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A Longitudinal Examination of Serious Adolescent Offenders' Perceptions of Chances for Success and Engagement in Behaviors Accomplishing Goals

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Abstract

We examined antisocial adolescents' perceptions of the importance of and their ability to accomplish positive life outcomes (e.g., employment) and avoid negative ones (e.g., arrests) during their transition from adolescence to young adulthood. Participants were 1,354 adolescents from the Pathways to Desistance project, a multisite longitudinal study of seriously antisocial adolescents. Participants' perceptions of the importance and likelihood of accomplishing positive adult goals at one age uniquely predicted how often they engaged in behaviors that were consistent with these goals the following year. Our findings suggest that among serious adolescent offenders aspirations to achieve positive goals are related to engaging in behaviors that bring adolescents' current selves more in line with their aspired-to future selves. We discuss the implications of these findings for prevention and intervention efforts.

Keywords

Antisocial behaviors; Adolescence and young adulthood; Aspirations and expectations; Behavioral goals

Adolescents explore and consider a variety of responsibilities, roles, and goals before settling on their future life course, mainly shifting from pursuing short-term personally hedonistic goals to long-term socially determined goals (Czikszentmihalyi and Larson 1984). Whether and how antisocial adolescents make this shift to more long-term goals and engage in behaviors to accomplish them, however, are still generally open questions. The current study longitudinally examines the relations between perceptions and behaviors regarding goal attainment in serious adolescent offenders. It investigates adolescent offenders' perceptions of the personal importance and likelihood of accomplishing adult

goals and whether these perceptions predict engaging in behaviors consistent with those goals.

Possible Selves

To cast-off the present-focused self of childhood in favor of the future-oriented self of adulthood, adolescents need images of the kind of life they want to have and ideas about which behaviors will bring them closest to actually having that kind of life. How is this accomplished? One theoretical explanation rests on the idea of *possible selves* (e.g., Markus and Nurius 1986; Oyserman and Markus 1990). The possible selves theory suggests that people shape their behavior over time to conform to mental images of the person they want to become and to avoid the person they fear becoming in the future (Markus and Ruvolo 1989).

These mental representations provide (1) a touchstone for how well a person's current self (e.g., college psychology major) matches their aspired-to future self (e.g., psychologist) and (2) incentives that motivate, coordinate, and compel the person to pursue and achieve these future states (Ruvolo and Markus 1992; Hoyle and Sherrill 2006). As individuals' possible selves change with developmental expectations, they guide whether a person engages in behaviors required to achieve them (e.g., Hoppmann et al. 2007; Oyserman and Markus 1990). Hoyle and Sherrill (2006) suggest that having a possible future self gives people a standard against which their current (and past) self can be compared. People then engage in behaviors that closely align their current self with their possible self (Massey et al. 2008). The vast majority of the empirical evidence in support of these relations used normative adolescent samples with conventional current and aspired-to selves.

Antisocial Adolescents: Possible Selves of Failure or Success?

It is not clear whether the evidence from normative adolescent samples generalizes to adolescents who engage in illegal behaviors. It could be that the assumed processes connecting behavior and the sense of possible selves simply do not operate as strongly or at all among delinquent youth. Delinquent youth may not have expectations or aspirations to achieve non-delinquent possible selves (Oyserman and Markus 1990) or their behaviors may not map onto their expectations and aspirations. For instance, Oyserman and Saltz (1993) found that detained antisocial youth are less likely to report attempting to attain possible selves compared to non-delinquent high school students. It is also possible that this process works in a different way in delinquent youth; these adolescents may simply not pursue positive possible selves and alternatively pursue negative ones (Oyserman and Markus 1990). There is evidence that higher self-reported offending is related to reporting more negative possible selves and fewer positive possible selves (Newberry and Duncan 2001). Also, delinquent youth may focus more on building possible selves related to their social reputations, such as rebelling against conventions, whereas non-delinquent youth may focus more on building possible selves related to achievement, such as obtaining high grades in school (Carroll et al. 1997, 1999, 2001).

Finally, Oyserman and Markus (1990) found that delinquent youth were more likely than control youth to report negative expected selves when generating their own possible selves, and that they feared having possible selves related to delinquency. These fears, however, were not offset by them having expectations to achieve non-delinquent possible selves (e.g., by having a job or getting a degree). Adopting a non-delinquent possible self, in addition to simply fearing a delinquent possible self, might be necessary to avoid delinquency (cf., Maruna 2001), and desisting from antisocial activity might require a belief that positive possible selves can be achieved through legal channels (Oyserman and Markus 1990). Strain theory has hinted at such a hypothesis for decades.

Strain Theory Recast

Traditional strain theories have a central role in criminology for explaining why people engage in antisocial activities (Cloward and Ohlin 1960). Basically, these theories propose that when people fail to achieve positively valued goals, they might engage in criminal behaviors as a way to cope with the strain of their unmet desires (Agnew 1992; Cohen 1955; Merton 1938; Cloward and Ohlin 1960).¹ Much of the research on strain theory has operationalized strain as the discrepancy between how much a person values the goal (i.e., aspirations/importance) and how likely they believe it is that they will accomplish it (i.e., expectations). As a discrepancy score, however, strain has had limited success in predicting criminal behaviors (e.g., Agnew 1985, 1992; Burton and Cullen 1992; Farnworth and Leiber 1989; Paternoster and Mazerolle 1994).

Agnew (2001) provides several possible explanations for why strain theory might be a limited predictor of criminal behaviors. First, certain aspired-to goals are achieved nearly entirely through legitimate channels, and illegal parallels for these channels are relatively non-existent. There is simply no illegal alternative method for obtaining an academic degree. Second, illegal behaviors might not be an alternative method to relieve the experienced strain because failure to achieve the goal is primarily ascribed to the individual. For instance, not finishing an academic degree is often seen as the fault of the student who did not follow through on his/her goal. Many societal practices further reinforce these attributions, for example, by linking job wages to years of schooling completed. Third, the person pursuing the goal may be at least moderately committed to conventional goals of high importance to society, and this commitment to societal conventions offsets the likelihood of coping with goal failure via criminal behavior. Agnew (2001) therefore suggests that strain theory will be a poor predictor of criminal behaviors when: (1) criminal alternatives for dealing with goal failure are scarce, (2) goal failure is ascribed principally to the individual, and (3) the goals being pursued are conventionally acceptable.

While not applying well to persistence in criminal behavior, these same notions regarding aspirations may nonetheless be very applicable as mechanisms related to desistance from criminal behavior. Importance and expectations attached to goals might be powerful predictors of *non-delinquent behaviors* when individuals' possible selves comprise highly valued social conventions, when the channels for accomplishing them are overwhelmingly legal and legitimate, and when attributions of attaining them are principally ascribed to oneself. There is some preliminary evidence supporting such a formulation regarding possible selves related to career achievement, with higher future career aspirations related prospectively to less delinquent behavior 1 year later in a normative sample (Skorikov and Vondracek 2007). Career aspirations could lead some adolescents to avoid delinquent behaviors and engage in work-related ones instead, and this same process may operate in adolescent offenders.

The Present Study

Accomplishing career and law-abiding aspirations in life might be important "transitions" that contribute to desistance from criminal behavior (Sampson and Laub 1993). Unfortunately, longitudinal studies of adolescents' perceptions of the importance and expectations to achieve these goals are very limited. More often, longitudinal studies of delinquency focus on risk factors and unfortunately limit our knowledge on the processes

¹More recent castings of strain theory (e.g., Agnew et al. 2002) argue for the importance of examining personality traits, negative emotions that may result from strainful events (e.g., anger and rage), and coping mechanisms that are used to deal with these emotions. These are important aspects of strain theory that we do not examine in the current paper because of space limitations.

that steer antisocial adolescents away from delinquency (Mulvey et al. 2004). The transition to adulthood is a crucial developmental period that antisocial adolescents may use as a “turning point” to redirect their lives away from delinquency (Masten et al. 2004; Sampson and Laub 1993). The current study seeks to improve our understanding of adolescent offenders’ perceptions of adopting positive possible selves and avoiding negative ones during their transition to young adulthood. It seeks to clarify how changes in their perceptions of possible selves might operate in their transition from young offenders into responsible young adults.

This study examines two developmentally relevant possible selves for antisocial adolescents: being employed and being a law-abiding citizen. Based on prior research, we hypothesize that each of these pro-social selves will be predictors of desistance from crime as adolescents move into early adulthood. We examined antisocial adolescents’ perceptions of the importance of having a job and staying out of trouble with the law, their expectations for accomplishing these two possible selves, and whether they engaged in behaviors that accomplished them.

Much of the previous work in this area has been limited in how the perceptions of antisocial adolescents have been measured and examined. In general, antisocial adolescents were asked to generate their own possible selves, which prior research has shown will be less conventional and more pessimistic than those of non-delinquent adolescents (e.g., Newberry and Duncan 2001; Oyserman and Markus 1990). If asked more specific questions about conventional possible selves, however, the views of these adolescents may show considerable variability as well as a more positive orientation than commonly assumed from prior work. Much of the research in this area has also been cross-sectional, with data being collected when the adolescents were in secure placements, which may simply be a snapshot of a particularly hopeless time in their lives. Longitudinally examining youths’ perceptions and behaviors may reveal more powerful results simply because, when back in the community, adolescents may have more chances to act upon their perceptions. We therefore hypothesize that antisocial adolescents who aspire and expect to attain non-delinquent possible selves will engage in behaviors that are consistent with these perceptions. Finally, we hypothesize that engaging in work and pro-social behaviors will increase with age because such developmental tasks become more salient with age.

Gender, ethnicity, and socio-economic status (SES) also influence the strength and nature of adolescents’ perceptions of importance and expectations to accomplish developmentally salient goals (Massey et al. 2008). Females, Non-White adolescents, and adolescents from higher SES typically have more positive aspirations than males, White adolescents, and adolescents from lower SES (Rojewski and Yang 1997). Although this evidence is based on a normative adolescent sample, we believe that the influence of such factors will be important to examine when studying antisocial adolescents’ perceptions and consequent behaviors.

Method

Participants

Participants were youth enrolled in the Pathways to Desistance project, an ongoing, multisite longitudinal study following serious adolescent offenders from late adolescence into young adulthood. The study enrolled 1,354 adolescents from Philadelphia (Philadelphia County), PA and Phoenix (Maricopa County), AZ who were adjudicated delinquent or found guilty of a serious offense (overwhelmingly felony-level offenses, such as robbery, sexual assault, possession of weapons). These youth were age 14 through 17 at the time of the study index offense. Because drug violations represent such a large proportion of the offenses committed

by this age group, the proportion of juvenile males recruited with a drug offense was capped at 15% so that the heterogeneity of the sample would not be compromised. All females meeting the age and adjudication requirements were eligible to participate. More information regarding the study rationale can be found in Mulvey et al. (2004); details regarding the study design, recruitment, a description of the full sample and the study methodology are discussed in Schubert et al. (2004).

Procedures

After providing informed consent, study participants completed a baseline interview followed by interviews every 6 months for the first 3 years of the study and annually thereafter through 7 years. Data were collected with computer-assisted interviews at the participants' homes, in public places (e.g., a local library), or in facilities. All measures and skip patterns were programmed on laptop computers. Trained interviewers read items aloud and, to maximize privacy, respondents could choose to respond verbally or to provide their responses nonverbally via a key pad. Honest reporting was encouraged and confidentiality was assured by statutory protections connected to research funded by the Department of Justice. The study participation rate (defined as the number of participants enrolled divided by the number attempted for enrollment) was adequate (67%). Given the enrollment strategies in the Pathways to Desistance project, enrolled adolescents were purposefully different than not enrolled adolescents in several areas (e.g., enrolled had proportionately more females and fewer drug charges). Retention was very good, averaging 91% across the follow-up period. The reader is referred to Schubert et al. (2004) for more details on enrollment and retention. The current analyses are based on follow-up interviews through 60 months and there are few missing interviews during this five-year period; eighty-five percent of the sample missed only one or zero interviews across this time period. At baseline interviews, participants were between the ages of 14 and 19 years, with a mean age of 16 years ($SD=1.14$). Table 1 displays the characteristics of the sample.

Measures

Importance and Expectations of Goals—The Perceptions of Chances for Success was adapted for the Pathways study from the work of Menard and Elliott (1996). This measure assesses individuals' beliefs about his/her future success, measuring the importance and expectations of accomplishing goals. There are seven domains of behavioral goals (e.g., having a good job). For each of the domains, participants indicated how important the goal is to them (i.e., importance) and what their chances are that they would accomplish it (i.e., expectations). Participants used 5-point Likert scales to indicate importance and expectations, ranging from 1=Not at all important/Poor to 5=Very important/Excellent. We selected two of the seven domains for our analyses: (1) having a job and (2) staying out of trouble with the law. We chose these two because they were developmentally relevant to our sample of antisocial adolescents and are key markers of adjustment for this period. This measure was administered at each interview. For the purpose of these analyses, ratings obtained at six-month intervals during the first 3 years of the study were averaged to construct three yearly assessments of the youths' ratings. These annual measures were constructed to mirror the annual assessments for the final 2 years of data collection. The six-month ratings that comprise these annual measures were highly correlated: importance of having a job $r=0.35$ to 0.43 , chances of having a job $r=0.45$ to 0.52 , importance of staying out of trouble $r=0.25$ to 0.31 , and chances of staying out of trouble $r=0.39$ to 0.51 .

Behaviors Accomplishing a Goal—At each follow-up interview, participants were asked several questions about employment and legal involvement. We examined two different behavioral outcomes regarding employment: having a community job and engaging in illegal money-making activities. Participants reported the number of hours per

week they generally worked each job they held during the recall period. This information was used to estimate the number of hours worked in each week of the recall period. For the behavioral goal of engaging in illegal money-making activities (e.g., selling drugs, prostitution; later referred to as “illegal work”), participants reported whether they made money from any of these activities during the follow-up periods. For the behavioral goal of staying out of trouble with the law, we examined both official file information (i.e., number of petitions to court before the age of 18 or arrests recorded in FBI files after age 18) and self-reported offending behaviors. Re-arrests and petitions to the court were recorded as the raw number of times they occurred (i.e., counts) between the date of the interview and successive follow-up time points. Self-report offending (SRO) was measured using an adaptation of Huizinga et al. (1991) instrument. The SRO elicited participant’s involvement in 22 different antisocial behaviors. Consistent with other investigators (e.g., Brame et al. 2001; Thornberry and Krohn 2000), we used a variety of offending score for these analyses, indicating the number of illegal activities endorsed.

Covariates—We added five covariates in all of our analyses. The first three covariates—gender, ethnicity, and a proxy for socio-economic status (SES; i.e., coded as the lowest level of parental education reported by the study participant or collateral informant at the time of the baseline interview)—were included because these variables have been shown to influence the strength and nature of adolescents’ perceptions of importance and expectations to accomplish developmentally salient tasks (Massey et al. 2008). We included the amount of time participants spent in the community as a covariate for two reasons. First, being in a facility likely has a strong influence on adolescents’ perceptions of the importance of and their being able to achieve goals. Second, many of the behaviors we examined could only occur while the adolescent was in the community. Finally, we included prior antisocial history at baseline (i.e., number of prior court petitions based on official records) because this could influence individuals’ perceptions of their chances to accomplish goals, and it can serve as a general control for an adolescent’s propensity to commit crime.

Results

General Analytic Structure

We used an accelerated age design, examining nine age bands from 14 to 22 years (e.g., 16 year olds were $15.5 \geq$ and <16.5). Accelerated age designs consist of a cross-section of multiple age cohorts in the first observation period. Data are then collected longitudinally on participants in each of these age cohorts, resulting in a sample of individuals who contribute data at overlapping ages. For instance, in a 5-year study a participant who was 15 at the start of the study contributes data for ages 15 through 20. A participant who was 14 at the start of the study contributes data for ages 14 through 19. Accelerated age designs include participants from a wider range of ages in the longitudinal panel who are followed for a shorter time than would be required to follow each individual for each age.

We used participants’ ratings of the importance of and their expectations to achieve a goal at one time point (i.e., T, such as at age 16) to predict behaviors in which they engaged at a time point 1 year later (i.e., T+1, such as at age 17). We included the effects of socio-economic status, prior antisocial history, amount of time in the community (outside of a facility), race (dummy coded), and gender in all of our analyses. Full information maximum likelihood (FIML) estimation was used for missing data.

We were particularly interested in examining the influence of age (at the time expectations and importance were rated) on all of the behavioral outcome measures. Because we suspected that the relations between age and our outcome measures might plateau in older participants, we include both linear and quadratic terms for age.² For each behavioral

outcome, we test for a significant incremental model fit after the inclusion of linear and quadratic age terms (i.e., testing the fit of a model without the inclusion of the two age terms to the fit of a model with both age terms).

Modeling Outcome Measures

The characteristics of each of the outcome measures required separate extensions beyond a basic linear model (i.e., OLS) for the analyses. First, a notable percentage of individuals (~47%) were unemployed at each follow-up period so the outcome measure of “hours worked weekly” was left-censored at zero. To account for this distribution, we analyzed this outcome using censored normal regression. Second, we did not have a continuous measure of illegal employment, and over 80% of the sample did not engage in illegal work at a given time point. We therefore recoded this variable as a binary indicator of any illegal work during the period and analyzed this using logistic regression. Third, arrests/petitions to the court was a count variable, and therefore was analyzed using Poisson regression. Finally, since a large percentage (~44%) of individuals did not report engaging in illegal behaviors on the SRO variety score, this outcome variable was left-censored at zero. To correct for any potential bias from a linear model, we analyzed this outcome using censored normal regression.

Table 2 shows the means, medians, and standard deviations of our independent and dependent variables across all ages. Overall, ratings of importance and expectations were quite high with only small variations around mean scores. Participants’ ratings of the importance of having a job and staying out of trouble were overall slightly higher than their ratings of their expectations of these same behaviors. Furthermore, ratings of the importance of and their expectations of having a job and staying out of trouble with the law increased with age. The number of hours participants worked in community jobs also substantially increased with age. Only a small percentage of participants worked in illegal jobs, and these percentages remained fairly consistent across ages. Petitions to the court and arrests decreased with age until 19 at which point they increased with age. Self-reported offending behaviors decreased with age.

Legal Work Behavior

Higher ratings of importance and expectations of having a good job at T predicted working more hours in the community at T+1 (see Table 3) beyond the effects of other variables included in the model. Based on Cohen (1992), the magnitude of these effects is small. We compared the coefficient of importance to that of expectations to determine whether the difference between coefficients was equal to 0. Ratings of importance and expectations did not differ in their abilities to predict hours worked in the community ($\chi^2 [1]=1.88, p=0.17$).

We next added linear and quadratic terms for age to test the incremental inclusion of age to the model. Linear age significantly predicted number of hours worked in the community, such that older participants worked more hours than younger participants.³ The importance of having a job was no longer a significant predictor of hours worked in the community after age was added to the model. This suggests that the previously significant effect of the

²We also examined whether expectations and importance were more predictive of behaviors at specific ages (using dummy codes for each age). Results from this analysis were highly similar to our results using continuous indicators for age. Readers can contact the first author for results on the predictive abilities of importance and expectations at specific ages.

³The chi-square value for a likelihood ratio test was negative. Negative difference statistics are rare but possible (Muthen 2005) due to highly non-normal distributions, which we knew was the case for the distribution of this outcome measure. While corrections to chi-square difference statistics are available (see Satorra and Bentler 2010), to our knowledge none exist for correcting negative likelihood ratio difference statistics. Nonetheless, we can reject the null hypothesis of no incremental inclusion of age since the linear age coefficient was significant.

importance of having a job was due mostly to participant's age. Higher ratings of expectations to have a job remained significant after age was included in the model, such that higher ratings of expectations predicted working more hours regardless of one's age.

Illegal Work Behavior

Higher ratings of importance of having a job at T predicted not working in illegal jobs at T +1 (see Table 4) beyond the effects of other variables included in the model. The magnitude of this effect, however, is small (Cohen 1992). Expecting to have a job was not a significant predictor of working in an illegal job.

We next added linear and quadratic terms for age to test the incremental inclusion of age to the model. We tested the general influence of age by comparing the log-likelihood ratio from the model without age to that from the model with age. Adding the effects of age significantly improved the fit of the regression model (likelihood ratio test, $\chi^2 [2] = 14.51$, $p = 0.001$). Linear age significantly predicted the probability of having an illegal job, such that older participants were more likely to have an illegal job than were younger participants. The magnitude of this effect is small (Cohen 1992). Even after including age, higher ratings of importance of having a job were significantly related to lower probabilities of having an illegal job.

Documented Illegal Behavior

Ratings of the importance and expectations of staying out of trouble with the law at T did not predict new petitions or arrests at T+1 (see Table 5). We added linear and quadratic terms for age to test the incremental inclusion of age to the model. We tested the general influence of age by comparing the log-likelihood ratio from the model without age to that from the model with age. Adding the effects of age significantly improved the fit of the regression model (likelihood ratio test, $\chi^2 [2] = 72.84$, $p < 0.001$). Linear age significantly predicted court petitions and arrests, such that older participants had more petitions and arrests than younger participants. The magnitude of the linear effect of age is large (Cohen 1992).

Self-reported Antisocial Behavior

Higher ratings of expectations of staying out of trouble with the law at T significantly predicted fewer SRO behaviors at T+1 (see Table 6). The magnitude of this effect is small (Cohen 1992). There was a trend between higher ratings of importance of staying out of trouble with the law at T and fewer SRO behaviors at T+1. We compared the coefficients for ratings of importance to those of expectations to test whether the difference between coefficients was equal to 0. The coefficient for expectations of staying out of trouble with the law was significantly larger than that for ratings of the importance of staying out of trouble ($\chi^2 [1] = 5.21$, $p = 0.02$).

We tested the general influence of age by comparing the log-likelihood ratio from the model without age to that from the model with age. Adding the influence of age did not significantly improve the fit of the regression model (likelihood ratio test, $\chi^2 [2] = 1.20$, $p = 0.61$).⁴ Higher ratings of expectations remained a significant predictor of fewer SRO behaviors after including the effects of age in the model.

⁴The general longitudinal change in SRO across age was consistent with Monahan et al. (2009)'s findings that SRO decreases across adolescence.

Discussion

This was the first longitudinal study to examine seriously antisocial adolescents' perceptions of the importance of and their ability to accomplish positive life outcomes and avoid negative ones during their transition from adolescence to young adulthood. We examined whether perceptions of the importance and likelihood of accomplishing adult-like goals at one age could predict how often people engaged in behaviors consistent with these goals at a later age. We examined these relations using strain theory as our theoretical framework. Strain theory posits that when people do not believe that they can accomplish goals that are important to them they might engage in criminal behaviors as a way to cope with the strain of these unmet aspired-to goals. Agnew (2001) theorized that there are several circumstances under which strain theory might be a poor predictor of criminal behaviors: (1) when criminal alternatives for dealing with goal failure are scarce, (2) when goal failure is ascribed principally to the individual, and (3) when the goals being pursued are conventionally acceptable. We hypothesized that these same circumstances might be used to understand mechanisms related to desistance from criminal behavior. Importance and expectations attached to goals might predict non-delinquent behaviors when individuals' aspired-to goals comprise highly valued social conventions, when the channels for accomplishing them are overwhelmingly legal and legitimate, and when attributions of attaining them are principally ascribed to oneself. Findings from the current study generally support this notion.

Individual's perceptions of the importance and likelihood of accomplishing adult-like goals predicted whether they engaged in positive behaviors and avoided negative behaviors (even after controlling for several factors such as SES). Prior research among normative samples has also found that people engage in behaviors that are consistent with their current aspirations and expectations (e.g., Massey et al. 2008). Findings from the current study provide preliminary evidence that this relation functions similarly among seriously antisocial adolescents across two important life domains: employment and illegal behaviors.

Employment

Individuals with higher expectations to maintain employment at one age (e.g., at age 16) spent more hours working in community jobs during the following year (e.g., at age 17). These findings suggest that serious adolescent and young adult offenders who believe they are capable of accomplishing positive aspired-to possible selves will pursue them, engaging in behaviors that bring their current self more in line with their aspired-to future self. Individuals with higher ratings of importance of having a job at one age spent more hours working during the following year. The positive relation between importance of having a job and working in the community, however, appeared to be due to the influence of age. This is not surprising given that we examined an age span during which employment is an increasingly important life goal, and this would expand the overlap between these two variables. Overall, it seems that expecting to have a job was a more robust predictor of employment behaviors beyond ratings of importance, age, and other individual difference variables. Regarding illegal employment, when individuals believed that it was important to have a job they were less likely to engage in illegal money-making activities 1 year later. This negative relation between perceptions of the importance of having a job and engaging in illegal work remained significant even after controlling for the influence of age. Overall, our findings from the employment domain suggest that antisocial adolescents' perceptions of having a job appear to be predictors of both the pursuit of positive selves (i.e., working more in the community) and the avoidance of negative ones (i.e., not engaging in illegal money-making behaviors).

It is also important to note our findings on the relation between age and employment. As adolescents transitioned into young adulthood, they spent more time working in community jobs and were more likely to engage in illegal work. It might be that for seriously antisocial youth developmentally normative increases in legal work behaviors also correspond with increases in illegal work behaviors. It is possible that this pattern of increases in both legal and illegal work behaviors is specific to antisocial young adults. Future research might examine factors that contribute to the positive relation between age and illegal work behaviors, such as limited access to full-time legal work.

Illegal Behaviors

Neither aspiring nor expecting to stay out of trouble with the law at one age were related to new documented petitions to the court/arrests during the following year. However, individuals with higher ratings of expectations to stay out of trouble with the law at one age self-reported engaging in fewer offending behaviors during the following year. Ratings of the importance of staying out of trouble with the law were related to self-reported offending only at the trend level. Ratings of expectations appeared to be a better predictor of self-reported antisocial behaviors than ratings of importance. During the transition to young adulthood, in this sample, believing that one is capable of staying out of trouble with the law made it more likely that s/he would avoid engaging in behaviors indicative of a negative possible self.

Age uniquely predicted whether individuals had more documented court petitions/arrests but not self-reported offending. There was a clear increase in the number of petitions/arrests with increases in age. This finding is consistent with research indicating that antisocial behavior peaks in late adolescence and begins decreasing in young adulthood and beyond (Blumstein and Cohen 1987; Moffitt 1993). Nonetheless, we refrain from making any strong conclusions from our findings since the majority of our age effects involved juveniles, and any effects beyond late adolescence were limited to up to 22 years of age. Furthermore, the outcome measures to document officially recorded illegal behavior come from different data systems for subjects younger than 18 and older than 18; petitions to juvenile court are used at younger ages and recorded arrests are used at older ages. Although both indicate officially recorded illegal behavior, the thresholds for being petitioned to juvenile court and having a recorded arrest are different in practice.

Beyond aspirations and expectations, we found that gender, race, prior antisocial behaviors, and amount of time spent in the community (i.e., outside of facility placements), related to whether youth avoided illegal employment and stayed out of trouble with the law. Our findings were generally consistent with the literature on adolescents' pursuit of goals (Massey et al. 2008; Mau and Bikos 2000). Most importantly, our findings on aspirations and expectations remained significant above and beyond these effects, suggesting that our findings are robust to the influence of several individual difference variables.

Limitations and Future Research

Gender had a significant effect on illegal work and official and self-reported illegal behaviors. However, it was beyond the scope of this paper and our small sample of female offenders precluded our ability to test for differential effects based on gender. Our results and implications are therefore limited in their ability to inform theory and research on the influence of gender on adolescent offenders' perceptions of success and their engagement in behaviors in pursuit of their goals. Given the rising number of females and the increasing recognition of important gender differences in juvenile justice samples, it will be crucial for future research to examine whether and how the relations we found in this study differentially apply to male and female offenders. Examinations of the influence gender has

on perceptions and pursuits of goals will have valuable implications for prevention and intervention strategies for youth involved in the justice system

Our statistical models used aspirations and expectations at one age to predict behaviors at a subsequent age. Alternatively, we could have explored how *changes* in importance and expectations related to changes in outcomes, for instance by fitting some form of within-individual change model (e.g., fixed effects). The present study does not explore this question directly since many of our outcomes had highly skewed distributions and required nonlinear models for estimation. As such, linear within-individual change models, which require data to be 'de-meaned', do not easily translate to nonlinear analogs (where such a 'de-meaning' process is not as straightforward), making them untenable for the scope of the present analysis. Nonetheless, it is plausible that *changes* in a person's aspirations and expectations would predict *changes* in the frequency of behaviors consistent with those aspirations and expectations. For instance, it is possible that as an adolescent's expectations to have a job increase s/he would work more hours in a job. Furthermore, it is possible that with age people are more likely to behave in ways that are consistent with their expectations and aspirations. Future research could examine *changes* in aspirations and expectations over time and how they might be related to *changes* in behaviors consistent with those perceptions.

Many other variables beyond those examined in the current study influence engagement in work and criminal behaviors. Peer and family factors likely have strong influences on whether adolescents engage in prosocial or criminal behaviors, and neighborhood opportunities are certainly relevant to consider for their effects (Chung and Steinberg 2006). It would be important for future research to examine the independent and joint influences of these factors and how they relate to perceptions of likely success.

We examined aspirations and expectations to achieve career and legal goals in very broad terms. Aspiring and expecting to have a job could mean being a business owner for one individual and being a mechanic for another. Some youth's career aspirations and expectations may change in terms of the nature of the job they desire, and they may change over time as an individual becomes more or less realistic about his/her capacities and skills. It would be interesting to examine whether antisocial adolescents abandon or switch to different specific possible selves over time and the factors related to these changes (Carroll et al. 2009). Finally, we may not have captured the full span of participants' levels of expectations and aspirations because mean ratings of importance and expectations were very high in this sample. The restricted range of expectations and aspirations could have limited our ability to detect relations between our predictors and outcomes.

Our investigation of strain theory did not examine the influence personality traits (e.g., negative emotionality and constraint), negative emotions, and coping mechanisms have on decisions to engage in criminal behaviors (Agnew et al. 2002). These are, however, important factors that the literature suggests will influence the effects of strain on antisocial behaviors (Agnew 1992, 2001, 2002). Future research should examine how negative emotionality, emotional constraint, and coping mechanisms might influence the relations that importance and expectations have with actual engagement in behaviors that align with those perceptions. For instance, it is possible that negative emotions influence people's beliefs about how likely it is that they will accomplish a goal. Researchers could examine more causal pathways between perceptions and behaviors by better understanding how personality traits, negative emotions, and coping mechanisms may moderate or mediate goal perceptions and behaviors required of those goals.

We examined only possible future selves and not “feared selves.” The latter may have a strong role in shaping future behaviors. Although aspiring to achieve a particular life goal is an important and necessary first step in taking action, it may not induce sufficient motivation to actually accomplish the goal (Oyserman and Saltz 1993). Fearing what one does not want to become (within the same domain as his/her aspirations) could provide an additional source of motivation to engage in behaviors toward an envisioned goal. For example, an adolescent may aspire to become a welder and take actions toward that goal simply because he is motivated to obtain this type of job. However, this adolescent may have even more motivation toward a welding job if he also fears the possibility of being unemployed and potentially homeless. Aspirations to achieve a goal can work in concert with fears of what might happen if the goal is not achieved. Alternatively, simply fearing what one does not want to become without having a counter vision of how to accomplish a goal or strategies to accomplish it could immobilize an adolescent. It is the balance between having the aspirations to achieve a goal and the fear of what may happen if the goal is not accomplished that provide maximal motivation toward taking action. Future research could longitudinally examine the intriguing relations among importance, expectations, and fears as they relate to goal-relevant behaviors.

Future research might also consider the influence of mentoring adults, examining their role as a potential moderator of the relation between perceptions of success and engagement in actual behaviors accomplishing that goal (Oyserman and Saltz 1993; Wai-Ling Packard and Nguyen 2003). Whether adolescents feel closer to or further away from their goal might affect whether or not they engage in goal-directed behaviors (Peetz et al. 2009). It would be interesting to assess and subsequently experimentally manipulate perceptions of how far or near an aspired-to goal may be. All of this research would be especially informative for intervention and prevention strategies aimed at enhancing the prosocial development of antisocial adolescents as they make the transition to early adulthood.

Implications

Examining the internal beliefs that people have about future goals seems especially relevant to refining clinical interventions for youthful offenders. Interventions that promote more positive possible selves and more balanced self-perceptions of the future can improve behaviors (Oyserman et al. 2006) and possibly dampen negative family influences (e.g., low parent involvement, Oyserman et al. 2007; or influences of social class (e.g., poverty), Schoon and Parsons 2002). Systematizing methods for clarifying positive selves and integrating these approaches into existing interventions with adolescent offenders could enhance the development of goal-directed behaviors in these adolescents. In particular, programs aimed at educating antisocial adolescents about the availability and requirements of conventional careers might benefit from integrating approaches focused on formulating and achieving positive selves (Destin and Oyserman 2009). Such programs might enhance the likelihood that antisocial youth will engage in behaviors that bring them closer to the possible self they aspire to become (Destin and Oyserman 2009).

Conclusions

This study suggests that aspiring to have a job and to stay out of trouble with the law is related to whether serious adolescent offenders pursue positive possible selves while also avoiding negative possible selves. It may be that accomplishing and implementing a career aspiration by young adulthood presents antisocial adolescents with a pathway out of delinquency and away from a long-term antisocial lifestyle. Unfortunately, longitudinal studies of adolescents' perceptions of the importance and expectations to achieve goals are very limited, despite the considerable potential of understanding the dynamic processes and behaviors resulting from these perceptions (Massey et al. 2008). Many longitudinal studies

of antisocial adolescents focus on risk factors that differentiate offenders who continue delinquency and those who stop in a given time period, with the unfortunate result that little is known about the processes that steer antisocial adolescents away from delinquency (Mulvey et al. 2004). Masten and colleagues (Masten et al. 2004) point out that the transition to adulthood is a crucial developmental period that antisocial adolescents may use as a “turning point” to redirect their lives away from delinquency (see also Sampson and Laub 1993). More longitudinal research is necessary to understand adolescents’ perceptions of adopting positive possible selves and avoiding negative possible selves during their transition to young adulthood to flesh out the picture of how these normative changes might operate in the successful transition of young offenders into responsible young adults. This information is essential for the development of programs that create positive “turning points” for delinquent adolescents.

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Table 1

Summary of descriptive data

Variable	% or <i>M</i> (<i>SD</i>)	N
Gender		
Male	86%	1169
Female	14%	185
Race/Ethnicity		
African-American	41%	274
Caucasian	20%	561
Hispanic	34%	454
Other (e.g., multiple ethnicities)	5%	65
Mean SES (Parent Education) ^a	4.30 (0.95)	
Mean Number of Prior Court Petitions	3.17 (2.22)	

^a = coded as 1=some graduate school, 2=college graduate, 3=some college/trade/technical school, 4=high school diploma, 5=some high school, 6=grade school or less

Table 2

Descriptive statistics for independent and dependent variables across age

Age	Importance of having a job			Expectations of having a job			Importance of staying out of trouble with the law			Expectations of staying out of trouble with the law			Hours worked in community jobs			Working in illegal jobs		Petitions/arrests			Self-reported antisocial behavior		
	M	Median	SD	M	Median	SD	M	Median	SD	M	Median	SD	M	Median	SD	No	Yes	M	Median	SD	M	Median	SD
14	4.45	4.50	0.75	3.55	4.00	0.95	4.63	5.00	0.62	3.64	3.50	1.12	24.98	0.00	52.77	85%	15%	0.32	0.00	0.87	0.10	0.05	0.16
15	4.47	5.00	0.77	3.53	3.50	0.87	4.64	5.00	0.60	3.68	4.00	1.02	37.31	0.00	97.20	88%	12%	0.23	0.00	0.53	0.08	0.05	0.12
16	4.52	5.00	0.71	3.54	3.50	0.89	4.64	5.00	0.64	3.70	4.00	1.01	74.39	0.00	168.08	86%	14%	0.20	0.00	0.43	0.08	0.05	0.12
17	4.58	5.00	0.63	3.58	3.50	0.93	4.69	5.00	0.58	3.74	4.00	1.03	114.03	0.00	229.49	83%	17%	0.19	0.00	0.42	0.08	0.05	0.11
18	4.59	5.00	0.66	3.61	3.50	0.96	4.75	5.00	0.55	3.79	4.00	1.05	173.51	21.67	285.52	83%	17%	0.20	0.00	0.46	0.06	0.03	0.10
19	4.64	5.00	0.67	3.66	4.00	1.02	4.78	5.00	0.54	3.84	4.00	1.07	289.61	65.00	427.27	83%	17%	0.31	0.00	0.69	0.06	0.03	0.10
20	4.65	5.00	0.69	3.68	4.00	1.07	4.78	5.00	0.59	3.86	4.00	1.15	385.15	65.00	577.44	84%	16%	0.36	0.00	0.75	0.06	0.00	0.10
21	4.66	5.00	0.71	3.71	4.00	1.11	4.81	5.00	0.56	3.82	4.00	1.22	449.53	0.00	641.16	86%	14%	0.38	0.00	0.86	0.05	0.00	0.10
22	4.62	5.00	0.80	3.66	4.00	1.11	4.81	5.00	0.62	3.93	4.00	1.13	615.92	75.83	864.55	83%	17%	0.38	0.00	0.74	0.06	0.00	0.11

Table 3

Models examining hours worked in community jobs

Hours worked in community jobs (at T+1)									
Variable	Without age ^a				With age ^b				<i>d</i>
	Coefficient	95% C.I.	<i>t</i>	<i>p</i>	<i>d</i>	Coefficient	95% C.I.	<i>t</i>	<i>p</i>
Importance (at T)	83.68	34.32, 133.04	3.32	0.001	0.15	38.11	-31.50, 107.72	1.07	0.28
Expectations (at T)	129.35	91.60, 167.11	6.72	<0.001	0.32	97.55	65.20, 129.90	5.91	<0.001
Time in the Streets (at T+1)	0.19	-168.93, 169.30	0.002	>0.99	<0.00	2.30	-2838.51, 2843.10	0.002	>0.99
Socioeconomic Status (at Baseline)	-106.26	-149.93, -62.58	-4.77	<0.001	-0.23	-22.96	-58.97, 13.05	-1.25	0.21
Antisocial History (at Baseline)	-185.78	-257.74, -113.82	-5.06	<0.001	-0.27	-74.87	-148.89, -0.85	-1.98	0.05
Black	-445.21	-548.76, -341.65	-8.43	<0.001	-0.51	-310.02	-468.65, -151.40	-3.83	<0.001
Hispanic	-83.11	-193.76, 27.53	-1.47	0.14	-0.09	35.49	-129.27, 200.24	0.42	0.67
Other Race	-199.19	-407.51, 9.13	-1.87	0.06	-0.09	-95.33	-388.39, 197.73	-0.64	0.52
Gender	-5.11	-113.90, 103.76	-0.09	0.93	-0.004	-38.71	-142.39, 64.98	-0.73	0.46
Linear Age	-	-	-	-	-	609.96	519.63, 700.30	13.23	<0.001
Quadratic Age	-	-	-	-	-	-60.84	-497.71, 376.04	-0.27	0.79

^a = only $p \leq 0.006$ &^b = only $p \leq 0.005$ are considered significant based on Sidak (1967) corrections for multiple comparisons

Table 4

Models examining illegal work

Working in illegal jobs (at T+1)										
Variable	Without age ^a				With age ^b				t	d
	Coefficient	95% C.I.	t	p	Coefficient	95% C.I.	t	P		
Importance (at T)	-0.15	-0.26, -0.04	-2.78	0.005	-0.12	-0.28, -0.06	-3.10	0.002		-0.13
Expectations (at T)	-0.08	-0.18, 0.02	-1.65	0.10	-0.07	-0.18, 0.02	-1.65	0.10		-0.06
Time in the Streets (at T+1)	0.34	0.10, 0.59	2.79	0.005	0.27	0.08, 0.56	2.59	0.01		0.25
Socioeconomic Status (at Baseline)	-0.03	-0.14, 0.09	-0.43	0.67	-0.02	-0.14, 0.09	-0.37	0.71		-0.02
Antisocial History (at Baseline)	0.72	0.55, 0.88	8.46	<0.001	0.57	0.56, 0.89	8.54	<0.001		0.58
Black	-0.03	-0.31, 0.26	-0.19	0.85	-0.02	-0.34, 0.23	-0.41	0.69		-0.05
Hispanic	-0.38	-0.71, -0.06	-2.29	0.02	-0.30	-0.73, -0.08	-2.43	0.02		-0.32
Other Race	-0.21	-0.84, 0.41	-0.67	0.50	-0.17	-0.90, 0.36	-0.83	0.41		-0.21
Gender	-1.04	-1.51, -0.58	-4.40	<0.001	-0.85	-1.50, -0.58	-4.39	<0.001		-0.84
Linear Age	-	-	-	-	-	0.09, 0.49	2.88	0.004		0.23
Quadratic Age	-	-	-	-	-	-0.32, 0.19	-0.48	0.63		-0.05

^a = only $p \leq 0.006$ &^b = only $p \leq 0.005$ are considered significant based on Sidak (1967) corrections for multiple comparisons

Table 5

Models examining petitions and re-arrests

Count of petitions/arrests (at T+1)										
Variable	Without age ^a				With age ^b					
	Coefficient	95% C.I.	t	p	d	Coefficient	95% C.I.	t	p	d
Importance (at T)	-0.05	-0.15, 0.05	-1.04	0.30	-0.18	-0.07	-0.16, 0.02	-1.58	0.11	-0.21
Expectations (at T)	-0.02	-0.08, 0.04	-0.59	0.56	-0.11	-0.02	-0.07, 0.04	-0.55	0.58	-0.08
Time in the Streets (at T+1)	0.43	0.24, 0.61	4.56	<0.001	1.02	0.38	0.19, 0.57	3.99	<0.001	0.68
Socioeconomic Status (at Baseline)	0.05	-0.04, 0.14	1.05	0.30	0.25	0.06	-0.03, 0.16	1.25	0.21	0.23
Antisocial History (at Baseline)	0.26	0.14, 0.38	4.23	<0.001	0.93	0.29	0.17, 0.40	4.73	<0.001	0.78
Black	-0.19	-0.41, 0.02	-1.79	0.07	-0.51	-0.22	-0.43, -0.02	-2.11	0.04	-0.45
Hispanic	0.004	-0.22, 0.22	0.04	0.97	0.01	-0.01	-0.22, 0.20	-0.11	0.91	-0.02
Other Race	-0.24	-0.73, 0.24	-0.98	0.33	-0.27	-0.35	-0.81, 0.12	-1.45	0.15	-0.30
Gender	-0.86	-1.26, -0.45	-4.17	<0.001	-2.35	-0.85	-1.25, -0.45	-4.19	<0.001	-1.50
Linear Age	-	-	-	-	-	0.42	0.30, 0.55	6.43	<0.001	1.09
Quadratic Age	-	-	-	-	-	-0.19	-0.38, -0.01	-2.11	0.04	-0.35

^a = only $p \leq 0.006$ &^b = only $p \leq 0.005$ are considered significant based on Sidak (1967) corrections for multiple comparisons

Table 6

Models examining self-reported antisocial behavior

Self-reported antisocial behavior (at T+1)										
Variable	Without age ^a				With age ^b				p	d
	Coefficient	95% C.I.	t	p	d	Coefficient	95% C.I.	t		
Importance (at T)	-0.01	-0.02, -0.003	-2.69	0.007	-0.08	-0.01	-0.02, -0.003	-2.64	0.008	-0.08
Expectations (at T)	-0.03	-0.03, -0.02	-8.86	<0.001	-0.32	-0.03	-0.03, -0.02	-8.84	<0.001	-0.32
Time in the Streets (at T+1)	0.01	-0.006, 0.03	1.30	0.19	0.04	0.01	-0.005, 0.03	1.36	0.17	0.05
Socioeconomic Status (at Baseline)	-0.01	-0.02, 0.003	-1.34	0.18	-0.06	-0.01	-0.02, 0.003	-1.35	0.18	-0.06
Antisocial History (at Baseline)	0.08	0.07, 0.09	11.16	<0.001	0.52	0.08	0.07, 0.09	11.15	<0.001	0.52
Black	-0.05	-0.08, -0.03	-5.03	<0.001	-0.27	-0.05	-0.08, -0.03	-5.03	<0.001	-0.27
Hispanic	-0.03	-0.06, -0.01	-2.66	0.008	-0.15	-0.03	-0.06, -0.01	-2.65	0.008	-0.15
Other Race	-0.02	-0.07, 0.03	-0.84	0.40	-0.05	-0.02	-0.07, 0.03	-0.82	0.41	-0.04
Gender	-0.06	-0.08, -0.04	-5.08	<0.001	-0.21	-0.06	-0.08, -0.04	-5.09	<0.001	-0.21
Linear Age	-	-	-	-	-	-0.002	-0.01, 0.01	-0.32	0.75	-0.01
Quadratic Age	-	-	-	-	-	0.01	-0.01, 0.02	0.96	0.34	0.03

^a = only $p \leq 0.006$ &^b = only $p \leq 0.005$ are considered significant based on Sidak (1967) corrections for multiple comparisons