1995). As family relations are key components of status attainment (Coleman, 1990; Hagan, Macmillan, & Wheaton, 1996), it is difficult to conclude that reduced educational attainment among abused children stems from experiences with violence (Beitchman, Zucker, Hood, daCosta, & Akman, 1991). Consistent with this, Boney-McCoy and Finkelhor (1995) reported no effect of familial abuse on educational problems among males once they controlled for the overall quality of the relationship between parent and child. Finally, none of this prior research has built or tested a theoretical model. Thus, the life-course processes that

link early exposure to violence with later life-course fortunes are largely unknown. This paper furthers understanding of the social consequences of violent victimization and determinants of socioeconomic attainment in the transition to adulthood by examining links between experiences of violence in adolescence and life-course processes of educational and occupational attainment using data from a sample of American adolescents.

METHOD

Sample

The data used in this research are from the NYS, a prospective, longitudinal study. The NYS comprises a national probability sample of households in the continental United States, based on a multistage, cluster-sampling design initiated in 1976 (Elliott, Huizinga, & Menard, 1989). The original sample consists of 1,725 youths between the ages of 11 and 17 with an overall response rate of 73%. Comparisons with census data show the sample to be representative of the youth population of the United States (Elliott et al., 1989). The present analyses use data collected from 1976 to 1986, the period during which this sample made the transition to adulthood. At the 10-year follow-up, respondents were 21 to 27 years old and 80% of the original sample was retained. Comparisons of sample composition over waves show that age, sex, ethnicity, class, place of residence, or delinquency (Elliot et al., 1989) did not seriously affect attrition, and preliminary analyses (not shown) by the authors has shown that panel attrition is not significantly related to adolescent victimization.

These data are uniquely suited to the research at hand as they include detailed measures of adolescent victimization; measures of educational investments, achievements, and attainment; a wide array of measures of socioeconomic standing in early adulthood; and myriad control variables that may influence both adolescent victimization risk and later socioeconomic standing. Descriptions, means, and standard deviations for all variables are shown in Table 1.

Measures

Violent victimization in adolescence. Our measure of violent victimization in adolescence is based on three questions: how many times in the last year the adolescents had been "sexually attacked or raped or an attempt to do so"; "attacked with a weapon such as a gun, knife, bottle, or chair"; or "been beaten up or been threatened with being beaten up."

TABLE 1
 Descriptions, Mean, and Standard Deviations of Variables, National Youth Survey, 1976-1987

<i>Variable</i>	<i>Description</i>	<i>M</i>	<i>SD</i>
Adolescent victimization (ages 13-17)	Log of the average annual incidence of having been beaten up, attacked with a weapon, or sexually assaulted before the age of 18 (From 0 to 4.043)	0.227	0.461
Potential predetermining variables			
Female (1976)	Respondent's sex (Female = 1)	0.494	0.5
Age (1976)	Respondent's age	13.835	1.964
Family socioeconomic status (1976)	Hollingshead scale	43.281	16.613
Black (1976)	Respondent's ethnicity (Black = 1)	0.137	0.344
Intact family (1976)	Family structure	0.694	0.461
Number of children (1976)	(Both parents in household = 1) Number of youth in house under 18 (From 1 = 1 to 8 = 8 or more)	3.043	1.688
Neighborhood quality (1976)	Rating of how big a problem: (1) vandalism, (2) winos and junkies, (3) abandoned houses, (4) burglaries and thefts, (5) run down and poorly kept buildings, and (6) assaults/muggings are in the neighborhood (For each 1 = not a problem to 3 = big problem)	7.343	1.903
Urban residence (1976)	Respondent lives in central city of SMSA or urban area with a population of 100,000 or more	0.251	0.434
Suburban residence (1976)	Respondent lives in part of Standard Metropolitan Statistical Area (SMSA) not classified as urban or any other suburban community	0.446	0.497
Familial control (1976)	"How many afternoons during the school week are spent with family?" (From 0 to 5) "How many evenings during the school week are spent with family?" (From 0 to 5) "How much time on weekends is spent with family?" (From 1 = very little to 5 = a great deal) ($\alpha = .680$)	10.545	3.347

<p>Familial support (1976)</p>	<p>"My family listens to my problems." (From 1 = strongly disagree to 5 = strongly agree) "I feel close to my family." (From 1 = strongly disagree to 5 = strongly agree) "My family is not interested in my problems." (From 1 = strongly agree to 5 = strongly disagree) ($\alpha = .662$)</p>	<p>12.488</p>	<p>1.822</p>
<p>Family-peer integration (1976)</p>	<p>"How many of your children's friends do you know?" (1 = none of them to 5 = all of them) "How many of your children's friends have you invited to your home or on family activities?" (1 = none of them to 5 = all of them) "How many of your children's friend's parents do you personally know?"</p>	<p>11.722</p>	<p>2.456</p>
<p>Delinquency (ages 13 to 17)</p>	<p>(1 = none of them to 5 = all of them) ($\alpha = .789$) Logged average annual rate of self-reported involvement in delinquency. Each individual item is coded from 1 = never to 9 = 2 to 3 times a day. Offenses include: (1) damaged family property, (2) damaged school property, (3) damaged other property, (4) stolen motor vehicle, (5) bought stolen goods, (6) attacked someone, (7) stolen something worth less than \$5, (8) carried a hidden weapon, (9) hit parent, (10) been in gang fights, (11) been paid for sexual relations, (12) sold marijuana, (13) hit teacher, (14) hit other student, (15) sold hard drugs, (16) stolen something worth more than \$50, (17) sexual assault, (18) used force on students, (19) used force on a teacher, (20) used force on other person, (21) stolen things worth between \$5 and \$50. (22) broken into a building to steal or took around</p>	<p>2.947</p>	<p>0.248</p>

TABLE 1 (Continued)

<i>Variable</i>	<i>Description</i>	<i>M</i>	<i>SD</i>
Educational investments, performance, and attainment			
Educational commitment (1976/age 18)	"How important has school work been?" (From 1 = not important at all to 5 = very important) "How important is it to go to college?" (From 1 = not important at all to 5 = very important) "How important is it to have a high grade point average?" (From 1 = not important at all to 5 = very important) ($\alpha = .629/.686$)	12.372/11.786	2.614/2.863
Educational effort (1976/age 18)	"How many evenings during the school week are spent studying?" (From 0 to 5) "How many afternoons during the school week are spent studying?" (From 0 to 5) "How much time is spent studying on weekends?" (From 1 = very little to 5 = a great deal) ($\alpha = .521/.808$) Respondent's self-reported average grades	10.399/10.2	2.611/2.755
Grade point average (1976/1983)	Respondent's self-reported average grades	3.785/3.736	.813/.819
Education attainment (1986)	Respondent's highest grade attained (From 6 to 18)	12.886	1.796
Employment and socioeconomic attainment measures		0.903	0.296
Labor force participation (1986)	Respondent employed in past year (Employed = 1)	0.026	0.159
Unemployed (1986)	Respondent unemployed in past year (Unemployed = 1)	36.242	20.036
Occupational status (1986)	Duncan's scale	1.99	0.423
Hourly wage (1986)	Logged average hourly wage	0.035	0.185
Public assistance (1986)	Respondent receives public assistance (Yes = 1)		

We measured violent victimization as average annual total reported incidence between the ages of 13 and 17. This information was derived from responses to multiple waves of data. Over the observation period, 50% of the NYS sample experienced no violent victimization, almost 15% reported one victimization incident, 15% reported two or three incidents, and 20% reported four or more incidents. Although these figures are multiyear measures of victimization, they are substantively similar to figures reported in previous analyses of the NYS data (Lauritsen, Sampson, & Laub, 1991; Wells & Rankin, 1995) and other national samples (Boney-McCoy & Finkelhor, 1995; Wells & Rankin, 1995). Moreover, methodological analysis of NYS violence measures has further indicated considerable severity in incidents reported (Elliott, 1994). This is consistent with data from the National Crime Victimization Survey showing adolescent victimization to be equally, if not more, likely to involve attacks (rather than threats) and weapons and to result in injury and medical care (U.S. Department of Justice, 2002). As the distribution of victimization is somewhat skewed, all analyses use the natural log of overall violent victimization incidence.

Potential predetermining variables. Although we can never fully account for all factors that influence socioeconomic attainment in early adulthood, our analyses controlled for factors that are recognized as correlates of both victimization risk in adolescence and socioeconomic attainment later in life. These include basic demographic characteristics such as gender (female coded 1, male coded 0), age, race (Black coded 1, other coded 0), and family socioeconomic status (Hollingshead composite index = 11 to 77). We also controlled for residence (urban coded 1, suburban coded 1; rural is the reference category). A subjective measure of the quality of the respondent's neighborhood is the sum of five items indexing parent's assessment of whether neighborhood problems, including vandalism, abandoned houses, burglaries and thefts, run-down and poorly kept buildings and yards, and assaults and muggings are a problem in their neighborhood (each ranges from 1 = *not a problem* to 3 = *a big problem*; $\alpha = .76$).

Family structure and process in adolescence are also important for both victimization risk and later socioeconomic attainments (Furstenberg, Cook, Eccles, Elder, & Sameroff, 1999). Our models include basic family structure (both parents in household = 1, other = 0), and number of children in the household. We also considered three dimensions of family process. Familial support is the sum of three items: "My family listens to my problems," "I feel close to my family," and "My family is not interested in my problems" (ranging from 1 = *strongly disagree* to 5 = *strongly agree*),

with the latter reverse coded ($\alpha = .66$). Parental social control sums three items: "How many afternoons during the school week are spent with family" (ranging from 0 to 5), "How many evenings during the week are spent with family (both ranging from 0 to 5), and "How much time on weekends is spent with family" (ranging from 1 = *very little* to 5 = *a great deal*; $\alpha = .68$). Family peer integration is taken from the parent interview and is the sum of three items: "How many of your children's friends do you know," "How many of your children's friends have you invited to your home or on family activities," and "How many of your children's friends' parents do you personally know" (ranging from 1 = *none of them* to 5 = *all of them*; $\alpha = .77$).

All preceding measures were taken from the 1976 interview to establish causal priority to our measure of violent victimization. As such factors can fluctuate over time, we assessed stability and change in all predetermining variables. Although there was marginal evidence of change over time during our analytic time frame, wave-to-wave correlations were typically high (.5 to .8) and the inclusion of average values or variables indexing changes in status had no significant effect on the results.

We also included a measure of involvement in delinquency that influences victimization risk in adolescence (Jensen & Brownfield, 1986; Lauritsen et al., 1991) and may influence later socioeconomic attainment (Hagan, 1991, 1993; Sampson & Laub, 1993). This helped discount the possibility that any relationship between victimization and later socioeconomic attainment is spurious because of delinquent activity. Involvement in delinquency was measured as the log of the respondent's average annual self-reported participation in 22 delinquent behaviors between the ages of 13 to 17 and was derived from multiple waves of data. In time frame and age range, this variable was consistent with our measure of violent victimization. Although self-report items have limitations, a measure of multifaceted involvement in delinquency is widely regarded as a strong indicator of propensities toward criminal activity (Gottfredson & Hirschi, 1990; Hindelang, Hirschi, & Weis, 1981; McMorris, 1997).

Educational self-efficacy. Our argument about the socioeconomic consequences of adolescent victimization is premised on its proximal effects on educational self-efficacy. Building on Bandura (1997) and Gecas (1989), educational self-efficacy can be seen as expressed in attitudinal and behavioral investments in education. This includes attitudinal commitment toward schooling and behavioral investment of time and energy in schoolwork. Such orientations directly influence both the transition to adulthood and socioeconomic fortunes in later life (Clausen, 1991; Sewell & Hauser, 1975). Within the context of our theoretical model,

they should also mediate effects of adolescent victimization on educational performance and attainment.

Table 1 describes measures of attitudes in the form of educational commitment and behaviors in the form of effort in schoolwork. The former are subjective reports of the importance of schoolwork, high grades, and going to college (each coded from 1 = *not important* to 5 = *very important*). The latter indicate the number of afternoons (coded from 1 to 5) and evenings during the school week spent studying (coded from 1 to 5), as well as the overall amount of time spent studying on weekends (coded from 1 = *very little* to 5 = *a great deal*). Educational investment variables were measured at two time points—the initial wave of data collection (1976) and the respondent's final year of high school—to assess more comprehensively the potential causal effects of adolescent victimization.

We operationalized educational self-efficacy as a second-order latent factor, incorporating educational effort and commitment as first-order factors. Figure 2 summarizes the results of fitting this second-order factor. Although a one-factor model fit the data ($\chi^2 = 457.59$, $df = 10$, $p < .001$) significantly better than the null model ($\chi^2 = 2292.60$, $df = 15$, $p < .001$), a second-order factor model that separates educational commitment and educational effort achieved a far better fit ($\chi^2 = 9.13$, $df = 6$, $p > .10$). Furthermore, the high loading on both first-order factors (γ s = .83 and .80) in Figure 2 supports the argument that educational self-efficacy is a latent construct that manifests itself in both attitudinal and behavioral investments in education. We included this construct in our analyses as an overall scale in which both individual items and subscales are weighted by their factor loadings (lambda and gamma, respectively). This construct was treated as an outcome of adolescent victimization and as a source of later educational and socioeconomic attainment that mediates the effects of adolescent victimization.¹

Educational performance and attainment. Further consequences of adolescent victimization include educational performance. This is measured as the respondent's self-reported grade point average, ranging from 1 (*mostly Fs*; i.e., nonsatisfactory or fail) to 5 (*mostly As*; i.e., excellent). As with educational self-efficacy, grade point average is measured at two time points—the first wave of data collection (1976)

¹ The average lag between earlier and later self-efficacy (and grade point average) is 3 years. We examined whether length of lag influenced results. Although there were small fluctuations in the magnitude of the lagged effect, the effect of adolescent victimization was substantively identical. We also examined models using both an average of self-efficacy (and grade point average) over ages and a fixed 1-year lag (self-efficacy from age 17 predicting self-efficacy at age 18). Again, the results were substantively identical to those reported in the text.

and the respondent's final year of high school—to assess more fully potential causal effects of adolescent victimization. The panel structure of the NYS allows for an even longer term assessment of the effects of adolescent victimization. Total educational attainment is the highest grade completed by the 10-year follow-up interview (ages 21 to 27).

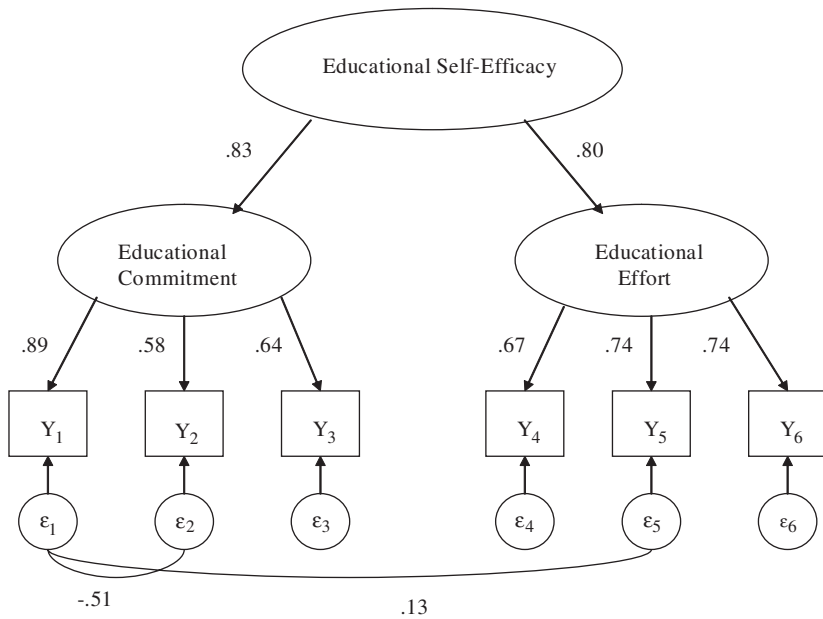
Employment and socioeconomic attainment. Finally, the NYS data contain several measures of socioeconomic status in early adulthood. In each panel, respondents were asked to indicate whether they held any jobs in the previous year, and if not, whether they were actively looking for work. We use these items to measure general labor force participation (employed coded 1, other coded 0) and unemployment (not working and actively looking for work coded 1, other coded 0) during 1986. For respondents who worked, there is further information about the respondent's occupational status (Duncan's socioeconomic index = 2 to 92) and logged average hourly wage. Last, we consider socioeconomic deprivations of a more extreme nature, specifically, the likelihood of public assistance in 1986 (on public assistance coded 1, other coded 0) to index income dependency in early adulthood.

With the age range of 21 to 27 in the 1986 interview, these measures index socioeconomic status in early adulthood. With evidence of stability of socioeconomic status in adulthood (Rytina, 1989) and the recognition that first job is a key determinant of general socioeconomic status over the life course (Blau & Duncan, 1967; Sewell & Hauser, 1975), any identified effects should reveal general, long-term, between-person differences in educational and socioeconomic attainment.

RESULTS

Dimensions of Risk

We begin by assessing general risk of victimization. Table 2 reports ordinary least squares (OLS) coefficients that predict log rate of victimization in adolescence. In Model 1, females report lower risk of victimization than do males ($\beta = -.225$), and victimization risk decreases with higher socioeconomic status ($\beta = -.055$). Not surprising, the age distribution is slightly curved, as indicated by the positive and negative terms in the quadratic function. Victimization risk is lower among African Americans ($\beta = -.095$) yet higher among those living in urban areas ($\beta = .087$). Finally, adolescents living in intact families ($\beta = -.129$) and in families with greater control ($\beta = -.060$), parental support ($\beta = -.052$),



Note. $\chi^2 = 9.13$; $df = 6$; $p = .166$. Y₁ = How important has schoolwork been?; Y₂ = How important is it to have a high grade point average?; Y₃ = How important is it to go to college?; Y₄ = How many evening during the school week are spent studying?; Y₅ = How many afternoons during the school week are spent studying?; Y₆ = How much time is spent studying on weekends?

FIGURE 2 Measurement model for educational self-efficacy.

and greater family–peer integration ($\beta = -.070$) report significantly lower rates of victimization.

Model 2 includes self-reported delinquency. Consistent with prior research (Jensen & Brownfield, 1986; Sampson & Lauritsen, 1990), involvement in crime and deviance has a large effect on risk of victimization ($\beta = .244$). The standardized coefficient is between 3 and 4 times greater than any other variable in the model. Other factors are essentially unchanged. We assessed the robustness of results using Poisson and binary logistic regression (after dichotomizing the dependent variable (any victimization coded 1) and the results were substantively identical. In general, these findings replicate prior research (Cohen, Kluegel, & Land, 1981; Jensen & Brownfield, 1986; Fagan, Piper, & Cheung, 1987), including those that use the NYS data (Lauritsen et al., 1991).

TABLE 2
Ordinary Least Square (OLS) Coefficients: Risk Factors for Adolescent Victimization

	<i>Model</i>		<i>Model</i>	
	<i>1</i>		<i>2</i>	
	<i>b</i>	β	<i>b</i>	β
Female	-.201 (.024)	-.225***	-.168 (.023)	-.187***
Age	.553 (.098)	.— ^a	.559 (.095)	.— ^a
Age squared	-.021 (.003)	.— ^a	-.022 (.003)	.— ^a
Family socioeconomic status	-.001 (.001)	-.055**	-.001 (.001)	-.046*
Black	-.131 (.041)	-.095***	-.111 (.040)	-.079***
Neighborhood quality	.007 (.007)	.028	.004 (.007)	.018
Urban resident	.090 (.034)	.087**	.082 (.033)	.079**
Suburban resident	-.019 (.028)	-.022	-.020 (.027)	-.022
Intact family	-.131 (.028)	-.129***	-.113 (.027)	-.111***
Number of children	.005 (.008)	.016	-.001 (.008)	-.003
Familial control	-.008 (.004)	.060**	-.006 (.004)	-.048*
Familial support	-.013 (.007)	-.052*	-.010 (.007)	-.038
Family-peer integration	-.013 (.005)	-.070***	-.013 (.005)	-.074***
Detinquency	.—		.452 (.049)	.244***
Intercept	-2.625 (.691)		-4.017 (.689)	
R ²	.142		.199	

Note. Standard errors are in parentheses.

^aStandardized coefficients are not interpretable in the presence of a quadratic terms.

* $p < .05$ (one-tailed); ** $p < .01$ (one-tailed); *** $p < .001$ (one-tailed).

Adolescent Victimization and Education in the Transition to Adulthood

All assessments of the consequences of adolescent victimization for educational and socioeconomic attainments first considered the joint effects of adolescent victimization and delinquency. This strategy helps rule out possible spurious associations, given the clear association between victimization and offending in adolescence and some research suggesting associations between delinquency and educational and socioeconomic attainments in later life. We then included potential predetermining variables of adolescent victimization, delinquent offending, and educational processes and attainments. In the cases of educational self-efficacy and grade point average, we also included earlier measures of our dependent variables to model explicitly change in our dependent variables over time. This reduces the possibility that the remaining coefficients, particularly the effects of adolescent victimization, are biased because of unobserved heterogeneity or omitted variable bias (Markus, 1979). This specification strengthened our contention that adolescent victimization has a unique causal impact on educational processes. Finally, we included in sequence the factors highlighted in our causal model (see Figure 1) that specify the hypothesized mechanism by which adolescent victimization undermines educational and later socioeconomic attainment in early adulthood.

Analysis of the educational and socioeconomic consequences of adolescent victimization begin with its effects on educational self-efficacy, the factor that we argue is the lynchpin for identifying long-term educational and socioeconomic consequences. Beginning with Model 1 of Table 3, adolescent victimization has a relatively large negative effect ($\beta = -.148$), whereas self-reported delinquency has a smaller effect ($\beta = -.089$). The significance of victimization ($\beta = -.140$) is further supported with the inclusion of our set of potential predetermining variables (see Model 2). Educational self-efficacy is also higher among women, adolescents from higher socioeconomic backgrounds, African Americans, those from intact families, and those having higher levels of familial control. When the earlier measure of educational self-efficacy is added to control for omitted variable bias (see Model 3), the victimization effects remain significant ($\beta = -.106$). It is also worth noting that adolescent victimization influences educational self-efficacy to an extent similar in magnitude to the sociodemographic differences. They are comparable to socioeconomic status and larger and more robust than gender, family processes, and delinquency, all of which are central to educational research.

Family-peer integration	—	.010 (.032)	.009 (.031)	—	.006 (.009)	.018 (.008)	.006 (.008)	.018 (.008)	.005 (.008)	.016 (.008)	—	.034 (.018)	.047* (.017)	.023 (.017)	.033	
Educational self-efficacy (1976)	—	—	.326 (.030)	.305***	—	—	—	—	—	—	—	—	—	—	—	
Grade point average (1976)	—	—	—	—	—	.492 (.026)	.477*** (.026)	.459 (.026)	.444*** (.026)	.444*** (.026)	—	—	—	—	—	
Educational self-efficacy (age 18)	—	—	—	—	—	—	—	.059 (.007)	.207*** (.007)	.207*** (.007)	—	—	—	.127 (.015)	.214***	
Grade point average (age 18)	—	—	—	—	—	—	—	—	—	—	—	—	—	.497 (.054)	.240***	
Intercept	13.340 (.919)	12.496 (1.449)	8.774 (1.485)	5.086 (.273)	4.21 (.422)	1.792 (.394)	1.299 (.401)	14.225 (.590)	13.549 (.842)	10.061 (.801)	10.061 (.801)	10.061 (.801)	10.061 (.801)	10.061 (.801)	10.061 (.801)	10.061 (.801)
R ²	.036	.106	.185	.053	.140	.338	.373	.041	.247	.352	.352	.352	.352	.352	.352	.352

Note. Standard errors in parentheses.

* $p < .05$ (one-tailed); ** $p < .01$ (one-tailed); *** $p < .001$ (one-tailed).

Victimization further undermines educational performance. In an initial model (see Model 4), the victimization effect is negative, significant, and relatively large ($\beta = -.163$). Delinquency has a slightly smaller effect ($\beta = -.132$). The victimization effect remains robust ($\beta = -.129$) with the inclusion of our set of predetermining variables (see Model 5). Gender and family socioeconomic status, along with familial control and familial support, also influence grade point average. The change-score model (see Model 6) sees substantial reductions in all effects, although the effect of adolescent victimization remains significant ($\beta = -.068$).

Educational self-efficacy specifies the mechanism by which adolescent victimization influences educational performance. It has a large effect on grade point average ($\beta = .207$) and its inclusion reduces the effect of adolescent victimization by 40% to nonsignificance ($\beta = -.041$). Educational self-efficacy accounts for almost half the effect of violent victimization. This provides considerable support for the importance of the proximal social-psychological consequences of victimization for its effects on school performance.

Adolescent victimization further undermines overall educational attainment in early adulthood. Considering the joint effects of victimization and delinquency (see Model 8), both are detrimental. Still, the victimization effect ($\beta = -.182$) is considerably larger than that of delinquency ($\beta = -.053$). The importance of victimization ($\beta = -.123$) is reinforced with the inclusion of the set of potential predetermining variables (see Model 9). Family socioeconomic status, number of children, family structure, and family-peer integration also influence educational attainment. Again, the victimization effects are as large as many sociodemographic and family factors that have been central to prior work on educational attainment.

We include measures of educational self-efficacy and performance to specify the mechanism by which adolescent victimization influences educational attainment in early adulthood (see Model 10). Both have strong effects on attainment and they reduce the effect of victimization by 58% ($\beta = -.052$). Diminished educational self-efficacy and performance account for more than half of the effect of victimization on educational attainment. Independent of this, however, victimization still undermines attainment.

Adolescent Victimization and Socioeconomic Attainment in Early Adulthood

The final aspect of our research assessed the socioeconomic consequences of adolescent victimization in the transition to adulthood (see Table 4).

TABLE 4
 Ordinary Least Squares (OLS) and Logit Coefficients: Measures of Socioeconomic Viability in Adulthood Regressed on Adolescent Victimization, Delinquency, and Other Personal and Social Factors

	Occupational Status (1986)															
	Employed (1986)					Unemployed (1986)										
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9							
β	OR	β	OR	β	OR	β	OR	β	OR	β	OR	β	OR			
Adolescent victimization	-.309 (.187)	.735	-.710 (.223)	.492*** (.250)	-.569 (.250)	.566** (.250)	.445 (.306)	1.56	.842 (.368)	2.32*** (.396)	.833 (.396)	-6.673 (1.289)	-1.53*** (.396)	-2.686 (1.354)	-.059** (.1315)	-0.010 (.1315)
Delinquency	.464 (.410)	1.591	.556 (.435)	1.744 (.451)	1.730 (.451)	.548 (.451)	.492 (.753)	.415	.616 (.829)	.540 (.850)	.569 (.850)	-2.043 (2.399)	-.025 (2.399)	-4.127 (2.383)	-.049* (2.275)	-.545 (2.275)
Female	—	—	-1.441 (.247)	.237*** (.259)	-1.462 (.259)	.232*** (.259)	—	—	.699 (.429)	2.011 (.439)	.557 (.439)	—	—	6.869 (1.112)	.172*** (1.112)	5.964 (1.060)
Age	—	—	-.156 (.058)	.855*** (.060)	-.188 (.060)	.829*** (.060)	—	—	.151 (.111)	1.163 (.111)	.183 (.115)	—	—	2.128 (.289)	.210*** (.289)	1.648 (.277)
Family socio economic status	—	—	.18 (.007)	1.018** (.008)	.010 (.008)	1.010 (.008)	—	—	-.031 (.015)	.969** (.016)	-.027 (.016)	—	—	.265 (.034)	.220*** (.034)	.115 (.034)
Black	—	—	-.217 (.328)	.805 (.352)	-.357 (.352)	.700 (.352)	—	—	1.615 (.507)	5.030*** (.507)	1.541 (.554)	—	—	-3.755 (1.909)	-.059** (1.909)	-4.352 (1.846)
Neighborhood quality	—	—	-.041 (.056)	.960 (.061)	-.002 (.061)	.998 (.061)	—	—	-.083 (.112)	.921 (.112)	-.097 (.118)	—	—	-4.02 (.315)	-.36 (.315)	-1.18 (.300)
Urban residence	—	—	.222 (.294)	1.249 (.172)	.128 (.303)	1.136 (.303)	—	—	-.293 (.561)	.746 (.561)	-.331 (.594)	—	—	4.219 (1.525)	.090*** (1.445)	3.582 (1.445)
Suburban residence	—	—	.159 (.242)	1.088 (.254)	.160 (.254)	1.174 (.254)	—	—	-.118 (.478)	.889 (.497)	.035 (.497)	—	—	4.602 (1.254)	.115*** (1.192)	4.377 (1.192)
Intact family	—	—	.084 (.237)	.835** (.259)	-.129 (.259)	.879 (.259)	—	—	.043 (.445)	1.044 (.445)	-.019 (.472)	—	—	5.532 (1.292)	.121*** (1.292)	3.614 (1.256)
Number of children	—	—	-.180 (.066)	1.049 (.071)	-.102 (.071)	.903 (.071)	—	—	.079 (.125)	1.082 (.125)	.032 (.133)	—	—	-7.81 (.386)	-.057** (.386)	-1.07 (.373)
Familial control	—	—	.048 (.032)	.990 (.034)	.033 (.034)	1.033 (.034)	—	—	-.043 (.059)	.958 (.059)	-.025 (.064)	—	—	.020 (.168)	.003 (.168)	-.009 (.161)
Familial support	—	—	-.010 (.057)	.986 (.062)	-.033 (.062)	.968 (.062)	—	—	.066 (.114)	1.068 (.114)	.146 (.128)	—	—	.462 (.319)	.041 (.319)	.293 (.306)
Family-peer integration	—	—	-.14 (.042)	.969 (.046)	-.031 (.046)	.969 (.046)	—	—	.005 (.082)	1.005 (.082)	.015 (.088)	—	—	-1.13 (.225)	-.014 (.225)	-.242 (.212)

TABLE 4 (Continued)

	Employed (1986)						Unemployed (1986)						Occupational Status (1986)					
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7		Model 8		Model 9	
	β	OR	β	OR	β	OR	β	OR	β	OR	β	OR	β	OR	β	OR	β	OR
Educational self-efficacy (age 18)	—	—	.023 (.043)	1.023	—	—	—	—	.052 (.086)	1.053	—	—	—	—	.257 (.199)	—	—	—
Grade point average (age 18)	—	—	-.104 (.152)	.904	—	—	—	—	-.202 (.295)	.817	—	—	—	—	3.920 (.715)	—	—	—
Educational attainment (1986)	—	—	.303 (.077)	1.354***	—	—	—	—	-.169 (.144)	.845	—	—	—	—	3.166 (.369)	—	—	—
Occupational status (1986)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Intercept	.999 (1.194)	—	6.718 (1.996)	—	-2.559 (2.191)	—	-7.300 (3.875)	—	-6.218 (47.535)	43.954 (7.035)	—	—	—	14.631 (10.174)	-52.053 (10.174)	—	—	—
R ² /F ²	3.065	—	73.033***	—	1.838	—	30.463**	—	30.075**	—	—	—	—	.212	—	—	—	—

	Average Hourly Wage (1986)						Public Assistance (1986)					
	Model 10		Model 11		Model 12		Model 13		Model 14		Model 15	
	b	β	b	β	b	β	β	OR	β	OR	β	OR
Adolescent victimization	-.091 (.028)	-.098***	-.059 (.029)	-.062**	-.014 (.029)	-.014	-.014	1.650*	.501 (.256)	.769 (.345)	.317 (.421)	1.373
Delinquency	.009 (.051)	-.005	-.100 (.052)	-.056*	-.027 (.050)	-.015	-.015	.955	-.046 (.642)	.161 (.724)	.205 (.789)	1.227
Female	—	—	-.103 (.024)	-.122***	-.138 (.024)	-.163***	-.163***	—	—	1.900 (.465)	1.833 (.477)	6.252***
Age	—	—	.059 (.006)	.272***	.040 (.006)	.188***	.188***	—	—	.085 (.096)	.101 (.104)	1.107
Family socioeconomic status	—	—	.003 (.001)	.107***	.000 (.001)	.001	.001	—	—	-.045 (.013)	-.045 (.015)	.956***

Black	—	-.121	-.091***	-.082	-.061**	—	.451	1.569	.861	2.365*
		(.042)		(.041)			(.454)		(.514)	
Neighborhood quality	—	.009	.037	.011	.046*	—	.064	1.066	.010	1.010
		(.007)		(.007)			(.080)		(.092)	
Urban residence	—	.078	.079**	.056	.057*	—	.321	.725	-.257	.774
		(.033)		(.032)			(.469)		(.506)	
Suburban residence	—	.103	.122***	.074	.087**	—	-.729	.571**	-.412	.663
		(.027)		(.026)			(.370)		(.452)	
Intact family	—	.045	.046*	-.005	-.005	—	-.048	.482	-.534	.586
		(.028)		(.028)			(.053)		(.407)	
Number of children	—	-.017	-.059**	-.008	-.029	—	.219	1.245**	.096	1.101
		(.008)		(.008)			(.106)		(.123)	
Familial control	—	-.006	-.047	-.006	-.048*	—	-.048	.954	-.009	.991
		(.004)		(.004)			(.053)		(.060)	
Familial support	—	-.003	-.12	-.005	-.020	—	-.059	.942	-.017	.983
		(.007)		(.007)			(.089)		(.103)	
Family-peer integration	—	.008	.049*	.007	.038	—	.061	1.063	.082	1.085
		(.005)		(.005)			(.072)		(.083)	
Educational self-efficacy (age 18)	—	—	—	-.008	-.054*	—	—	—	-.212	.809**
				(.004)					(.077)	
Grade point average (age 18)	—	—	—	.019	.038	—	—	—	.179	1.196
				(.016)					(.256)	
Educational attainment (1986)	—	—	—	.036	.143***	—	—	—	-.294	.746**
				(.008)					(.137)	
Occupational status (1986)	—	—	—	.006	.289***	—	—	—	—	—
				(.001)						
Intercept	1.982	1.653	—	1.002	—	-3.393	-10.784	—	-6.618	—
	(.151)	(.223)		(.241)		(1.882)	(3.287)		(3.936)	
R ² /χ ²	.009	.161		.267		3.401	64.045***		66.682***	

Note: Standard errors in parentheses
 * $p < .05$ (one-tailed); ** $p < .001$ (one-tailed); *** $p < .001$ (one-tailed).

As described earlier, we considered socioeconomic status across several dimensions, including labor force participation, occupational status, occupational rewards (i.e., income), and overall economic viability.

We begin with labor force participation. These models have low statistical power, as the number of respondents in the NYS data that are outside the labor force is less than 10% and the proportion unemployed is less than 3%. Still, the pervasive effects of adolescent victimization are apparent. Although Model 1 shows no significant effects of either victimization or delinquency on employment, the inclusion of the set of potential predetermining variables reveals that adolescent victimization ($\beta = -.710$) reduces the odds of employment in later adulthood by 51% ($e^{-.710} = .492$). Employment is also lower among women and those from larger families, yet increases with family socioeconomic status. When the educational process variables are included (see Model 3), only overall attainment is significant ($\beta = .303$) and the victimization effect is reduced by 20% ($\beta = -.569$).

Adolescent victimization also influences the likelihood of being unemployed and actively seeking work (see Models 4–6). Although the initial model shows no significant effects for either victimization or delinquency, the inclusion of sociodemographic, ecological, and familial factors again shows that adolescent victimization ($\beta = .842$) more than doubles the conditional odds of later unemployment ($e^{.842} = 2.320$). Gender, number of children in the household, and particularly race also influence the likelihood of unemployment. When educational process variables are included (see Model 6), none has any significant effect and the victimization effects remain largely unchanged.

We next examine the joint effects of victimization and delinquency on occupational status (see Model 7). This examines socioeconomic consequences of a different kind as the sample is restricted to those who survived the effects of victimization on the likelihood of employment. Here, adolescent victimization has a large, negative effect ($\beta = -.153$). With the inclusion of other personal and social factors, the victimization effect remains significant ($\beta = -.059$). In this model, a 1% change in adolescent victimization reduces occupational status by just more than 2.5 points. Other significant factors, including gender, family socioeconomic status, race, family size, and family structure and process, are consistent with prior research. When educational process variables are incorporated, the effect of adolescent victimization is effectively eliminated ($\beta = -.000$). Consistent with our argument, diminished occupational status in early adulthood among adolescent victims reflects disrupted educational trajectories.

Model 10 considers average hourly wage. An initially significant effect for victimization ($\beta = -.098$) is reduced with the inclusion of background

variables but remains significant ($\beta = -.062$). Wages are also lower among women, African Americans, and those from larger families, whereas wages are higher among those with higher family socioeconomic status, those from urban or suburban areas, or those from intact families or families with higher family-peer integration. When educational process and occupational status variables are included (see Model 12), both educational attainment ($\beta = .143$) and occupational status ($\beta = .289$) have large effects. Moreover, their inclusion reduces the effect of victimization by 77% to nonsignificance ($\beta = -.014$). With the exception of family socioeconomic status, which is also substantially reduced, previous effects remain substantively unchanged.

Finally, we examine more extreme socioeconomic consequences: the likelihood of receiving public assistance in early adulthood. Although this model has low statistical power, the effects of victimization are profound. In Model 13, adolescent victimization ($\beta = .501$) increases the odds of public assistance by 65%. When background variables are taken into account (see Model 14), the victimization effect increases ($\beta = .769$), doubling the odds of public assistance ($e^{.769} = 2.158$). When we include educational process and attainment measures in the final model, the victimization effect is reduced by 59% to nonsignificance ($\beta = .317$). Again, the long-term socioeconomic deficits stemming from adolescent victimization manifest themselves to a large extent through disrupted trajectories of educational attainment.

In addition to the results presented, we assessed the robustness of the victimization effects over a host of alternative model specifications and alternative specifications of both adolescent victimization and involvement in crime and deviance. These included several prevalence and incidence specifications; several breadth specifications, which emphasized specialization in offending (i.e., violent vs. property, substance use, etc.); and longitudinal specifications, which indicated length of involvement (also based on different types of prevalence, incidence, specialization, and versatility). In all cases, the robust and strong effects of victimization were never significantly diminished, and typically the delinquency effects were even smaller than those reported here. These results are available on request from the first author.

DISCUSSION

Social scientists and policy analysts have recently expressed concern about the possible link between victimization in childhood and

adolescence and later socioeconomic disadvantage. Against this backdrop, this paper developed and tested a theoretical model linking violence experienced in adolescence to processes of educational and socioeconomic attainment. Overall, our results specify a chain of adversity in the sequence of life-course behaviors and experiences that connects victimization to later socioeconomic status by indicating its direct and indirect effects through educational and occupational achievement (Caspi, Bem, & Elder, 1989; Rutter, 1989). These findings link significant socioeconomic and widespread disadvantage to adolescent victimization through disrupted trajectories of educational and occupational attainment in the transition to adulthood. Victimization undermines academic performance, educational attainment, labor force participation, occupational status, and earnings in early adulthood. Moreover, the most immediate consequences of adolescent victimization are decreases in educational self-efficacy, as expressed by attitudinal and behavioral investments in education, which in turn reduce academic performance and overall educational attainment. Adolescent victimization has further effects on later socioeconomic fortunes, operating both directly and through educational attainment. Such effects suggest significant income losses over the life span (Macmillan, 2000).

The current findings reinforce continued investigation of the influence of involvement in and exposure to deviance on life course progress (Hagan, 1991; Robins & Rutter, 1990; Sampson & Laub, 1993) yet also illuminate directions for future research. First, our theoretical model is generic and suggests applications to other life-course domains such as marriage, childrearing, deviant behavior, psychological well-being, and health. All are shaped by everyday expressions of agency, efficacy, and esteem that are eroded by violent victimization (Macmillan, 2001). Second, future research should explore the context(s) of adolescent victimization. As prevalence of violent victimization is considerably greater among the economically disadvantaged and African Americans, and women experience forms of violence that are virtually unique to them (Sampson & Lauritsen, 1994), victimization and its consequences may be implicated in the reproduction of social inequality. Structured mechanisms of social allocation describe a tendency for both advantage and disadvantage to accumulate over time, from the linking of behaviors and experiences over the life course (Dannefer, 1987). Social disadvantage may be reproduced through exposure to violence in early life (cf. Farkas & Vicknair, 1996). Third, future research should study contingencies in the effects of adolescent victimization. Adolescent victimization may interact with demographic characteristics such as gender, race, and class, exacerbating or ameliorating the negative consequences seen in the present research.

The contextualization of violent victimization in the life course warrants further study.

Our research also has implications for classic questions of socioeconomic status and involvement in crime. Although the effects of socioeconomic status on criminal offending have dominated traditional inquiry, more recent work has focused on the detrimental effects of early offending for employment and socioeconomic attainment in early adulthood (Hagan, 1991, 1993; Sampson & Laub, 1993; Tanner, Davies, & O'Grady, 1999). Our research extends prior work by showing how involvement in crime as victims profoundly undermines socioeconomic fortunes. At the same time, the varied and typically nonsignificant effects of delinquency likely reflect the complex class and gender contingencies in the effects of involvement in crime on later socioeconomic attainment shown in prior work (Hagan, 1991), complexities that are not captured in research using nonrandom samples of antisocial and delinquent adolescents (Robins, 1966; Sampson & Laub, 1993).

Our findings also suggest avenues for intervention. Because educational and socioeconomic trajectories are relatively firm in adulthood (Rytina, 1989), efforts to deflect the negative consequences of victimization might best focus on adolescence. Two avenues of intervention seem promising. First, familial social capital is an important source of resilience for children (Hagan et al., 1996) and may buffer the negative effects of victimization. Second, victim services could focus on buffering the educational damage of violent victimization so that long-term trajectories of educational and occupational attainment are better protected. Instructional programs for children and adolescents at risk of educational failure and delinquent activity provide some guidance as to the form that victim assistance programs could take (Johnson, 1998). Such programs may be particularly beneficial in enhancing educational self-efficacy by showing that the larger community is responsive and helpful rather than predatory and threatening (cf. Fischer, 1984).

At the same time, our research is not without its limits. First, although we have tried to discount this possibility through variable selection and model specification, it is always possible that other, unmeasured factors may have produced the observed effects. One such possibility is both earlier and contemporaneous family violence. Such violence has been shown to generate numerous life-course consequences, including risk of extrafamilial violence (McCarthy, Hagan, & Martin, 2002) and diminished educational and occupational fortunes in later life (Eckenrode, Laird, & Doris, 1993; Gelles & Straus, 1990; Perez & Widom, 1994). Second, the theoretical perspective we offer appears incomplete. Following the criteria outlined in Baron and Kenney (1986), our models typically fall short in

fully mediating the effects of violent victimization. An additional mechanism that might be considered is the degree to which victimization disrupts social networks by diminishing trust and heightening fear and skepticism of others (Fischer, 1984; Janoff-Bulman & Frieze, 1983). As social ties, both internal and external to the family, are important sources of social capital in the transition to adulthood (Coleman, 1990; Hagan et al., 1996), they may mediate the negative consequences of victimization. Direct assessment of this is beyond the scope of the NYS data and should be the subject of future research.

Still, these caveats do not diminish the implications of the current results for contemporary public policy. With increased attention to problems of crime in contemporary society, there is a growing recognition of the myriad ways in which crime is personally and socially harmful. The present research contributes to these discussions by illustrating the important impact of violent victimization on later socioeconomic fortunes. The results clearly indicate the need to recognize the substantial and long-term costs of victimization and therefore to protect young people against violence.

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