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Distress and Violent Victimization among Young Adolescents

Early Puberty and the Social Interactionist Explanation

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This article explores the empirical validity of the Social Interactionist (SI) perspective as an explanation of violent victimization. An additional goal is to explain why early puberty among adolescents is connected to violent victimization. Using SI, we theorize that early puberty creates unusually high levels of distress for adolescents (more so for girls than boys), causing them to behave in ways that create grievances with others and provoke victimization. The research hypotheses were tested using the National Longitudinal Study of Adolescent Health (Add Health), a nationally representative data set of teenagers attending school in the United States. We found that measures of distress significantly increase violent victimization among members of the sample. Furthermore, the SI measures partially mediated the relationship between early puberty and violent victimization for boys and fully mediated this relationship for girls.

Keywords: *violent victimization; puberty; distress*

Relatively few etiological theories of victimization to date have achieved as much widespread influence as the routine activities/lifestyles theories (Cohen and Felson 1979; Hindelang, Gottfredson, and Garofalo 1978). These two theories, which focus on the influence of situations and contexts, have generated significant research interest (see Miethe and Meier 1994;

M. Felson 2006) and are responsible for much of our scientific knowledge about victimization. More recently, researchers have begun to look to criminological theories and how the processes that make some more likely to commit crime also make individuals into likely victims (e.g., Piquero and Hickman 2003; Schreck 1999). These studies have built explicitly on the striking correspondence in the characteristics of offenders and victims (see Jensen and Brownfield 1986; Lauritsen, Sampson, and Laub 1991; Wolfgang 1958). The literature examining factors beyond routine activities and lifestyles has just started to grow, however, and scholars have only extended a couple of the many important theories of crime to victimization. An existing theory that is not as well known or researched among victimologists, but which might offer insights that the current literature cannot, is Richard Felson's (1992) social interactionist (SI) perspective.

SI posits that the stress that some individuals experience in their daily lives results in violations of social rules and expectations, being uncivil for instance, and thus leading other participants in the interaction to object and possibly acquire the motivation to engage in criminal attack. The title of R. B. Felson's (1992) article, where he outlined his theory, captures the basic sentiment of this idea well: "Kick 'em when They're Down"—people who are emotionally "down" or else performing in an unsatisfactory manner risk assault. Felson's work, however, does not appear to have significantly affected the direction of victimization research in the years since its publication, although some isolated studies have appeared (e.g., Aquino and Byron 2002; Silver 2002).[1] Nevertheless, Felson's own research indicated support for his theory and, as we noted earlier, his perspective offers substantively

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interesting correlates of victimization (i.e., distress) that, given their neglect in the victimization literature, provide scientists what are essentially new research questions to explore. Moreover, SI could offer a plausible account for why another variable has been recently found to be correlated with victimization—early puberty (Haynie and Piquero 2006). To the extent that early puberty increases the distress a teenager is likely to experience, then one would not only expect those who mature early to experience more victimization, but that the reason for the increased incidence of victimization for these adolescents would be substantially due to distress. In other words, SI suggests that the relationship between early puberty and victimization is mediated by distress.

We begin by describing SI. SI explains victimization as being a consequence of personal distress symptoms like negative demeanor and poor performance in tasks at school or work. Early puberty, which appears to be a correlate of victimization (e.g., Haynie and Piquero 2006) may provide an interesting illustration of SI to the extent that those children who mature earlier experience greater distress; we therefore report the literature linking puberty with distress and victimization. Finally, we test our empirical claims using data from the National Longitudinal Survey of Adolescent Health (Add Health), which is a nationally representative survey of teenagers attending schools in the United States.

The Social Interactionist Explanation of Violent Victimization

SI was developed to explain the sequence of events leading to aggressive behavior in an interpersonal encounter (e.g., R. B. Felson 1978; Tedeschi 1970). SI sees aggression as a means to control the behavior of others, to save face, and to obtain justice (Tedeschi and Felson 1994). That is, aggression in this perspective serves a rational purpose and is an informal means by which aggrieved individuals may deal with rule-breakers. One would therefore generally expect individuals, including those who are distressed, to be aggressive toward those they believe are responsible for their grievance and not necessarily anyone who happens to be nearby. Moreover, SI outlines how distress creates an evolving context where people who are interacting react to a distressed participant aggressively, in turn leading the distressed person (whom by now does have a grievance against the others) to retaliate and thereby escalate the aggressive encounter.

In SI, the aggressive encounter often begins with a rule violation, such as taking an inappropriately angry tone, followed by an accusation or admonishment from the aggrieved person. R. B. Felson (1992) mentioned

annoying actions, aversive demeanor, violations of expectations, and poor performance as bases for interpersonal confrontation. Once the rule violation has occurred, the rule violator is then called to account for his or her behavior. Should the violator make an unsatisfactory response, then the person who took offense at the violation might implement punishment (i.e., the initial criminal victimization). SI has acknowledged that distressed persons do not necessarily require a specific grievance to attack someone (R. B. Felson 1992:4). Victimization then would simply be an unintended consequence of a bungled unprovoked attack where the aggressor became the victim. Research, however, indicates that attack is significantly more likely in situations where a grievance exists (see R. B. Felson 1984). This therefore places a distressed person, a rule-violator, at greater risk of becoming a victim of violence. SI then continues: The rule-violator receiving punishment may then see fit to retaliate against the attacker to deter further punishment as well as to protect his or her status. The violent interchange thus depends on the perceptions of the principals in the dispute, the actions of those nearby, and the social interaction between the participants. Rule violation begets victimization, which in turn begets retaliation, and so on. This basic pattern of grievance/retaliation/counterretaliation is corroborated or theorized in other research utilizing various methods (e.g., Anderson 1999; Jacobs and Wright 2006; Kubrin and Weitzer 2003; Singer 1981).

If we can understand why individuals engage in ordinarily inadvertent rule violation in the first place, then it may be possible to understand patterns of violent victimization. Felson reasoned that the stress individuals experience negatively influences their behavior and demeanor. Research is clear that stress adversely affects performance and attitudes in a variety of areas (Cohen 1980; Holmes and Masuda 1974; Motowidlo, Packard, and Manning 1986). That is, distressed individuals are less effective students and workers, they are more likely to violate rules, and they are generally going to be irritating to those around them. Consequently, those who must endure these manifestations of distress will in turn have, and may choose to act upon, grievances with the distressed individual. More concretely, a distressed individual might act inconsiderately or rudely to a person he or she is interacting with, or else perform a task in such a manner that others—like bosses, coworkers, customers, or fellow students—would find offensively unsatisfactory. The aggrieved individual can then retaliate in response to the grievance and so begins the aggressive exchange as outlined in SI. Clearly, in SI, victimization is (or can be) the direct outcome of the byproducts of stress. R. B. Felson (1992), in his own research, found that negative events were positively correlated with whether adult respondents were the targets for

violence. His analyses, however, did not relate subjective states or behaviors associated with distress (like physiological symptoms, poor performance) to victimization, so there is no information as to what extent distress accounts for the relationship between negative events and victimization.[2]

Although an extensive literature has looked at similar perspectives about distress and aggression (e.g., Kennedy and Forde 1999), relatively little has examined the importance of distress as a source of enhanced victimization risk. There is some suggestive evidence, however. A number of researchers have found that sufferers of mental illness, who often display aversive deportment, have a significantly increased risk for victimization (e.g., Hiday 1997; Hiday et al. 1999; Lehman and Linn 1984; Silver 2002; Silver and Teasdale 2005). Much of this literature, however, utilized data collected from ex-patients and the severely mentally ill rather than broad national samples. Aquino and Byron (2002) offer the most direct evidence to date. Using a convenience sample of students, they found that a personality characterized by high or low domineering tendencies was associated with higher levels of harassment victimization in the workplace, though gender moderated this relationship. More recently, Haynie and Piquero (2006) linked early pubertal development with increased risk of violent victimization (see also Shaffer and Ruback 2002). It is the case of early puberty that we will focus on in greater detail below.

A Tentative Illustration of SI: Early Puberty

Theoretical and Empirical Linkages between Early Puberty and Distress

Over the years, research has reported that pubertal changes result in a number of negative consequences for adolescents. Puberty is a time of dramatic physical and psychological transformation (Steinberg 1987). Scholars studying the negative consequences of puberty have turned their attention to the timing of puberty. Often because of their more mature appearance, teenagers experiencing puberty before their peers may be expected to have the same cognitive expertise as adults and to regulate their emotions and behavior as adults do (Graber, Brooks-Gunn, and Archibald 2003; Lerner and Spanier 1980). In this section, we explore in greater detail the consequences of pubertal development on behavior and affect. If puberty has adverse consequences within these domains, then it would seem to follow that SI would be a suitable framework for making sense of how puberty and victimization are linked.

A consistent finding in the sizeable literature on puberty is the significant association between early maturation and violent and nonviolent delinquency (Beaver and Wright 2005; Caspi and Moffitt 1991; Caspi et al. 1993; Felson and Haynie 2002; Graber et al. 1997; Haynie 2003; Moffitt et al. 2001; Piquero and Brezina 2001). The literature also indicates that puberty interacts with the adolescent's social context. Early maturing adolescents affiliate with physically similar and/or chronologically older peers, and thus are more apt to engage in criminal behaviors as well as smoking, drinking, and drug taking (Beaver and Wright 2005; Caspi et al. 1993; Haynie 2003). The literature is also clear that teenagers who experience early physical maturation experience higher levels of psychological distress. Those who mature early tend to experience low self-esteem, depression, and emotional difficulties (Brooks-Gunn, Graber, and Paikoff 1994; Graber et al. 1997; Weichold, Silbereisen, and Schmitt-Rodermund 2003).

Scholars have offered substantive explanations connecting early development with adverse outcomes. Moffitt (1993), for instance, advanced two relevant hypotheses: (1) adolescence-limited and (2) stage-termination. The adolescence-limited hypothesis explains that delinquency results because of a lack of fit between physical maturity and social maturity. For adolescents who are transitioning biologically into an adult, it is socially unacceptable for them to take advantage of the perceived benefits of adulthood such as autonomy and independence. To close this gap in maturity, early-maturing adolescents turn to smoking, drinking, sexual intercourse, and other offenses to rebel against the delayed gratification of behaving "adult-like."

The stage-termination hypothesis argues that because early-maturing adolescents are physically visibly different than their same-age peers, they have difficulty adjusting to their status due to an insufficient amount of time to adapt intellectually and emotionally to the physical changes. Their reduced ability to cope with this transformation increases their proclivity for engaging in deviant behaviors. Alternatively, Brooks-Gunn et al. (1994) incorporated elements of Moffitt's stage-termination and adolescence-limited hypotheses perspectives, proffering three intervening processes that should be considered when examining the connection between pubertal timing and the development of adverse behaviors (see also Weichold et al. 2003). The first process purports that the timing of puberty is connected to hormonal fluctuations, which leads to changes in affective states. The second link contends that as adolescents mature differently from their same-aged peers in visible ways, on-time puberty peers react negatively toward the early developers, thus worsening an already fragile emotional state. The third pathway offers a new framework in that hormonal changes during

puberty stimulate the central nervous system, leading to depression and/or conflict with themselves and others.

Regardless of the specific process, however, the literature indicates that the outcome of early maturation is often poor affect, distress, negative moods, conflict with family members and peers, eating disorders, low self-esteem or confidence, and abnormal personality development (see Dorn, Susman, and Ponirakis 2003; Foster, Hagan, and Brooks-Gunn 2004; Martin et al. 2002; Tschann et al. 1994; Weichold et al. 2003; Wiesner and Ittel 2002). Readers should note, however, that there is evidence that gender can moderate the adjustment of children experiencing early puberty (e.g., Caspi et al. 1993). Felson and Haynie (2002), for instance, reported that early-maturing males had fewer problems associated with distress and even thrived compared to same-sex peers at other developmental stages. The opposite can be true for females (see Rekers 2001), especially when one considers that girls on average mature earlier than boys and may therefore have already suffered harassment—and its attendant consequences on psychological health—long before same-aged boys reach a similar stage of development (Craig et al. 2001). As a result, we would tentatively expect that SI constructs would have greater success explaining the early puberty-victimization connection among females than males.

Puberty and Victimization

Recently, researchers have started to establish that early puberty is a correlate of victimization. Foster et al. (2004) found that early-maturing girls were at greater risk for verbal and physical intimate partner violence. Studying males and females in early adolescence from a cross-sectional data set, Craig, Pepler, and Connolly (2001) found that youth who developed early were harassed and victimized more often. Only two studies examined a national sample of male and female adolescents utilizing a longitudinal design; both reported a significant inverse relationship between early puberty and violent victimization (Haynie and Piquero 2006; Shaffer and Ruback 2002). These studies, however, do not test why those who undergo puberty early are more likely to be victimized. Given the theoretical and empirical work summarized in the previous section, one might be able to use SI to deduce the mechanisms behind the connection between puberty and victimization.

As we presented earlier, the research has well documented that puberty (particularly early puberty) is a source of distress and rule-violating behavior, although distress should be more pronounced among females than

males. Consequently, from the perspective of SI, one might predict that teens who are maturing early will be more apt to comport themselves in ways that others perceive as aversive, thus creating conditions where participants in an interaction would be provoked into expressing grievances. Because violence is one means of settling grievances, it follows that the influence of puberty on victimization (Haynie and Piquero 2006) might be due to the manifestations of distress and rule-violating behavior that come with puberty.

Summary of Research Questions

This research has two empirical objectives. R. B. Felson (1992) reasoned that distress (rather than negative events) is a direct cause of victimization. To test this, we use data from the Add Health, which contains relevant information from a nationally representative sample of adolescents. More specifically, our first hypothesis is that symptoms of distress will increase a teenager's level of violent victimization. Our second hypothesis is that controls for distress should significantly mediate the effect of early puberty on violent victimization. Based on our review of the literature, however, we would expect to see a greater level of mediation for females who mature earlier than for developmentally equivalent males.

Methods

Data

This research employs the first wave of the public-use version of the Add Health, which provides data on a variety of health and social issues for a nationally representative sample of adolescents attending school in the United States between Grades 7 and 12. The data were collected between September 1994 and December 1995. The total number of respondents in the data set totaled 6,504 individuals. Due to our interest in explaining the purported effects of pubertal development on violent victimization, we followed Haynie and Piquero (2006) and restricted the sample to those aged 11 through 15 (the ages where variation in pubertal development is most evident). This restriction left slightly more than 2,500 respondents.[3] To account for sampling biases, we incorporated sampling and cluster weights as recommended by Chantala (2001) and Chantala and Tabor (1999).

Table 1
Descriptive Statistics and Bivariate Correlations for all Measures

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Violent victimization	1.00												
2. Age	.07**	1.00											
3. Male	.17**	.02	1.00										
4. Black	.04*	–.02	–.04*	1.00									
5. Other race	.06**	–.01	.01	–.16**	1.00								
6. Welfare	.05*	–.04*	–.04	.11**	.03	1.00							
7. Parents married	–.06**	–.04*	.02	–.25**	–.05*	–.26**	1.00						
8. Peer deviance	.09**	.19**	.05*	–.12**	–.01	.03	–.04*	1.00					
9. Friends' distress	.12**	–.19**	.06**	.15**	.02	.11**	–.12**	.19**	1.00				
10. Poor school performance	–.18**	–.11**	–.17**	–.09**	–.01	.13**	–.15**	.21**	.19**	1.00			
11. Emotional distress	.17**	.08**	–.19**	.03	.07**	.08**	.10**	.09**	.07**	.15**	1.00		
12. Drinking	.23**	.13**	.16**	–.07**	.00	.06**	–.06**	.35**	.10**	.24**	.17**	1.00	
13. Early puberty	.07**	.06**	–.08**	–.03	–.06**	–.04	.00	.05*	–.03	–.01	.07**	.11**	1.00
M	.30	13.66	.48	.13	.09	.09	.68	5.54	.98	2.89	9.08	.70	3.27
SD	.82	1.05	.50	.34	.29	.28	.47	3.37	.45	.74	6.90	1.18	1.08
Minimum	0	12	0	0	0	0	0	0	0	0	0	0	0
Maximum	8	15	1	1	1	1	1	29	4	4	43	6	5

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

Measures

Violent victimization. The violent victimization measure is an index containing a composite score for four items. These items reported the victimization experiences of the respondents during the preceding 12 months: someone pulled a knife or gun on you, someone shot at you, you were jumped, and someone cut or stabbed you. Response categories for individual items ranged from 0 (*never*) to 2 (*more than once*). The descriptive results indicate that victimization, as expected, is highly skewed: 82 percent of the respondents were not victims of violent crime during the past year. Given that the dependent variable, violent victimization, has a distribution that is highly skewed and shows evidence of overdispersion (see Table 1), it is appropriate to treat victimization as event count data. One approach to analyzing such data is to estimate a negative binomial model. The negative binomial model can be viewed as an extension of the Poisson regression that relaxes the assumption that the variance is equal to the mean. To account for overdispersion, the negative binominal introduces an additional parameter that estimates the extent of overdispersion in the model (Long 1997).[4]

Early puberty. To measure early puberty, we used the same items that Haynie and Piquero (2006) employed (see also Blyth, Simmons, and Zakin 1985). The Add Health asked respondents how their development compares with their same-aged peers (i.e., "How advanced is your physical development compared to other girls/boys your age?"). Response choices ranged from 1 (*look younger than most*) to 5 (*look older than most*). Thus, a higher score indicates earlier maturation. The mean early puberty score was 3.27, indicating that the typical respondent reported approximately average pubertal development relative to his or her same-aged peers. As in Haynie and Piquero (2006), those who mature earlier should experience more victimization.

Emotional distress.[5] The Add Health contains 18 items developed from the Center for Epidemiological Studies Depression scale (CES-D). We theorized that exhibition of emotional distress would cause annoyance with others and potentially lead to attack. The specific items measure: feeling bothered by things, didn't feel like eating, could not shake off the blues, had trouble keeping mind on tasks, felt depressed, felt life had been a failure, felt fearful, talked less than usual, felt people were unfriendly, felt lonely, felt sad, felt disliked, felt that it was hard to start doing things, felt life was not worth living, had trouble relaxing, felt moody, suffered from insomnia,

and cried frequently. Researchers have explored the psychometric properties of this index with favorable results (Radloff 1991), and several recent studies have utilized the Add Health's CES-D measures (e.g., Crosnoe and Elder 2002; Kodjo and Auinger 2004; Wickrama, Noh, and Bryant 2005). The individual items allowed the respondent to report a score ranging from 0 (*never*) to 3 (*most or all of the time*); the emotional distress index used here is a sum of the individual items (Cronbach's alpha = .86). The mean adolescent score on this index is 9.08, indicating some (but not widespread) experience with symptoms of emotional distress among the average member of the sample.

Rule violation: Self-reported drinking. Violence often occurs in circumstances where one or more of the combatants had been drinking (e.g., Fagan 1990). Researchers have reported that the pharmacological effects of alcohol intoxication—for example, loss of coordination, judgment, memory—can violate social norms (Graham, West, and Wells 2000; Steele and Josephs 1990). Indeed, the magnitude of the violation can be such that other researchers have noted how persons nearby report having contempt for, or even assaulting, an intoxicated individual (Felson and Burchfield 2004; Goodchilds et al. 1988; Testa and Parks 1996). We use two items measuring adolescent drinking as an index of rule violations. The items ask whether the respondent drank beer, wine, or liquor in the past 12 months or else had become drunk during the same period. Possible responses range from 0 (*never*) to 6 (*nearly every day*). We summed the two items to create the index. The typical respondent averaged a score of .70 per drinking item, indicating relatively low involvement in alcohol consumption.

Poor school performance. The Add Health does not offer many objective performance measures, but there are items measuring grade point average in English, math, social science/history, and science. Students experiencing a negative event should perform less well, thus creating pretexts for grievances (such as with angered parents or contemptuous fellow students who are bored or frustrated with the low performer).[6] The school performance items can be interpreted in Table 1 just as one would a grade point average (e.g., 4 = A, 3 = B). The typical student had a grade point average of 2.9. For purposes of the multivariate results, this index is reverse-coded to measure poor performance.

Controls for exposure: Friends' distress and peer network deviance. We incorporated two control variables to measure exposure to possible offenders.

Schreck, Fisher, and Miller (2004) reported that peer groups composed of deviants should increase risk of violent victimization, so we include a peer deviance measure. We also utilize a measure that is particularly relevant to SI: a measure of friends' distress. We would expect that adolescents who are embedded in networks of peers who are deviant and distressed will experience greater levels of violent victimization. Both of these measures utilize one of the great advantages of the Add Health: its ability to reconstruct respondent peer networks and measure the qualities of the peers independently of possibly biased or incorrect respondent impressions of his or her friends. The data include a number of measures indicative of the level of distress felt by the average peer of a given respondent. The index is a composite of four items: depressed, moody, crying a lot, and feelings of fear. To create the peer network deviance measure, we followed Haynie's (2001) measurement. This index consists of six items measuring participation of peers in minor rule violations: smoking, drinking, getting drunk, racing, danger due to a dare, and skipping school. Descriptive statistics reveal that for the typical subject, his or her peers engaged in minor forms of deviance and suffered from distress relatively infrequently.

Demographic controls. This research includes several standard demographic items, many of which are known to correlate with victimization (e.g., Bureau of Justice Statistics 2003): age, race, and gender. The mean respondent is nearly 14 years old. Males comprise approximately 48 percent of the sample. Twenty-two percent of the respondents are either Black (13 percent) or Other minority (9 percent); the remainder of the sample is White. A small minority of the respondents (9 percent) lived in families receiving public assistance, and the majority (68 percent) lived with parents who are married to each other.

Results

Table 1 reports the combined male-female Pearson correlations between each of the measures, offering a preliminary insight about the viability of our research hypotheses. We are especially interested in whether SI variables predict victimization as expected, as well as whether distress and poor performance are connected with early puberty. This table shows that, at least at the bivariate level, SI measures are in fact correlated with greater levels of victimization and are also significantly intercorrelated with each other (albeit not to such a degree that multicollinearity would pose a problem).

And, as Haynie and Piquero (2006) found using substantially the same data, early puberty also has a significant positive relationship with higher levels of victimization. The distress measures tend to be more strongly related with victimization than early puberty (Pearson's $r = .07$).

Early puberty is associated with greater incidence of rule violations and emotional distress, but this is not the case with poor school performance. This means that whereas poor school performance might predict victimization net of the other variables, it would not account for the mediation of any early puberty effect we might observe. Overall, the magnitude of the correlations of distress and drinking with early puberty are weak in the combined data. In the appendix, we report bivariate correlations separately for boys and girls. Consistent with our expectations, distress generally is not significantly correlated with pubertal timing of boys; however, boys who mature earlier than their same-aged peers are more likely to report drinking and getting drunk. On the other hand, girls who matured early were more likely to suffer from emotional distress and poor school performance, and they tended to drink more. The correlation between these indicators of distress and pubertal timing is much stronger than is the case with the combined sample, which further recommends separate multivariate analyses for males and females.

We begin the multivariate analyses, however, with the full sample. Model 1 is the control model containing measures for demographic characteristics and exposure to offenders, thus providing a baseline for measuring whether distress/performance and early puberty add significantly to our understanding of violent victimization. The demographic measures yield predictions in line with expectations: males, minorities, and especially those approaching the age of 15 tend to experience significantly higher levels of violent victimization than other groups. Consistent with our expectations, exposure to friends who are experiencing distress significantly increases the respondent's reported violent victimization, as does a peer network where the peers are engaged in greater amounts of deviance.

Model 2 tests whether the respondent's own distress and poor performance increases violent victimization by adding measures for emotional distress, poor school performance, and self-reported minor rule violations. The log-likelihood difference between Model 1 and 2 is statistically significant, indicating that controlling for distress leads to improved model fit. Moreover, the results show that the SI measures matter with respect to predicting mean level of violent victimization—all are statistically significant predictors. To better understand the relative importance of the three SI measures, it is useful to standardize them.[7] Emotional distress is clearly the

Table 2
Negative Binomial Regression Results (DV = Victimization)

	Model 1			Model 2			Model 3			Model 4		
Variable	*B*	*SE*	Odds Ratio	*B*	*SE*	Odds Ratio	*B*	*SE*	Odds Ratio	*B*	*SE*	Odds Ratio
Age	.12	.05	1.13*	.03	.05	1.03	.13	.05	1.14*	.03	.05	1.03
Male	.99	.15	2.69***	1.00	.12	2.72***	.97	.13	2.64***	.91	.12	2.48***
Black	.45	.15	1.57**	.52	.14	1.68***	.47	.14	1.60***	.53	.13	1.70***
Other race	.48	.19	1.62**	.43	.17	1.54**	.52	.20	1.68**	.47	.17	1.60**
Parents married	–.22	.12	.80	–.12	.13	.89	–.21	.02	.81	–.11	.13	.90
Welfare	.29	.22	1.34	.09	.21	1.09	.26	.20	1.30	.08	.20	1.08
Peer deviance	.05	.02	1.05***	.00	.02	1.00	.05	.02	1.05***	.00	.02	1.60
Friends' distress	.08	.03	1.08**	.03	.03	1.03	.08	.03	1.08**	.03	.05	1.03
Poor school performance	—	—	—	.30	.06	1.35***	—	—	—	.30	.07	1.35***
Emotional distress	—	—	—	.06	.01	1.06***	—	—	—	.06	.01	1.06***
Drinking	—	—	—	.14	.02	1.15***	—	—	—	.13	.02	1.14***
Relative puberty	—	—	—	—	—	—	.19	.06	1.21***	.14	.05	1.15**
Log-likelihood			–1669.64			–1588.14			–1661.29			–1583.26
R^2			.04			.09			.04			.09

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

most important, as every standard deviation change in emotional distress corresponds with a 50 percent increase in violent victimization, (exp(.41) = 1.50). Drinking activity is of slightly less importance, (exp(.32) = 1.37), whereas poor school performance, even though statistically significant, was the least influential in relative terms (exp(.22) = 1.25).

Models 3 and 4 show the influence of early puberty and whether the distress measures mediate the effect of early puberty on violent victimization. Turning to Model 3, we found that net of our controls for exposure to offenders and demographic predictors, relative puberty is significant to roughly the same degree that Haynie and Piquero (2006) reported—each unit change in earlier maturation increases the level of victimization by about 21 percent. Model 4 tests whether respondent distress and poor performance can account for the impact of puberty on victimization risk. Although the SI predictors, to the naked eye at least, reduce somewhat the effectiveness of early puberty as a predictor of violent victimization (from .19 to .14), this change in coefficients is not statistically significant. At least with the combined male-female data, we cannot rule out chance error as being responsible for the apparent change. The SI items nevertheless continue to independently predict violent victimization along with early puberty. When we standardize the coefficients to compare the relative magnitude of the SI measures and early puberty, early puberty is less important in terms of predictive utility—emotional distress remains the most impressive predictor (each standard deviation change in emotional distress corresponds with a 51 percent change in victimization). Drinking is the next greatest in magnitude, (exp(.29) = 1.34), with poor school performance close behind, (exp(.25) = 1.29). Each standard deviation change in early puberty only resulted in a 16 percent change in violent victimization, (exp(.15) = 1.16); however, pubertal timing remained a significant predictor of victimization.

Table 3 replicates Models 3 and 4 separately for boys and girls. In the baseline models (5 and 7), boys and girls who matured earlier had significantly higher levels of violent victimization. The effect magnitudes of early maturation for both genders are comparable as well (.20 for girls, .18 for boys). These results resemble what we found with the combined sample. In Models 6 and 8, we control for the effects of distress, and it is here that important differences emerge. There is attenuation in the effect sizes of pubertal timing for both boys and girls, but for the girls (Model 8), pubertal timing did not significantly affect levels of victimization and, moreover, a coefficients comparison test found that the decrease in the effect of early puberty after taking distress into account was large enough to be statistically significant. Distress is evidently the reason girls who mature earlier

Table 3
Negative Binomial Regression Results for Mediation of Early Puberty, by Gender (DV = Victimization)

	Males Only						Females Only					
	Model 5			Model 6			Model 7			Model 8		
Variable	*B*	*SE*	Odds Ratio	*B*	*SE*	Odds Ratio	*B*	*SE*	Odds Ratio	*B*	*SE*	Odds Ratio
Age	.17	.06	1.19**	.07	.06	1.07	.06	.09	1.06	–.03	.10	.97
Black	.42	.18	1.52*	.47	.18	1.60**	.59	.21	1.80**	.64	.20	1.90***
Other race	.51	.23	1.67*	.51	.21	1.67*	.63	.27	1.88*	.45	.30	1.57
Parents married	–.05	.16	.95	.01	.15	1.01	–.45	.17	.64**	–.30	.17	.74
Welfare	.33	.27	1.39	.36	.26	1.43	.16	.30	1.17	–.32	.32	.73
Peer deviance	.03	.02	1.03	–.02	.02	.98	.10	.03	1.11***	.05	.03	1.05
Friends' distress	.05	.03	1.05	.02	.03	1.02	.14	.06	1.15*	.07	.05	1.07
Poor school performance	—	—	—	.29	.08	1.34***	—	—	—	.34	.09	1.40***
Emotional distress	—	—	—	.06	.01	1.06***	—	—	—	.06	.01	1.06***
Drinking	—	—	—	.15	.02	1.16***	—	—	—	.10	.05	1.11*
Relative puberty	.18	.06	1.20**	.13	.05	1.14*	.20	.10	1.22*	.13	.10	1.14
Log-likelihood			–1022.10			–968.29			–627.84			–602.49
R^2			.02			.07			.03			.07

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

are more likely to become victims of violence. Although the boys' pubertal timing effect coefficient was reduced as well, early puberty remained a significant predictor of victimization and neither was the reduction in the effect coefficient statistically significant. Distress seemed to account for some effect of early maturation among boys, but not enough for us to be confident that this apparent reduction is more than an artifact of chance.

Conclusion

We began with the claim that the social interactionist perspective offered potentially unique insights about the causes of personal victimization. SI asserts that victimization of others is an instrumental response to interpersonal grievances. Someone (inadvertently or not) affronts someone else, the aggrieved individual calls the offender to account, the offender fails to offer adequate satisfaction for the injury, and so the aggrieved party then attacks. SI also points out that distress leads to the kind of behavior that others will find offensive or annoying, if not injurious. Manifestations of personal distress, insofar as they create a noxious context in an interpersonal interaction, ought to increase the chances of becoming a victim of violence.

Because SI has not received much testing in the victimization literature, and yet the theory postulated original correlates of victimization and thus offered new research questions for the victimologist, our first purpose was to test whether SI had empirical support among a nationally representative sample of U.S. adolescents. At the same time, recent research on early puberty (i.e., Haynie and Piquero 2006) found evidence that teenagers maturing faster than their peers tend to experience more victimization. Given the literature showing conclusively that early puberty is associated with signs of personal distress, like belligerence and poorer performance, it seemed to follow that SI offered a plausible account for the early puberty-victimization connection.

Our results support our first hypothesis that SI is a useful framework for studying victimization. Adolescents who experienced emotional distress, performed poorly in school, and violated minor rules were more likely to become victims of violent crime. As we noted earlier, SI would view all three of these domains as sources of grievances. Chronic crying or complaining, an embarrassing academic performance in class, and drinking can elicit disgust and anger from others. While none of these actions is openly aggressive, they invite criticism and ridicule and therefore represent plausible reasons why an exchange might escalate into a violent attack. These

indicators of distress matter even net of demographic variables and measures of exposure to offenders. Our research does not necessarily measure the full range of how distress might manifest itself, however. And our cross-sectional design forces us to make assumptions that limit the conclusiveness of our results. For instance, our CES-D measures depressive symptoms only in the past week, whereas our victimization measure has a 12-month reference period. We must therefore assume a degree of stability with respect to the occurrence of depressive symptoms. Longitudinal research could therefore offer more conclusive evidence of a link between distress and victimization. These limitations notwithstanding, the results are promising enough to justify further inquiry.

We then turned to early puberty as a possible illustration of SI's ability to explain the connection between an adverse event and victimization. Although puberty is not the strongest correlate of victimization risk, it nevertheless is a statistically significant predictor in the literature. The literature, however, has not given much attention to exactly why early puberty affects victimization apart from Haynie and Piquero's (2006) brief speculation about SI at the conclusion of their research. Our results found support that our measures of distress accounted for why girls who mature early are more likely to become victims of violence. This was not the case with boys. Given the extant literature showing that gender differences exist in the effects of early puberty, this pattern was not surprising. Felson and Haynie (2002) reported that boys undergoing early puberty seem to adjust reasonably well along many indicators. But our results leave open the question of why males who mature faster than their peers are more likely to become victims.

An additional direction for future research should be verifying the substantive interpretation of our results. Social interaction does not necessarily offer the only conceptual framework that can speak to our findings. Routine activities/lifestyles would propose somewhat different mechanisms linking distress with vulnerability. Silver (2002) speculated that difficult people are not the most suitable candidates for friendship with conventional others—a fact that can be quite detrimental to having effective protective guardianship (see also Schreck, Stewart, and Fisher 2006; Schreck et al. 2004). Distress might likewise result in abandoning relationships with others who are well situated to offer protection. In this respect, distress would have measurable impacts on the structural dimensions of a person's peer network, which in turn would result in elevated risk of victimization (see Schreck et al. 2004). Future research should thus attempt to untangle the role of guardianship, peer networks, and distress as sources of victimization

risk. Similar questions about interpretation might apply as well to explaining the linkage between early puberty and victimization. Haynie and Piquero (2006) considered some elements of network structure, which did not appear to have substantially mediated the influence of early puberty on victimization; however, other dimensions of peer networks (e.g., centrality, density, and popularity) might be more important.

The work of symbolic interactionist theorists provides yet another interpretation for our results. Symbolic interaction posits that human social life is guided by symbols and cognitive meanings people give to interactions (e.g., George Herbert Mead; for a summary of Mead's ideas, see Blumer 1969). In this respect, the grievance-victimization-retaliation sequence can have origins beyond distress. Definitions that institutions bestow that describe certain individuals as discreditable or tainted could be the true source of grievance leading to the initial act of violence. Erving Goffman (1963), for instance, posited that stigma can guide how humans perceive and interact with individuals possessing a "deviant" trait. Early puberty is plausibly an "abomination of the body," at least for those who know a girl's true chronological age. Symbolic interaction, however, has had scant influence in the mainstream victimization literature. Our results indicate that this sociological paradigm could further enrich the study of victimization.

These results provide further evidence that although there may be victims who take every reasonable precaution and who do nothing to provoke their attacker (i.e., the classic innocent victim of a random attack), victims can and do interact with their attackers and escalate matters to the point where the attacker feels that a violent response would offer a satisfactory resolution of a grievance. Field researchers have reported similar patterns (e.g., Anderson 1999; Jacobs and Wright 2006). There seems to be consistent evidence that those individuals who exhibit aversive behavior receive more violence than individuals who do not (see also Schreck 1999; Stewart, Schreck, and Simons 2006). This is not to say that people who are annoying deserve attack or that their attackers ought not to be legally culpable for the injury they cause because distress might be a phenomenon no more under the individual's direct control than the onset of early puberty or mental illness. Rather, victimization researchers should be cognizant of the fact that people possess attributes that can predispose them toward becoming victims—even toward making an otherwise innocuous situation one where violence can occur. Going forward, it may be that better understanding the reasons for personal distress, and designing policies to deal effectively with these antecedent factors, might have the added benefit of reducing an individual's risk of violent victimization.

Appendix

Bivariate Correlations for All Measures, by Gender

	1	2	3	4	5	6	7	8	9	10	11	12
1. Violent victimization	—	.10*	.07*	.03	.05	–.07*	.10*	.06*	.18*	.20*	.24*	.10*
2. Age	.02	—	–.01	–.05	–.01	–.04	.15*	.05	.15*	.04	.19*	.05
3. Black	.08*	–.03	—	–.15*	.15*	–.27*	–.15*	.00	.05	.02	.02	–.06*
4. Other race	.05	.03	–.16*	—	.08*	–.05	.02	.01	.02	.07*	–.02	–.05
5. Welfare	.04	.01	.09*	.03	—	–.34*	.02	.05	.12*	.01	.01	–.02
6. Parents married	–.09*	–.05	–.22*	–.04	–.36*	—	–.02	–.05	–.15*	–.03	–.06*	.04
7. Peer deviance	.13*	.23*	–.14*	–.03	.02	–.03	—	.27*	.23*	.04	.28*	.02
8. Friends' distress	.10*	.12*	.01	.03	.08*	–.08*	.32*	—	.13*	.07*	.12*	.06*
9. Poor school performance	.17*	.22*	.11*	.03	.15*	–.14*	.24*	.20*	—	.20*	.17*	.05*
10. Emotional distress	.19*	.12*	.00	.09*	.10*	–.14*	.17*	.12*	.15*	—	.12*	.11*
11. Drinking	.16*	.25*	–.01	–.02	.06*	–.10	.38*	.19*	.24*	.24*	—	.17*
12. Early puberty	.10*	.05*	.00	–.07*	–.02	–.03	.12*	.06*	–.03	.01	.16*	—

Note: Correlations for female respondents are above the diagonal, males are below.
*$p < .05$.

Notes

1. Rather, Felson's paper has had a more marked impact on the study of aggressive interpersonal encounters from an offender's perspective (e.g., Brezina, Piquero, and Mazerolle 2001; Kennedy and Forde 2000; Stewart and Simons 2006).

2. Felson (1992) did consider a wide range of subjective states (i.e., anxiety, tension, somatic symptoms, depression, and anger) in a second analysis of adolescent respondents utilizing a different data set than the first analysis; however, the dependent variable was aggression rather than victimization.

3. A small number of the cases would be lost to listwise deletion arising from missing data for one or more measures. We used the multiple imputations by chained equations ("ICE") procedure available in Stata 9 to impute missing values where appropriate (Royston 2005a, 2005b). This involved a three-step procedure in which we used the ICE function to generate 10 imputed data sets. We then estimated regression models separately for each of these data sets. Finally, to obtain more precise parameter estimates, we computed the pooled estimates of the regression models to account for the possible underestimation of standard errors that might occur were we to use only a single imputation procedure (Acock 2005; Rubin 1987; Schafer 1997).

4. The likelihood ratio test for the Poisson model reveals that the data are overdispersed and the negative binominal model is the appropriate modeling technique.

5. We also created measures of somatic symptoms, that is, the physical manifestations of distress like headaches, coughing, stomachaches, and so forth. To the extent that evidencing physical illness symptoms causes feelings of irritation in others, somatic symptoms could account for some portion of victimization. There was enough close correspondence, however, between the emotional distress and somatic symptoms measure to cause collinearity problems. We therefore elected to drop this item from our list of SI variables. Nevertheless, the presence of chronic health problems does have some support in the victimization literature (e.g., Lee and Schreck 2005).

6. The connection between academic performance and violent victimization is not nearly as well researched or understood as that between alcohol consumption and violence. Our interpretation of this measure is guided by our theory, but other theories could explicate competing mechanisms as well.

7. As in Haynie (2001), we use the formula $b_i * X_i$'s standard deviation (i.e., item binomial regression coefficient multiplied by the item's standard deviation obtained from descriptive statistical output). The result reports the change in $\log(Y)$ per standard deviation of X_i. We then exponentiate the result to obtain the proportional change in violent victimization per standard deviation of X_i.

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