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Psychosocial Correlates of Adolescent Drug Dealing in the Inner City

Potential Roles of Opportunity, Conventional Commitments, and Maturity

Michelle Little
Arizona State University
Tempe, Arizona
Laurence Steinberg
Temple University
Philadelphia, Pennsylvania

This study examined a model of the simultaneous and interactive influence of social context, psychosocial attitudes, and individual maturity on the prediction of urban adolescent drug dealing. Five factors were found to significantly increase adolescents' opportunity for drug selling: low parental monitoring, poor neighborhood conditions, low neighborhood job opportunity, parental substance use or abuse, and high levels of peer group deviance. The relation between drug-selling opportunity and adolescents' frequency of drug selling was partially mediated by adolescents' alienation from conventional goals and from commitment to school. With the effect of drug-dealing opportunity controlled, adolescents' temperance was associated with a lower frequency of drug selling. Youth with greater resistance to peer influence reported a higher frequency of nonmarijuana drug dealing. Adolescent autonomy also predicted adolescents' nonmarijuana dealing in conditions of low drug-selling opportunity. The results are discussed with respect to the social service needs of serious juvenile offenders.

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Rising rates of drug-related juvenile arrests have led to increased concern for the safety and well-being of inner-city minority youth. In the United States, juvenile arrests for drug crimes increased from 5 to 11 percent of all juvenile court cases between 1990 and 1998 (Office of Juvenile Justice and Delinquency Prevention 2003). This increase was especially high during the period between 1993 and 1998, when adolescents' self-reported drug use declined, suggesting that the rise in adolescent drug-related arrests during this time period was a result of juveniles' rising participation in drug selling rather than drug use (National Research Council and Institute of Medicine 2001). By their own admission, between 10 and 17 percent of inner-city male adolescents in Baltimore (Li and Feigelman 1994) and Washington, D.C. (Bush and Ianotti 1993), sold illicit drugs during the 1990s. This rising trend in adolescent illicit drug selling has been linked to youths' exposure to violence, increased drug use, weapons use, criminal versatility, and death (Altschuler and Brounstein 1991; Black and Ricardo 1994; Stanton and Galbraith 1994; Van Kammen and Loeber 1994).

Social concern for adolescents' increased participation in drug crimes has spawned both empirical and ethnographic studies of the antecedents of adolescents' drug market participation since the 1980s. To date, empirical researchers have focused on contextual (e.g., community and familial risk factors; Altschuler and Brounstein 1991; Fagan 1992) or individual (Li et al. 1996; Weinfurt and Bush 1995) factors as potential precipitants of drug dealing by adolescents. Minimal empirical attention has been paid, however, to the simultaneous or interactive influence of social context and individual attributes on adolescents' decisions to deal drugs.

To better understand why particular adolescents within disadvantaged contexts choose to participate in drug dealing, this study had two aims. The first aim was to provide an empirically based psychosocial profile of adolescent drug "dealers" who derive income from their sales of drugs. The second aim was to examine psychosocial mechanisms underlying adolescent drug dealing using a social-interactionist perspective as a theoretical vantage point. The social-interactional approach to criminal decision making emphasizes the role of individuals in actively choosing to commit crimes and suggests that criminal decision making reflects the interaction of motivation and social context (Cornish and Clarke 1986; Fagan 2000). Fagan (2000) has further elucidated the applicability of this perspective to adolescent

criminality by suggesting that adolescent criminal motivations are closely linked to their interactions within salient developmental contexts, such as the family, school networks, and neighborhood peer groups.

The model examined in the current study had its theoretical starting point in studies of adults' decisions to participate in instrumental crimes (Fagan and Freeman 1999; Nagin and Paternoster 1993). Social scientists suggest that adults' motivations to commit instrumental crimes may be affected by the relative economic benefits of the activity, the availability of alternative activities (e.g., jobs and schooling), individual characteristics (e.g., low self-control), and the calculation of relative costs in terms of the likelihood of legal sanctions (arrest, probation, incarceration; Fagan and Freeman 1999; Freeman 1996; Nagin and Paternoster 1993). Similarly, the model in this study proposed that juvenile offenders' frequency of drug selling is linked to (1) their perceived opportunity for drug selling, (2) their perceptions of social and economic benefits and their relative investment in alternative sources of conventional opportunity (e.g., school and work), and (3) their capacity to weigh the risks and benefits of illicit market participation. Thus, the model of drug dealing for the current study posited potential sources of adolescent contextual drug-selling *opportunity*, social *motivation* for drug selling, and individual *restraint* from participating in illicit drug markets within an inner-city context. Data were drawn from a longitudinal study of serious juvenile offenders living in an inner-city environment.

The Social Context of Inner-City Adolescent Drug Dealing

Social scientists have observed that rising poverty rates in urban centers gave rise to urban adolescents' increased opportunity to sell illicit drug markets during the past two decades (Fagan 1992). When urban manufacturers eliminated nearly 1 million jobs during the 1970s and 1980s, inner-city young adults turned to flourishing illicit drug markets for income (Wilson 1996). At the same time, adolescents were enlisted to sell and traffic drugs so that adult dealers could avoid harsh penalties associated with adult sanctions for selling heroin and crack cocaine (Leviton, Schindler, and Orleans 1994). With the acknowledgment that local markets could no longer offer what was considered a living wage, adolescents' favorable view of drug sales as a means to profit rose considerably. This was reflected in a 22 percent rise during the 1980s in the number of youth reporting that they could earn greater income from crime than from conventional employment (Freeman 1992). By the early 1990s, urban adolescents increasingly acknowledged the availability of illicit market opportunity (Li and Feigelman 1994).

Prior studies have further established that peer influence plays a critical proximal role in inner-city youths' decisions to sell illicit drugs. Adolescents' perceptions of the acceptability and profitability of drug dealing are shaped most directly by peers and young adults within their communities (Li et al. 1996; Ricardo 1994; Whitehead, Peterson, and Kaljee 1994). Notably, too, adolescents' perception that "everybody is doing it" is associated with persistence of drug selling (Li et al., 1996).

While faced with increasing neighborhood social disorganization, families have been impeded in preventing their youth from participating in illicit markets. Most specifically, rising rates of adult substance use and abuse in inner-city areas have contributed to adolescents' access to illicit drugs and their acceptance of drug selling as a normative opportunity (Altschuler and Brounstein 1991; Black and Ricardo 1994; Dunlap 1992). Diminished neighborhood social control has also impeded parents' control over adolescents' associations with delinquent peer groups in contexts in which the drug trade has flourished (Paschall and Hubbard 1998). Furthermore, the converging burdens of familial poverty and social isolation interfere with effective parenting and create tensions within the parent-child relationship (Brody et al. 2001). Not surprisingly, adolescents who report deriving substantial income from drug dealing within urban areas also report very low levels of parental monitoring, both concurrently (Altschuler and Brounstein 1991; Chaiken 2000) and prospectively (Li, Stanton, and Feigelman 2000).

In the present study, neighborhood and family risk factors were proposed to influence adolescents' opportunity for drug dealing. It was expected that in neighborhoods of high physical and social disorder, low local job opportunity, and high peer deviance, adolescents would be more likely to have access to illicit drugs and drug-using customers. At home, adolescents' exposure to parental drug use was hypothesized to increase access to drugs and acceptance of drug use and sales. Furthermore, given that successful drug dealing requires time and a certain degree of planning, it was expected that adolescents with more available unsupervised time (i.e., lower parental monitoring) would have greater opportunity to participate in illicit market activity and maintain customer bases.

The Potential Role of Perceived Pay-Off from Crime and Alienation from Conventional Commitments and Aspirations in Motivating Drug Dealing

A number of investigators have suggested that urban social disorganization and access to the drug market have directly affected adolescents' perceived

social incentives for participating in drug dealing (Ricardo 1994; Whitehead et al. 1994). As first suggested by strain theorists, youths' experience of the related strains of low social status and reduced socioeconomic opportunities creates pressures that motivate criminal participation (Cloward and Ohlin 1960). Similarly, empirical studies affirm that the primary lure of illicit drug selling is the potential attainment of an income that is typically unattainable for youth in impoverished neighborhoods (Reuter, MacCoun, and Murphy 1990). For example, drug-dealing youth acknowledge that wages attached to available licit opportunities would not replace their profits from drug sales (Huff 1996). Thus, the pursuit of illicit market income for youth is predicated by a tacit acknowledgment of the limits of their socioeconomic position.

In addition to instrumental gain, youths' participation in illicit markets may provide perceived social reward and esteem that they perceive as unattainable in other contexts (Collision 1996). For example, Li et al. (1996) found that the valuing of external rewards of dealing ("It is important to wear the best tennis shoes") and perceptions of respect for criminal activity were significant predictors of adolescents' intentions to sell and drug selling. Their findings suggest that the perceived social and economic pay-offs from illicit market activity serve as critical social reinforcement for adolescents' persistence in illicit drug selling.

From a developmental perspective, the potential social and economic pay-offs from drug dealing should be most attractive for those disadvantaged adolescents who have the least confidence in their potential to compete in developmentally appropriate arenas of opportunity (e.g., in school and after-school jobs). In turn, adolescents' social alienation from both academic commitments and conventional goals (jobs, career, parenthood) serve as further incentive for participating in illicit drug markets. In support of this contention, interview data suggest that drug dealers are less likely to be attending or performing well in school and less likely to report academic or vocational goals (Black and Ricardo 1994; Uribe and Ostrov 1989).

In accord with the current literature, three sources of social incentive were posited to mediate relationships between contextual opportunity and adolescent drug dealing in this study: perceptions of the perceived pay-off from crime, low commitment to school, and alienation from conventional goals and expectations. It was expected that drug involvement in adolescents' homes and communities would increase adolescents' perceptions of the perceived pay-off from illicit market activities and decrease adolescents' commitment to school and conventional long-term goals. In turn, we hypothesized that adolescents' alienation from conventional sources of success

(school and goals), as well as their belief in the perceived pay-off from crime, would be important incentives for drug dealing.

The Role of Individual Differences in Adolescents' Restraint from and Participation in Drug Dealing

Despite the potential for convenient economic return, adolescents who participate in the illicit drug market must also be willing to accept the risks of violence, injury, legal sanction, and even death. The risks associated with drug dealing have been documented in research and media accounts and survey accounts suggest that adolescents are well aware of the dangers associated with drug dealing (Reuter et al. 1990). A number of individual attributes have been suggested as potentially affecting youths' willingness to participate in risky behaviors, including psychosocial immaturity (Cauffman and Steinberg 2000), emotional dysregulation (Steinberg 2003), and the immature development of executive brain function (Steinberg et al. 2005). However, to date, the role of individual differences in adolescents' decisions to accept the risks to pursue an income from drug dealing has not been examined systematically in either ethnographic or empirical studies.

In the current study, we posited that developmental differences in maturity play an important role in adolescents' willingness to accept such risks and, ultimately, their propensity to participate in illicit market activities such as drug dealing. Specifically, we suggest that specific maturational *dispositions* interact with features of adolescents' social ecology to affect their participation in illicit market activities (Cauffman and Steinberg 2000). These dispositions include (1) *autonomy*,[1] as epitomized in a secure sense of oneself among others and a sense of self-reliance; (2) *temperance*, which is characterized by the ability to delay gratification and evaluate situations before acting; (3) *future orientation*, which allows for an understanding of the long-term consequences of one's decisions or actions; and (4) *resistance to peer influence*, which is indicative of a secure sense of oneself and one's values with respect to others.

We hypothesized that maturational dispositions affect adolescents' propensity for illicit market activities in different ways. Foremost, the tendencies to delay gratification and formulate long-term goals (i.e., temperance) may be most instrumental in foregoing illicit opportunities, particularly within disadvantaged contexts that present the greatest opportunity for and acceptance of illicit market activities. Adolescents' evolving capacity to understand the long-term consequences of illicit activities might also buffer them from involvement with drug dealing. Autonomy, by contrast, would

be an important dispositional asset for a youth who is trying to protect his or her corner on an illicit market and thus was expected to be positively associated with drug selling. Finally, resistance to peer influence may also be viewed as an important asset for an adolescent dealer. The limited research examining personality characteristics of adolescent drug dealers has depicted them as fearless risk takers, who are *sometimes liked*, *sometimes feared*, and *not "picked on"* by their peers (Weinfurt and Bush 1995). This profile suggests that adolescents who are socially competent enough to lead others and enterprising enough to "manage" small customer bases would make the most successful dealers. Thus, we hypothesized that whereas adolescents' temperance and future orientation would restrain their propensity to engage in drug dealing, their dispositions toward autonomy and resistance to peer pressure would increase it.

We also hypothesized that adolescents' opportunity for drug dealing would interact with individual differences in maturity to influence drug selling. We expected that drug-dealing opportunity at home and in the community would interfere with adolescents' restraint from drug dealing because the perceived social benefits of drug dealing may be most evident to adolescents in conditions of high drug-selling opportunity. Thus, it was hypothesized that temperance and perspective would have the greatest buffering effect on drug-dealing activity in conditions of low drug-selling opportunity. By contrast, it was expected that the positive effects of autonomy and resistance to peer influence on drug dealing would be magnified under conditions of high drug-dealing opportunity, where the illicit market might demand and shape aggressive, assertive, and independent behavior.

Methods

Participants

The sample for this study consisted of 605 male serious juvenile offenders from the Philadelphia sample of an ongoing longitudinal study, Research on Pathways to Desistance (RPD). All participants were between the ages of 14 and 17 years at the time of their initial enrollment in the study. The sample was predominantly minority. As shown in Table 1, almost three-quarters (71.3 percent) of the participants were African American, 13.9 percent were Hispanic, 10.4 percent are Caucasian or White non-Hispanic, .5 percent were Native American, .2 percent were Asian American, and 2 percent were of other ethnic or racial backgrounds. Parental education,

Table 1
Sample Demographic Characteristics (*n* = 605)

Characteristic	*M* (*SD*)	Percentage (*n*)
Age	16.15 (1.22)	
Ethnicity		
African American		73.1 (442)
Asian		.2 (1)
Hispanic		13.9 (84)
Native American		.5 (3)
White, non-Hispanic		10.4 (63)
Other		2.0 (12)
Parents' educational level	4.25 (.75)	
Some graduate or professional school		.2 (1)
College graduate		1.2 (7)
Business or trade school/some college/graduate of two-year college		9.6 (54)
High school diploma		49.3 (291)
Some high school		43.3 (245)
Grade school or less		4.7 (26)

which was used as a proxy measure of socioeconomic status, indicated that this sample was drawn from a predominantly disadvantaged population. The parents of nearly one-half of the sample (48.0 percent) had not earned high school diplomas at the time of the interviews.

More than two-thirds of this sample (73 percent) had histories of prior arrests before referral to this study. Approximately 17 percent of this sample (n = 104) had been charged with drug-related offenses either at the time of referral for the study or previously. Drug-related charges included the possession of illicit drugs, possession with intent to sell illicit substances, and the sale of illicit substances. The mean number of drug-related charges of those subjects was 2.73 (SD = 1.09), with a range of 1 to 6 and a median of 3. Most of the adolescents who had been arrested previously on drug-related charges had at least 3 drug-related charges in their records (55.7 percent, n = 54).

Sampling

Data for the present analyses came from the baseline interviews of a larger sample of 1,355 adolescents who were participants in a prospective, longitudinal study of serious juvenile offenders in two major metropolitan areas. Adjudicated adolescents between the ages of 14 and 17 years at the

time of their committing offenses were recruited from the courts. Eligible participants included all felony offenders, with the exception of those adjudicated on less serious property crimes, as well as offenders adjudicated on misdemeanor weapons or sexual assault offenses. Because drug-law violations represent such a significant proportion of the offenses committed by this age group, and because male adolescents account for the vast majority of those cases (Office of Juvenile Justice and Delinquency Prevention 2003), the proportion of male adolescents recruited with histories of drug offenses was capped at 15 percent of the sample at each site so that the heterogeneity of the RPD sample would not be compromised. Details of the recruitment process and the recruited sample are provided in Schubert et al. (2004).

The sample chosen for this study (n = 605) was limited to male participants in the mid-Atlantic study locale because preliminary analyses showed that the rate of self-reported drug dealing was significantly higher among participants in that metropolitan area than in the southwestern study locale. Female adolescents were not included in this study sample, because this study's model was designed in accord with previous literature regarding male adolescents' participation in drug dealing. Specifically, the number of adolescents who reported selling nonmarijuana drugs was significantly higher in the mid-Atlantic locale, $\chi^2(1) = 25.91$, $p < .001$, as was the reported frequency of both marijuana dealing, $M = 171.19$, $SD = 275.75$ compared with $M = 61.12$, $SD = 173.83$, $F(1,588) = 5.74$, $p < .05$, and nonmarijuana dealing, $M = 101.1$, $SD = 211.64$ compared with $M = 62.14$, $SD = 181.08$, $F(1,431) = 21.59$, $p < .001$, on the basis of raw score reports.

Procedures

Participating juvenile courts provided the names of individuals eligible for enrollment, and cases were assigned to interviewers who contacted juveniles and their families. Interviewers met with confined juveniles in their juvenile facilities and with juveniles who were on probation in their communities.

Baseline interviews, administered in two private two-hour sessions, were used for this study. Interviews questions were read to juveniles from a computer. When responding to sensitive material (e.g., criminal behavior, drug use), respondents were encouraged to use a portable keypad to input their answers. Adolescents were paid $50 for their participation.

Measures

Drug Dealing

Drug-dealing frequency was derived from questions from the Self Report of Offending (Huizinga, Esbensen, and Weiher 1991). Participants

are asked whether and how many times they had sold marijuana and nonmarijuana drugs in the calendar year prior to their interviews. Item responses were transformed into a trichotomous scale to ensure optimal reliability with minimal reduction of validity (Huizinga et al. 1991). This trichotomous measurement approach distinguished sporadic drug selling from higher volume drug dealing based loosely on the daily calendar (i.e., a weekly vs. a nonweekly basis).[2] Adolescents who reported no drug selling in the one year previous to baseline interview were coded as zero (no drug dealing) on this scale. Adolescents reporting selling drugs less than once per week (i.e., fewer than 52 times) received a score of one, and adolescents reporting selling drugs once per week or more (52 times or more) received a drug-selling frequency score of two. A latent construct of drug dealing indexed by rates of marijuana dealing and nonmarijuana drug dealing was used in all structural equation models. In addition, univariate outcomes of marijuana dealing and nonmarijuana dealing were used in selected path analyses when predicted multivariate associations were not affirmed. The reliability of the drug-dealing measure, consisting of the marijuana-dealing and nonmarijuana-dealing scales, was affirmed in preliminary analyses (Cronbach's $\alpha = .72$, mean interitem $r = .57$).

Income from licit jobs and drug-dealing activities. Adolescents' weekly incomes from licit jobs and drug dealing were assessed with several open-ended questions focusing on adolescents' licit and illicit employment histories. Four variables were derived from adolescents' responses to employment-related questions: weekly licit income, weekly illicit income from drug selling, the mean number of months adolescents had ever worked at legal jobs, and the mean number of months adolescents had sold drugs.

Drug-Dealing Opportunity

Drug-dealing opportunity was assessed from five indices: neighborhood conditions, perceived opportunity for neighborhood work, parental monitoring, parental substance use and abuse, and peer delinquency.

Neighborhood conditions. The quality of neighborhood physical and social conditions was measured using a 21-item self-report measure (Sampson and Raudenbush 1999). Participants are asked how often they saw conditions of social disorder ("people smoking marijuana") and physical disorder ("garbage on the streets or sidewalks") in their neighborhoods. Responses were rated on a four-point rating scale from one (always) to four (never). The internal consistency of the measure is excellent (total-score $\alpha = .94$).

Perceived neighborhood job opportunity. A five-item scale was used to measure adolescents' perceptions of neighborhood work opportunity (e.g., "Employers around here often hire young people from this neighborhood"). Responses were coded on a five- point scale from one (strongly disagree) to five (strongly agree). For the purposes of latent construct development, this scale was reverse scored, so that higher scores indicated lower perceived job opportunity and higher illicit drug-selling opportunity within the latent construct. Preliminary analysis showed that the reliability of the scale was good ($\alpha = .76$).

Parental monitoring. The Parental Monitoring Inventory (Steinberg et al. 1992) was adapted for this study to assess caregivers' knowledge of the adolescents' behaviors and monitoring behaviors. Parental monitoring questions focused on a single individual whom an adolescent indicated as primarily responsible for the youth. Eight items were coded on a four-point, Likert-type scale ranging from one (doesn't know at all/never) to 4 (knows everything/always). For this study, items were reverse scored and averaged so that higher scores indicated lower parental monitoring.

Parental substance use and abuse. This item was measured by four adolescent-report questions developed for the RPD study. A parent drug involvement scale was derived using three anchors: one (no drug use), two (parent currently uses illicit drugs), and three (parent currently has a drug problem).

Peer delinquency. The Peer Delinquency–Antisocial Behavior Scale was created for the RPD project from a subset of questions used by the Rochester Youth Study to assess the proportion of peers within adolescents' peer groups who have participated in antisocial activities (Thornberry et al. 1994). Adolescents were asked how many of their friends had ever been involved in 10 delinquent activities. Responses were coded on a five-point scale. The reliability of this measures in this sample was good ($\alpha = .92$).

Cluster analysis was used to identify two naturally occurring clusters of subjects distinguished by their opportunity for drug selling, (i.e., high vs. low opportunity). Factor scores for drug-selling opportunity derived from the initial confirmatory factor analysis of drug-dealing opportunity were used to weight the drug opportunity variate characteristics, and then a K-means cluster analysis was used to derive cluster groups. Examination of differences between the resulting groups showed that the high-drug-selling-opportunity cluster ($n = 254$) was characterized by significantly higher levels of physical and social disorder in the neighborhood, lower perceived job

opportunity in the neighborhood, lower parental monitoring, higher rates of parental drug use and abuse, and higher levels of peer delinquency than the low-drug-selling-opportunity cluster (n = 351).

Perceived Pay-Off from Crime

Perceived pay-off from crime was a latent construct measured with two indices: legal cynicism and perceived social pay-off from crime.

Legal cynicism. Legal cynicism was chosen as an indicator of perceived pay-off from crime because it is a measure of an individual's antisocial attitude toward legal norms (e.g., "There are no right or wrong ways to make money"). If an individual holds a negative view of legal norms, he or she will perceive fewer negative consequences, in terms of moral utility, than an individual who values legal norms. Adolescents' reports of legal cynicism were measured using mean total scores of five items adapted from a longer measure (Tyler 1990). Items were scored on a four-point, Likert-type scale. Although preliminary reliability analyses showed that reliability was modest (α = .59), the mean interitem of this five-item measure was acceptable (r = .19).

Perceived social pay-off from crime. The 15-item scale measuring perceived social pay-off from crime was also chosen to represent the latent construct of perceived pay-off from crime because it assessed individuals' perceptions of direct social pay-off from antisocial activities in terms of received respect from significant others as a result of criminal participation (Nagin and Paternoster 1994). Adolescents were asked to judge the likelihood of the positive outcomes (i.e., social respect) of various crimes using a four-point, Likert-type scale. The internal consistency of the measure of perceived social pay-off from crime was good (α = .88, mean interitem r = .35).

Conventional Goals and Expectations

A 14-item measure adapted from the National Youth Survey was used to assess adolescents' conventional goals and expectations (Menard and Elliot 1996). Items from the measure tapped adolescents' conventional aspirations (e.g., "How important is it to you to earn a good living?") and expectations (e.g., "What do you think your chances are to earn a good living?"). Participants responded on a five-point, Likert-type scale ranging from one (*not at all important/poor*) to five (*very important/excellent*), with higher scores indicating greater optimism concerning future opportunities and/or success. Both scales showed adequate internal consistency (α = .67 for aspirations, α =.81 for expectations).

Maturity

Four aspects of maturity were measured: future orientation, resistance to peer influence, autonomy, and temperance.

Future orientation. An eight-item modified version of the Future Outlook Inventory was used to assess adolescents' tendency to consider the future consequences of their actions. Adolescents were asked how often statements were true for them, using responses ranging from one (never true) to four (always true). The mean score of the eight items was used to measure future outlook. Preliminary analyses showed that the future orientation scale showed good reliability in this sample ($\alpha = .68$).

Autonomy. The Psychosocial Maturity Inventory Form D was used to measure autonomy for this study (Greenberger et al. 1974). Two scales measuring identity (e.g., "I change the way I feel and act so often that I sometimes wonder who the 'real' me is" [reverse coded]) and self-reliance (e.g. "Luck decides most things that happen to me" [reverse coded]) were summed to derive a measure of autonomy. Both scales consisted of 10 items scored on a four-point, Likert-type scale ranging from one (strongly disagree) to four (strongly agree). Higher scores indicated more mature behavior. Both scales showed good reliability in the RPD sample ($\alpha = .75$ for identity, $\alpha = .78$ for self-reliance).

Resistance to peer influence. Adolescents' capacity to make independent decisions despite the social influence of peers was measured using a 20-item self-report measure (Steinberg 2002). It consisted of 10 sets of 2 contrasting items each assessing how much weight adolescents put in their peers' opinions. Adolescents were then asked to rate "how true" each statement was for them. Total scores were calculated by transforming subjects' responses to a four-point scale and summing item responses. The internal consistency of the measure of resistance to peer influence in this sample was good ($\alpha = .73$).

Temperance. Fifteen items from the Weinberger Adjustment Inventory were used to measure temperance (Weinberger and Schwartz 1990). Items were scored on a five-point, Likert-type scale ranging from one (false) to five (true). Reliability tested in the RPD sample was good ($\alpha = .84$).

School Commitment

Adolescents' reports of school commitment were measured using a 7-item scale derived from a longer 41-item measure of school bonding

(Cernkovich and Giordano 1987). Items (e.g., "Schoolwork is very important to me") were measured on a five-point, Likert-type scale ranging from one (*strongly disagree*) to five (*strongly agree*). Preliminary analysis showed that the school commitment scale had good reliability ($\alpha = .83$).

Data Analytic Procedure

The first aim of the main study analyses was to provide a sociodemographic profile of high-volume adolescent drug dealers in this sample. A series of cross-tabulations and analyses of variance were used to examine the prevalence of lifetime and current illicit drug sales and adolescents' reported profits from drug sales at baseline interviews. Paired-samples *t* tests were also used to compare adolescents' profits from drug selling with their licit incomes and their tenure in drug selling compared with licit jobs.

The second aim was to examine a model of the mediation of contextual risk factors on adolescent drug dealing by specified social attitudes. Structural equation modeling (SEM) was used to consider hypothesized links among study constructs. The results of SEM analyses provide estimates of direct and indirect effects that may be used to assess mediational hypotheses. Sobel's test statistic was used to examine the statistical significance of indirect (i.e., mediated) effects (MacKinnon et al. 2002). The remaining study hypotheses concerned the strength of associations between maturity factors and drug dealing and differences in the strength of these associations in contexts of high versus low drug-dealing opportunity (moderational hypotheses). A series of structural equation models and path analyses were used to examine the strength of the associations between maturity factors and (1) the frequency of any drug dealing, (2) the frequency of marijuana dealing, and (3) the frequency of nonmarijuana dealing, with membership in clusters of drug-selling opportunity controlled. We then used multiple group analyses in AMOS software to assess between-cluster chi-square differences in the strength of the associations between maturity factors and drug dealing.

Four fit indices were used to examine the fit of structural equation models: the chi-square statistic, the comparative fit index (CFI), the normed fit index (NFI), and the root mean square error of approximation (RMSEA). CFI and NFI values greater than .95 indicate that a measurement model is an excellent fit to the observed data; values between .90 and .95 indicate that a model shows an adequate fit to the observed data. The RMSEA provides an unbiased estimate of residual covariance between the estimated population covariance and the sample covariance matrices. Browne and Cudeck (1993) suggested that RMSEA values of .05 or less indicate that a

Table 2
Prevalence and Frequency of Drug-Dealing Outcomes: Marijuana Dealing, Nonmarijuana Dealing, and Both Marijuana and Nonmarijuana Dealing (*n* = 605)

Variable	Percentage (*n*)
Drug outcomes	
Ever sold marijuana	53.7 (324)
Ever sold nonmarijuana drugs	46.4 (280)
Sold any illicit drugs in the previous year	48.6 (274)
Drug specialization	
Never sold illicit drugs	37.5 (226)
Ever sold only marijuana	16.1 (97)
Ever sold only nonmarijuana drugs	8.8 (53)
Ever sold both marijuana and nonmarijuana drugs	37.6 (227)
Frequency of drug dealing in the previous year	
Number of times sold marijuana in previous year	
Zero (did not sell marijuana in previous year)	63.2 (381)
One (sold marijuana less than weekly [less than 52 times])	21.1 (127)
Two (sold marijuana weekly or more [52 times ore more])	15.8 (95)
Number of times sold nonmarijuana drugs in previous year	
Zero (did not sell nonmarijuana in the previous year)	63.8 (385)
One (sold other illicit drugs less than weekly [less than 52 times])	13.4 (81)
Two (sold other illicit drugs weekly or more [52 times ore more])	22.7 (137)

model shows a close fit to the observed data in relation to the model's degrees of freedom. An RMSEA value in the range of .06 to .08 indicates a reasonable fit, and values above .10 indicate an inadequate fit.

Results

Prevalence of Drug Dealing in the Sample

As shown in Table 2, more than half of the sample reported that they had ever sold marijuana (53 percent), slightly fewer (46 percent) reported ever selling nonmarijuana drugs, and nearly one-half of the sample (48.6 percent) reported selling drugs in the year prior to the interview. In terms of specialization, the prevalence of dealing nonmarijuana drugs in the year previous to baseline (35 percent) was nearly identical to the prevalence of marijuana dealing in the previous year (36 percent), and most participants reported selling both marijuana and other drugs (37 percent).

Table 3
Comparison of Weekly Incomes from Licit and Illicit Activity among Drug Dealers and Non-Drug-Dealing Offenders

	Average Weekly Licit Income (*SD*)	Average Weekly Income from Drug Dealing (*SD*)
Never sold drugs	\$35.92 (\$23.40), *n* = 50	
Sold marijuana only	\$51.09 (\$73.20), *n* = 22	\$757.95 (\$936.87), *n* = 39
Sold nonmarijuana drugs only	\$37.08 (\$26.84), *n* = 13	\$1,970.24 (\$2,297.72), *n* = 42
Sold marijuana and nonmarijuana drugs	\$52.02 (\$29.39), *n* = 58	\$1,831.20 (\$1865.71), *n* = 179
Sample	\$44.88 (\$38.07), *n* = 143	\$1,692.67 (\$1,874.60), *n* = 260

Slightly more than one-fifth of the sample (21.1 percent) reported selling marijuana less than weekly, and close to one-fifth (15.8 percent) reported selling marijuana at least weekly. This pattern was reversed for nonmarijuana dealing, with 13.4 percent of the sample reporting selling nonmarijuana drugs less than weekly and more than one-fifth of the sample (22.7 percent) reporting selling nonmarijuana drugs weekly or more than weekly. Given these self-reported rates, both marijuana and nonmarijuana selling were frequent activities for about one-fifth of this sample of serious juvenile offenders.

The Economic Profit of Adolescent Drug Dealing

Participants who sold illicit drugs derived substantial income from drug sales. Adolescents who reported weekly incomes from drug sales ($n = 260$) reported a mean weekly income of \$1,692.67 (SD = \$1,874.60), which was considerably greater than the mean weekly income of \$44.88 (SD = \$38.07) adolescents reported from licit employment ($n = 143$).

Despite notable limitations of self-report estimates of illicit drug income,[3] participants' reports of their incomes from drug selling showed reliable associations with their reported patterns and frequencies of drug selling. For example, reported incomes from drug sales correlated with the reported frequencies of both marijuana, $r(560) = .23$, $p < .001$, and nonmarijuana, $r(560) = .47$, $p < .001$, selling. Furthermore, participants' reported

nonmarijuana drug selling was associated with higher profits from drug selling. As shown in Table 3, weekly income from selling only nonmarijuana drugs (M = \$1970.24, SD = \$2297.72) or both marijuana and nonmarijuana drugs (M = \$1831.20, SD = \$1865.71) was more than double the weekly income from selling only marijuana (M = \$757.95, SD = \$936.87), $F(3,353) = 35.90$, $p < .001$.

The relative economic benefit of drug dealing for this sample of juvenile offenders was examined by comparing their self-reported weekly incomes from licit jobs and illicit drug selling. The results of a paired-samples t-test, $t(68) = -6.72$, $p < .001$, showed that adolescents who participated in both licit work and illicit drug dealing derived substantially greater incomes from illicit compared with licit activities. Adolescents who reported both licit and illicit market incomes reported an average illicit income that was 38 times their average licit income (M = \$1,990.87, SD = \$2,294.41 vs. M = \$48.24, SD = \$29.36). In addition to receiving significantly greater income from drug dealing than licit work, adolescents who participated in both legal jobs and drug-market activities spent 4 times as many months involved in drug selling than licit market activities (22.04 vs. 7.64 months), $t(138) = 6.84$, $p < .001$.

Mediators of Drug Dealing: Prediction of Drug Dealing from Opportunity Factors, Conventional Commitments, and Perceived Pay-Off from Crime

A structural equation model was used to examine hypothesized relations between drug-selling opportunity factors, social-incentive mediators (perceived pay-off from crime, conventional goals and expectations, and school commitment), and drug-dealing frequency (see Figure 1). Descriptive statistics for the observed measures used in the mediational analyses are summarized in Table 4. Preliminary correlational and regression analyses suggested that drug-dealing-opportunity factors were significantly associated with proposed mediators and that the proposed mediators were significantly associated with drug dealing.

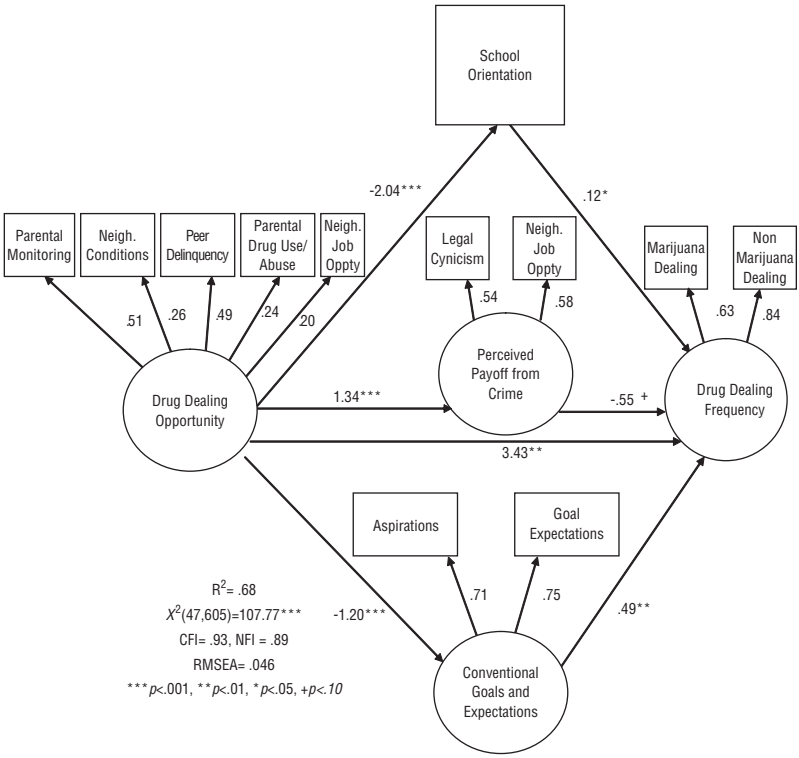
The results of the structural equation model showed that the mediational model fit the data according to RMSEA (.05), CFI (.92), and NFI (.88) criteria (see Figure 1) and that the model accounted for a substantial proportion of the variance in drug-dealing frequency (R^2 = .67). As expected, youths who reported higher drug-selling opportunity reported more frequent drug dealing ($b = 3.43$, $p < .01$). Although the effect of contextual factors on drug selling was large in magnitude, inspection of indirect effects showed that this effect was partially mediated by adolescents' conventional

Table 4
Means and Correlations of Observed Study Variables for Mediational Analyses

Variable	1	2	3	4	5	6	7	8	9	10	11	12	*M* (*SD*)
1. Neighborhood conditions	1												2.59 (.69)
2. Neighborhood job opportunity	.12**	1											.62 (.62)
3. Parental drug use and abuse	.15**	.05	1										1.18 (.50)
4. Parental monitoring	.14**	.12**	.08	1									1.67 (.83)
5. Peer delinquency	.28**	.13**	.16**	.23**	1								2.54 (.69)
6. Legal cynicism	.05	.10**	.02	.16**	.19**	1							2.04 (.62)
7. Social pay-off from crime	.13**	.10*	.13**	.15**	.23**	.31**	1						2.03 (.43)
8. Goal expectations	–.08	–.09*	–.04	–.26**	–.05	–.18**	.21**	1					4.51(.52)
9. Conventional aspirations	–.07	–.08	.02	–.22**	–.08*	–.20**	.16**	.53**	1				3.62 (.74)
10. School commitment	–.14**	–.15**	–.06	–.25**	–.15**	–.20**	.19**	.30**	.31**	1			3.61 (.70)
11. Marijuana dealing	.12**	.06	.09*	.15**	.32***	.08*	.11**	.00	–.06	–.14**	1		.53 (.75)
12. Nonmarijuana drug dealing	.12**	.04	.10**	.27***	.37**	.13**	.12**	–.08*	.08*	.15***	.52***	1	.59 (.84)

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

Figure 1
Unstandardized β Weights and Model Fit Statistics for a Structural Equation Model of the Psychosocial Mediation of Drug-Dealing Opportunity on Adolescents' Drug-Dealing Frequency: Roles of School Commitment, Conventional Goals and Aspirations, and Perceived Pay-Off from Crime



goals and expectations (indirect effect = –.59, $p < .05$) and their school commitment (indirect effect = –.25, $p < .05$).[4]

Contrary to study hypotheses, perceived pay-off from crime did not significantly mediate relations between drug-dealing opportunity and drug dealing. Although drug-dealing opportunity significantly predicted perceived pay-off from crime ($b = 1.34$, $p < .001$), the association between perceived

Table 5
Prediction of Drug Dealing from Drug-Dealing Opportunity and Maturity

Outcome	Predictor	β *Weight*	χ^2 (*df*)	CFI	NFI	RMSEA	R^2
Drug dealing	Drug opportunity	.35**	9.97 (3)*	.98	.97	.06	.16
	Resistance to peer influence	.12*					
	Temperance	.09					
Marijuana dealing	Drug opportunity	.20***	1.04 (1)	1.00	.99	.01	.07
	Resistance to peer influence	.03					
	Temperance	–.13**					
Nonmarijuana dealing	Drug opportunity	.30***	1.04 (1)	1.00	.99	.01	.12
	Resistance to peer influence	.12**					
	Temperance	–.05					

Note: CFI = comparative fit index; NFI = normed fit index; RMSEA = root mean square error of approximation.
*$p < .05$. **$p < .01$. ***$p < .001$.

pay-off from crime and the frequency of drug dealing was not significant ($b = -.55$, $p > .05$), and the resulting indirect effect was not significant (indirect effect = –.74, $p > .05$).

Maturity and Drug Dealing

The next set of analyses examined hypothesized relations between maturity factors and drug dealing in a series of structural equation models and path analyses with drug-dealing-opportunity cluster included as a covariate. Preliminary analyses of correlations showed that neither autonomy nor future orientation was significantly associated with either marijuana dealing or nonmarijuana dealing. Thus, we did not include these maturity factors in initial structural and path analyses.

As shown in Table 5, the results of the initial multivariate structural equation model predicting drug dealing from maturity factors and membership in drug-dealing-opportunity cluster showed a good fit to the data, $\chi^2(3) = 9.97$, $p < .05$, CFI = .98, NFI = .97, RMSEA = .06. Consistent with study hypotheses, adolescents reporting higher levels of resistance to peer influence sold drugs more frequently ($B = .12$, $p < .05$). However, adolescents' temperance was not significantly associated with their frequency of drug dealing ($B = -.09$, $p > .05$).

Two univariate path analyses were used to examine the effects of maturity factors on specific drug-selling outcomes (marijuana vs. nonmarijuana dealing), with membership in drug-selling-opportunity cluster controlled. Youth with higher levels of temperance showed lower levels of marijuana (but not nonmarijuana) selling ($B = -.12$, $p < .05$), and youth who were more resistant to peer influence participated in higher levels of nonmarijuana (but not marijuana) dealing ($B = .12$, $p < .05$).

Contextual Moderation of the Prediction of Drug Dealing from Maturity Factors

We next compared the effect of each maturity factor on drug-selling frequency between the contexts of high and low drug-selling opportunity using multiple group analyses (see Table 6). The sample was split into two groups on the basis of preliminary cluster analyses that identified clusters of high versus low drug-dealing opportunity. Between-cluster differences were compared by constraining the regression weight of interest to be equal across groups and then comparing the resulting chi-square fit to an unconstrained model. The magnitude of the difference was measured by a chi-square difference value. Both multivariate and univariate drug outcomes were modeled in separate analyses.

The results of multiple group analyses showed that the effect of autonomy on the frequency of nonmarijuana drug selling varied significantly across drug-selling-opportunity clusters, $\chi^2(1) = 4.84$, $p < .05$. Comparison of the effects of autonomy on drug dealing in the clusters of high and low drug-selling opportunity showed that autonomy was positively associated with nonmarijuana drug dealing in the low drug-selling-opportunity cluster ($b = .20$, $p < .01$) but not associated with drug dealing in the high drug-selling-opportunity cluster ($b = -.10$, $p > .05$). No between-cluster differences in links between other maturity factors (resistance to peer influence, temperance, and future orientation) and drug-dealing outcomes were found.

Discussion

Consistent with study hypotheses, community, family, and peer factors were the strongest correlates of adolescents' frequency of drug dealing. Specifically, adolescents who sold the most drugs were more likely to live in contexts characterized by high physical and social disorder, low parental monitoring, high rates of parental substance use and abuse, and high levels of peer deviance. These results highlight the converging influence of broader socioeconomic factors as well as developmentally anchored risk factors on raising adolescents' opportunity for drug dealing within inner-city areas. Our results support the contention that adolescents' illicit market participation is constrained by both local market supply and the informal social control of parents, peers, and neighbors.

The results of the present study offer new perspective on potential sources of incentive and restraint for adolescents' pursuit of criminal "careers" in illicit market activities. Specifically, our results suggest that adolescents' alienation from sources of prosocial opportunity (e.g., school) and diminished expectations for conventional success (earning a good income, starting a career), were important incentives for drug dealing, as predicted from contextual opportunity. Furthermore, we found that individual differences in maturity also affect adolescents' restraint from dealing; within a given context, adolescents with different degrees of psychosocial maturity may behave differently.

Although longitudinal data were not available to affirm causal inferences, our results support the notion that youths' cumulative experience in high risk, inner-city contexts is explicitly linked with their increasing alienation from conventional goals and subsequent illicit market participation. Furthermore, this study's results affirm findings of previous research depicting

the eroding effect of inner-city contexts and familial disadvantage on youths' motivation for conventional success and restraint from illicit market participation. Previous contextualization of inner-city youths' motivations for drug selling has reflected themes of surviving familial and racial disadvantages (Williams 1989), the normative acceptance of illicit opportunity among disadvantaged young men (Whitehead et al. 1994), and early independence from the informal control of family in efforts to seek material success (Ricardo 1994). Prospective follow-up of the current sample will elucidate the causal role of contextual risk factors and social incentives on adolescents' decisions to pursue illicit market careers.

This was the first study to explicitly link specific maturity factors to youths' frequency of drug dealing. We hypothesized that individual differences in maturity would affect adolescents' willingness to accept the risk and demands of drug dealing and found that maturity factors did affect adolescents' propensity to sell illicit drugs. Specifically, adolescents' impulse control (temperance) restrained their frequency of marijuana dealing, and adolescents' resistance to peer influence had a positive effect on their nonmarijuana dealing. This pattern of results highlighted differences in social motivation for selling marijuana compared with nonmarijuana drugs. Given that nonmarijuana drugs are more difficult for adolescents to obtain and protect, dealing nonmarijuana drugs requires greater initiative, independence, and risk tolerance than dealing marijuana. Thus, adolescents' resistance to peer influence is an important asset for high-volume nonmarijuana dealers. By contrast, marijuana dealing in this sample followed a predominantly sporadic pattern, suggesting a number of intentions, including the desire to make quick money, the desire to share marijuana among friends, and the desire to earn money to buy marijuana for use. As a result, it is not surprising that self-control buffered the frequency of marijuana sales. Continued research is needed to further elucidate relations between adolescents' drug dealing intentions, their use of drugs, and their sales of specific drugs.

Perhaps the greatest limitation of this study is that data were drawn entirely from a population of serious juvenile offenders. Accordingly, the internal validity of the models examined may be threatened by this sampling bias, because the simple effect of offender status on the outcome (drug dealing) may not be systematically accounted for without a control group of nonoffenders. Yet at the same time, careful analyses of multiple psychosocial and social factors that may affect delinquent outcomes within juvenile offending populations may shed light on sources of unexamined heterogeneity within juvenile justice populations, as well as the social and psychological mechanisms underlying broader risk transmission.

A second notable limitation of this study is that it was cross-sectional. As a result, although the mediational model presented implies a particular temporal order of causation (i.e., that lowered school commitment leads to drug dealing), temporal order may not be affirmed without longitudinal analyses. Prospective study of this sample will be necessary to affirm the proposed temporal relationships of study variables.

Contrary to study hypotheses, adolescents' perceptions of the perceived social pay-off from crime did not mediate relations between drug-dealing opportunity and drug dealing. Although this finding is contrary to findings reported by Li et al. (1996), it is supported by surveys showing that a majority of urban adolescents (80 percent) do not admire drug dealers (Reuter et al. 1990). One potential explanation for this null finding is that adolescents do not seek social respect from dealing and rather are primarily driven to sell drugs by simple economic incentive.

By their own reports, juvenile offenders in this sample derived considerable incomes from drug sales, which could serve to reinforce continued illicit market participation. In accord with previous studies, adolescents' profits from drug dealing were considerably greater (36 times) than their reported incomes from licit activities (Reuter et al. 1990). However, contrary to results of previous studies, adolescents in this sample did not necessarily participate in drug dealing sporadically (Reuter et al. 1990). In fact, more than half of the sample reported participating in illicit drug markets for more than a year, and those adolescents who participated in both licit jobs and drug selling spent 4 times as many months involved in drug selling than they spent working at licit jobs. This pattern of results suggests that income from drug sales is an important source of incentive for continued criminal involvement and at the same time may act as a disincentive for investment in conventional goals. Longitudinal follow-up of this sample may offer insight as to the potential incentive of economic profit from drug dealing on adolescents' escalation in criminal markets.

A second unexpected finding was that self-reports of autonomy were associated with a higher frequency of drug dealing for adolescents within contexts of low drug-selling opportunity but had no effect on dealing in high-opportunity contexts. One potential explanation for this finding is related to supply and demand. Adolescents may have more ready access to drug markets in high-opportunity contexts as a result of greater neighborhood disorganization and lower informal control over youthful misbehavior, making it less necessary that a potential dealer be enterprising. In essence, autonomy may be more of a developmental asset for successful dealing within lower opportunity contexts.

Table 6
Comparison of Moderational Effects: Maturity Effects between Drug-Opportunity Clusters

Outcome	Predictor	Drug-Opportunity Cluster (regression estimate) High (n = 254)	Low (n = 351)	χ^2 Slope Difference
Drug dealing	Autonomy	–.11	.11	.94
	Future orientation	.01	–.02	.74
	Resistance to peer influence	.06	–.05	.43
	Temperance	–.11	–.10*	.43
Marijuana dealing	Autonomy	–.06	.08	1.26
	Future orientation	.01	–.02	.04
	Resistance to peer influence	.07	–.03	.65
	Temperance	–.12	–.09*	.11
Nonmarijuana dealing	Autonomy	–.10	.20**	4.84*
	Future orientation	–.13	.00.	1.09
	Resistance to peer influence	.28*	.11	1.17
	Temperance	–.07	–.00	.57

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

Conclusions

Our study findings highlight the impact of social and economic disadvantage and job insecurity on minority adolescents' precarious transition to young adulthood within the inner city. In the context of an increasing economic divide between status and ethnic groups in urban areas, youths' expectations for the future have been constrained by the notably apparent limits of their local communities. In turn, adolescents' alienation from conventional sources of success is an important incentive for continued illicit market involvement, which brings the potential for legal sanctions and increased criminal embeddedness (Hagan 1993).

The results of this study suggest that juvenile courts' emphases on time-limited punitive restrictions (probation, detention, incarceration) to juvenile drug crimes does not provide inner-city youths with adequate psychosocial resources for redirecting their lives (Leviton et al. 1994). Given that the

prevalence of adolescent drug selling has risen in the historical context of diminishing employment opportunities for young minority men, judicial responses to youth drug involvement that emphasize adolescents' participation in vocational skills training would no doubt aid in youths' redirection from illicit market participation. Not surprisingly, studies have shown that community-based educational and vocational programs contribute to positive adult adjustment (e.g., lower rates of recidivism, higher rates of employment) among formerly incarcerated youth (Lipsey and Wilson 1998).

Notes

1. In their original conceptualization, Steinberg and Cauffman (1996) and proposed three aspects of psychosocial maturity: responsibility, temperance, and perspective. In the model tested here, we split responsibility into two of its constituent components: autonomy and resistance to peer influence.

2. We transformed the raw score reports of nonmarijuana and marijuana dealing in two additional ways in preliminary analyses to confirm that our chosen transformation method produced reliable results. We found that the trichotomous coding we chose produced very similar results across all study analyses when compared with (1) a six-point categorization based on the daily calendar and (2) a trichotomous coding of drug-dealing frequency based on a scaling of zero (no dealing), one (lower 50 percent of drug-dealing frequency scores), and two (higher 50 percent of drug-dealing frequency scores).

3. The accuracy and reliability of self-reports of drug market income are limited for a number of reasons (Fagan and Freeman 1999; MacCoun and Reuter 1992). Most notably, in this study, adolescents were not asked to distinguish between their gross and their net profits from drug crimes, and the reported incomes from drug sales were demonstrably skewed. There are a number of overhead costs related to drug dealing, including the cost of the illicit drugs, or the percentage an individual drug dealer would be expected to return to his or her supplier (Johnson et al. 1993). Relative net profits from drug sales may also be affected by a dealer's social position within illicit markets. Dealers participating in organized drug selling reported higher profits from their sales than those who sold drugs independently (Fagan 1992).

4. Although the pattern of correlations showed that mediational effects were in the hypothesized direction (i.e., negative), the results of SEM showed that the direct effects of the mediators on the outcome were in the opposite direction (i.e., positive). One potential explanation (among many) of this counterintuitive finding is that it represents a suppression effect. In suppression contexts, the magnitude of a direct effect between an independent variable and an outcome increases by the inclusion of a third variable (MacKinnon, Krull, and Lockwood 2000). However, whether this explanation of our counterintuitive findings is correct awaits further theoretical and empirical analysis.

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Michelle Little is a postdoctoral fellow in the Prevention Research Center at Arizona State University. Her doctoral research focused on the psychosocial adaptation of serious juvenile offenders within secure facilities.

Laurence Steinberg is the Distinguished University Professor of Psychology at Temple University and the director of the MacArthur Foundation Research Network on Adolescent Development and Juvenile Justice. His research concerns normative and atypical development during adolescence and the influence of parents and peers on psychosocial development.