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Some initial findings and policy implications of the Pathways to Desistance Study

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Abstract

Little is known about how adolescents curtail their offending and make positive adjustments to early adulthood. The Pathways to Desistance study follows 1,354 serious adolescent offenders to provide information about these processes. This paper summarizes some initial findings from the study and lays out their potential policy implications. The findings covered include the variability in the sample, the importance of the link between substance use and offending, and the possible implications of institutional care.

Introduction

Longitudinal research has provided numerous insights about the initiation and maintenance of antisocial behavior (e.g., Coie & Dodge, 1998; Moffitt & Caspi, 2002; Liberman, 2008). This information has informed policy in several ways. First, it has helped to target prevention programs more efficiently and effectively. Having more information about the characteristics of children who are likely to develop problems or to accelerate their antisocial behavior promotes better screening and identification of groups for preventive programs. Second, this information has provided leads regarding intervention opportunities with identified children or adolescents. Knowing the risk factors that precede the onset of certain antisocial behaviors is important for determining the focus of preventive interventions at particular ages. Finally, this information has bolstered the policy argument for early intervention. By showing that there are certain continuities in the development of antisocial behavior, the case can be made that small alterations in early developmental influences may yield considerable payoffs in reductions of later, more serious and intractable behaviors (Welsh & Farrington, 2007).

There is much less longitudinal work on the desistance of antisocial behavior (Laub & Boonstoppel, 2012). Most research on the topic of antisocial behavior involves cohorts of children and adolescents sampled from schools or communities who are followed during the years they are likely to begin offending. A relatively small number of children and adolescents in these cohorts go on to commit repeated, serious crimes or violence, and there

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Data sets from the Pathways to Desistance study will be archived in successive releases at the Inter-University Consortium on Political and Social Research at the University of Michigan, beginning in 2012. Information about the study and its findings can be found at pathwaysstudy@pitt.edu.

is limited richness about desistance from antisocial behavior as a result. Few longitudinal studies have focused on cohorts of known offenders as they make the transition from adolescence to early adulthood, providing the necessary focus to capture the desistance process. As a result, social scientists know far more about the factors that lead adolescents into antisocial activity than about the factors that lead antisocial adolescents out of it (Mulvey, et al. 2004).

For practitioners and policy makers, the most pressing problems center on what to do with adolescents who are already involved in the juvenile justice system, often for serious crimes. They need more information about how to get and keep these adolescent offenders out of the system. Unfortunately, existing longitudinal research, by design, is often limited in its guidance to juvenile court professionals and service providers about what might be expected in the development of adolescents offenders involved with the court or what might reasonably be expected from interventions and sanctions with these adolescents. Existing research is particularly deficient in characterizations of what happens to adolescent offenders from their involvement with the juvenile justice system, rarely providing detailed information about the type, intensity, or duration of interventions or sanctions (Panel of Juvenile Crime, National Research Council, 2001).

It is thus not surprising that policy and practice with serious offenders in juvenile court often relies on fads, rather than facts, about the current crop of serious adolescent offenders and their amenability to treatment (e.g., “superpredators”; see Bennett, DiIulio, & Walters, 1996, and then Zimring, 1998; “budding psychopaths”, see Edens, Skeem, Cruise, & Cauffman, 2001) and/or the effectiveness of particular interventions (e.g., the impact of boot camps, see Styve, MacKenzie, Gover, & Mitchell, 2000). This lack of specific information about the adjustment of serious adolescent offenders over time has also promoted legal policies that rely on “wholesale” reforms; dealing with offenders uniformly based on the type of offense committed, rather than the relevant developmental or social factors presented by a particular adolescent (Zimring & Fagan, 2000). Without more solid information about the lives of serious adolescent offenders, these trends are likely to continue.

It is currently widely accepted that there is an “age-crime curve” (Blumstein, Cohen & Farrington, 1988), showing a clear drop-off in crime rates in early adulthood (Farrington, Ohlin, & Wilson, 1986; Loeber & LeBlanc, 1990). It is generally unknown, however, *how* adolescents desist from antisocial activities. It would be valuable for courts and social service systems to know what pushes serious adolescent offenders toward productive lifestyles so that programs can support and promote such influences. Unfortunately, there is only a very limited body of literature about psychological or life changes among serious adolescent offenders that promote positive adjustment to early adulthood and a cessation of antisocial activity (Laub & Boonstoppel, 2012).

The Pathways to Desistance Study

The Pathways to Desistance study (“Pathways study”) was designed to fill some of this gap in empirical knowledge. The Pathways study is a large-scale, two-site longitudinal examination of desistance from crime among serious adolescent offenders. The primary aim

of the study is to examine how developmental processes, social context, and interventions and sanctioning experiences affect the process of stopping antisocial activities broadly, and crime in particular. The study employed a prospective design with a broad measurement focus and multiple sources of information (self-reports, collateral reports, and official records) to provide a picture of intra-individual change over time. This information permits an exploration of the effects of maturation, changes in social context, and sanctioning and intervention experiences on positive and negative changes in behavior, psychological functioning, and the transition into adult roles (see Mulvey et al., 2004 for a more detailed discussion of the theoretical background for the study).

The design of the Pathways study is deceptively simple. It follows a sizable sample of serious adolescent offenders ($n = 1,354$) from two metropolitan areas (Maricopa County, Arizona, $n = 654$, and Philadelphia County, Pennsylvania, $n = 700$) for seven years after their court involvement for a serious crime, documenting the changes in their lives over this period. Adolescents were enrolled into the study between November 2000 and January 2003. These youth were at least age 14 and below age 18 at the time of their committing offense and had been found guilty of a serious offense (almost exclusively felonies, with a few exceptions for some misdemeanor property offenses, sexual assault, or weapons offenses). The proportion of male youth found guilty of a drug charge was capped at 15% to avoid an over-representation of drug offenders. All females who met the age and crime criteria were approached for enrollment as were youth being considered for trial in the adult system. Twenty percent of the youths approached for participation declined.

Upon enrollment in the study, participants completed a baseline interview within 75 days after their adjudication (for those in the juvenile system) or 90 days after their decertification hearing in Philadelphia or an adult arraignment in Phoenix (if in the adult system). Follow-up interviews were conducted every six months thereafter for the first three years of the study and annually after that through seven years. In addition, interviews with collateral informants (mostly parents initially and peers thereafter) were conducted at baseline and annually for the first three years of data collection. Interviews were also conducted for a subgroup of adolescents when they left an institutional placement ("release" interviews). Data collection was completed in April, 2010. Additional details regarding the enrollment process, study procedures, and sample characteristics can be found in Schubert et al., (2004).

A wide range of individual, social, and intervention-related variables were included in the interviews. These covered: (a) background characteristics (e.g., demographics, academic achievement, psychiatric diagnoses, offense history, neurological functioning, psychopathy, personality), (b) indicators of individual functioning (e.g., work and school status and performance, substance abuse, mental disorder, antisocial behavior), (c) psychosocial development and attitudes (e.g., impulse control, susceptibility to peer influence, perceptions of opportunity, perceptions of procedural justice, moral disengagement), (d) family context (e.g., household composition, quality of family relationships), (e) personal relationships (e.g., quality of romantic relationships and friendships, peer delinquency, contacts with caring adults), and (f) community context (e.g., neighborhood conditions, personal capital, social ties, and community involvement). Detailed information about the measures, the study

design, and the investigators comprising the working group for the study can be found at www.pathwaysstudy.pitt.edu.

As noted above, data collection for the study was completed in April, 2010. Efforts to retain adolescents across the study period were very successful, with approximately 90% of the sample interviewed at each follow-up point. Data for over 21,000 interviews and official records for each research participant (e.g., arrest data) are currently being compiled and will be posted at the Inter-University Consortium on Political and Social Research (ICPSR) at the University of Michigan. The working group of investigators and their collaborators have produced numerous papers on a variety of topics related to desistance and development in serious adolescent offenders (available at the website listed above).

This article focuses on three general themes that have emerged from initial analyses of the data from the Pathways study. The larger set of findings from the group's ongoing analyses will certainly flesh out these and other issues more fully, and we expect that our understanding and appreciation of the desistance process will evolve. The summary presented here represents our current understanding of selected findings with particular relevance to policy and practice in this area.

Theme #1: There is variability among serious adolescent offenders and most reduce their level of offending. Uniform policies based on the presenting offense will be inefficient and ineffective because they do not account for this variability

Some of the most basic questions regarding serious adolescent offenders are 1) how much they differ from non-offending or less serious offending adolescents, 2) whether they change their offending behavior appreciably from late adolescence to early adulthood, and 3) whether it is possible to differentiate those who will continue to offend from those who will not. One possibility is that serious adolescent offenders are rather homogeneous, markedly different from other adolescents, and highly likely to continue antisocial behavior. If this were the case, it would bolster arguments for the uniform treatment of adolescents who commit certain offenses and justify the primacy of retribution and incapacitation as responses to their offending. If there is considerable variability in serious adolescent offenders, a case can be made that individualized interventions tailored to the needs of the adolescents are more reasonable.

Analyses of the Pathways data so far indicate considerable variability in this sample of serious adolescent offenders. The adolescents in this sample are likely to have had previous referrals to juvenile court; the sample has an average of three petitions to court prior to the baseline interview. At the same time, about 26% of the sample had no prior petitions other than the serious offense qualifying them for enrollment into the study. An examination of background characteristics indicates that this is an impoverished group of adolescents. About 40% of these adolescents come from homes where the highest level of parental education is completion of high school, and they are clustered in highly disadvantaged neighborhoods (Chung & Steinberg, 2006). Looking at measures of psychosocial maturity and reports of parenting behaviors, however, the sample is somewhat, but not stunningly, different from samples of high school students in other studies (Steinberg, Blatt-Eisengart, & Cauffman, 2006). Overall, the sample is generally heterogeneous, different from non-

offending adolescents in many expected ways related to their lifestyle, and not that different in many other ways related to their psychological functioning.

We conducted two types of trajectory analyses (Nagin & Odgers, 2010) to examine the patterns of offending in the sample over the follow-up period. These analyses use a single outcome variable measured at multiple time points (in this case, self reported offending; SRO, Menard & Elliot, 1996) to define latent classes of individuals based on different shapes for the outcome variable over time. One set of analyses (Mulvey, et al., 2010) used the follow up period as the time increment, indicating the offending patterns followed within the three years after contact with the court for the offense that qualified the individual for the study. A second set of analyses (Monahan, Steinberg, Cauffman, & Mulvey, 2009) treated the data as an accelerated cohort design, using age as the increment of time and identifying patterns of self reported offending from ages 14 through 22. Recently, we used data from the full seven-year follow up period to complete trajectory analyses of each type (one with follow-up time points and another using age as the x-axis scale), and compared the two solutions (Piquero, Monahan, Glasheen, Schubert, & Mulvey, in press).

All the trajectory analyses showed considerable variability and clear patterns of desistance. Both analyses using the seven-year data produced an optimal five-group solution, with a large proportion of the sample following a decreasing pattern of self-reported offending over time. In the earlier analyses of the three-year data using follow-up interview points as indicators of time, about 15% of the sample started at a high level of self-reported offending and decreased their reported offending to just about zero by the end of the period examined. In the comparable analyses of the seven-year follow-up period, 21% of the sample showed a similar declining trajectory. In the age-graded analyses of the three-year data, about 24% of the sample showed a consistently declining level of reported offending; in the seven-year data, about 42% of the sample showed either early or late desistance patterns. Across all of the analyses, less than 10% of the sample shows a persistently high level of self reported offending. These serious adolescent offenders clearly show decreasing offending over time, with most of the sample reporting very low levels of offending at the end of the time period examined.

The major conclusion here is that serious adolescent offenders do appear to greatly curtail their level of offending during the transition from late adolescence to early adulthood. Only a small proportion of the sample maintains a high level of self-reported offending, although the level of offending reported by this group does indicate a high level of criminal activity. On average, this small group of offenders consistently endorses involvement over the recent recall period in about 6 of the 22 fairly serious antisocial acts listed (e.g., getting into a fight, carrying a gun; see Mulvey et al., 2010 for a listing of the items). The much larger proportion of the sample, however, reports very low level of involvement in these activities.

The second major finding from these analyses is that only a few variables from the extensive array collected at the baseline interview independently predict who will persist and who will desist in their offending. Across the analyses presented in these papers, prior offending, parental criminality, several need indicators, and some measures of psychosocial maturity form statistically significant models that differentiate the trajectory groups. The power of

these models, however, is not overly impressive. For example, the predictive model to differentiate the “persister” and “desister” groups in the three-year trajectory model using recall period as the time measure only had a Nagelkerke pseudo- $R^2 = .24$ (reported in Mulvey et al., 2010). There are certainly leads about some of the case factors that might contribute most heavily to continued antisocial activity, but as a purely predictive exercise, these analyses do not indicate a high predictability about future offending based on measures taken at the time of disposition. Serious offenders will apparently change, but it will be difficult for the court to know which ones will do so based on what they see before them.

It is important to note that this generalization also holds for the type of presenting offense. There is no significant bivariate relationship between type of presenting offense and trajectory group membership from the solution in Mulvey et al. (2010). Figure 1 shows the proportion of adolescents in each trajectory group (identified by time point) across the types of offense that qualified them for the study. The distributions of trajectory group memberships are roughly equivalent within each of the offense groups, with the only noticeable variation being for the adolescents found guilty of sex offenses (where fewer of these adolescents are “high stable” persisters). The criteria often used by the court as a proxy for predictability of future high rate offending appears to have little power in this regard.

In fact, the lesson here would seem to be that these adolescents show a considerable amount of change over time. A sizable proportion start at high levels of offending and then greatly reduce their level of offending. Policies that don’t recognize this regularity may be shortsighted. Determining with great precision which adolescents will follow the persisting and desisting paths, however, is a very difficult task, even given a large amount of detailed information about each adolescent. Given this reality, it would seem to be reasonable to conduct risk/need assessments regularly and to update intervention plans to reflect the new realities of an adolescent’s development and social situation, even serious offenders (Mulvey & Iselin, 2008).

Theme #2: Substance abuse and use is consistently and powerfully related to offending. It is also probably a useful target of intervention to reduce offending

Numerous researchers have observed the strong link between substance use and criminal offending in adolescents. A majority of court-involved adolescents report recent use of illegal substances and more serious and chronic adolescent offenders report using more substances and are more likely to qualify for a diagnosis of a substance use disorder (Teplin, Abram, McClelland, Dulcan, & Mericle, 2002; Wilson, Rojas, Haapanen, Duxbury, & Steiner, 2001). Also, studies of community youth show a strong association between reported serious offending and substance use (Johnston, O’Malley, & Bachman, 2006). Adolescent offending and substance use go together consistently.

It is less clear how substance use and criminal behavior operate over time in adolescents. There is some evidence that early behavior problems and aggression predict later adolescent illicit substance use (Mason, Hitchings, & Spoth, 2007; Wiesner, Kim, & Capaldi, 2005), increased use over time (Hussong & Chassin, 1998), and subsequent substance abuse and dependence (Chassin, Pitts, DeLucia, & Todd, 1999). Some other studies suggest that early substance use predicts subsequent criminal behavior in adolescents (Ford, 2005; French, et

al, 2000; Loeber & Farrington, 2000). Recent work using joint trajectory analyses demonstrate that these behaviors follow a parallel course over time (Sullivan & Hamilton, 2007), suggesting a reciprocal relationship between the two behaviors. Whether the relationship is sequential or reciprocal can be debated or assumed to be different for different groups of youth. There is little debate, however, that substance use and criminal offending go hand-in-hand throughout adolescence, regardless of which behavior is leading the way when.

The Pathways study has examined the relations among substance use, substance use problems, and offending in an attempt to increase our understanding of the dynamics of these behaviors in serious adolescent offenders. The nature of these links in adolescents like those in the Pathways study matters greatly, especially regarding how much promise there might be for interventions (either treatment or sanction oriented) to have an impact on future offending. It is not apparent that the relationships seen in broader samples of adolescents would hold for this more restricted and problematic group of offenders. The relationship of substance use to offending over time may not be as powerful in a group of serious adolescent offenders, where both of these behaviors are more common. In addition, intervention and monitoring may be less effective, considering that these adolescents may be more established in a substance-using and criminal lifestyle.

The first, and not surprising, finding is that there are high levels of substance use and substance use problems in this group. The baseline interview data indicated that 85% of the sample reported that at, some point in their lives, they had used marijuana, 80 percent reported using alcohol, 25 percent hallucinogens, 23 percent cocaine, 21 percent sedatives, 15 percent stimulants, 13 percent inhalants, 7 percent opiates, 16 percent ecstasy, 4 percent amyl nitrate odorizers, and 6 percent some “other” drug. In addition, 40% of the participants reported consuming alcohol and 56% reported using marijuana in the past six months, averaging between one and three times per week for each. Twenty-seven percent reported using other illegal drugs (i.e., cocaine, hallucinogens, sedatives, inhalants, opiates, ecstasy, amyl nitrate odorizers, or “other”) an average of one or two times in the past six months. More than one-half (57 percent) of the youth who reported using marijuana in the six months prior to the baseline also reported drinking alcohol, and 77 percent of youth who reported drinking alcohol in the six months prior to the baseline also reported using marijuana in that same time period. At each interview for the first three years of the follow-up period, 28 to 30 percent of the sample reported using more than one substance in the previous six months. Moreover, a substantial number of adolescents in the sample have diagnosable substance use disorders, either alcohol/drug abuse or dependence. At baseline, 43 percent of male participants and 45 percent of female participants met the *DSM-IV* diagnostic threshold for a past (“ever”) drug or alcohol abuse/dependence. These rates are about three to four times higher than those seen in samples of a comparable age group within the community as a whole (Lewinsohn, Hops, Roberts, Seeley, & Andrews, 1993; Substance Abuse and Mental Health Services Administration, 2003). The problem of substance use is rather formidable in this group.

There are also strong, consistent relationships among ethnicity, gender, and substance use problems in this sample. African American adolescents are least likely to meet the

diagnostic threshold for substance use disorder in the year prior to enrollment in the study, and they show the lowest levels of symptoms and social consequences from substance use, compared to Latino and white adolescents. This pattern has been found in other samples of less serious juvenile offenders (Teplin et al., 2002) as well as in non-adjudicated community samples (Armstrong & Costello, 2002). Apparently, some consistently powerful cultural/ethnic factors operate equally in the lives of these serious offenders and in their less antisocial community peers.

Level and type of acculturation appears to be related to level of substance use in the Mexican-American adolescents in this sample. Pathways investigators used a subset of the Pathways sample (300 male Mexican-American offenders) to examine the relationship of cultural adaptation to patterns of heavy episodic drinking and marijuana use from ages 15 to 20 (Losoya, et al., 2008). These investigators found that bicultural adaptation (i.e., successful adaptation to both the ethnic and mainstream cultures) is related to lower substance use. That is, youth who retain some of the values of their native culture while also adapting to the mainstream culture do better. This work demonstrates that cultural processes can have a marked effect on substance use in serious offenders and that racial/ethnic comparisons alone do not reveal the full story of these differences.

The second major finding is that having a substance use disorder and the level of substance use are consistently related to other illegal activities in this group. The presence of a drug or alcohol disorder and the level of substance use at each time point were both shown to be strongly and independently related to the level of self-reported offending and the number of arrests in the same time point. This relationship held even when drug-related offenses and behaviors were removed from the offending measures and when several covariates (i.e., socioeconomic status, gender, and ethnicity) were controlled statistically (Mulvey, Schubert, & Chassin, 2010). In addition, the presence of a substance use disorder magnifies the effect of certain criminogenic risk factors (e.g., an extensive antisocial history) on later arrests (Schubert, Mulvey, & Glasheen, 2011). Finally, an analysis using structural equation modeling examined whether increased substance use predicted increased self-reported offending in the next follow-up period or the reverse (i.e., increased offending predicted increased substance use). This model also controlled for the effect of substance use and the level of offending in one time period on the likelihood of repeating that behavior in a subsequent time period. As expected, adolescents' level of substance use in one time period were related to level of offending during that same period and in the next time period. These analyses demonstrated, however, that substance use predicted offending in the next time period more consistently than offending predicted substance use in the subsequent period (Mulvey, Schubert & Chassin, 2010).

Third, a sizable proportion of adolescents with identifiable substance use problems in this sample receive some treatment for their problems, but there is still a considerable unmet need for treatment among these serious adolescent offenders. In the initial three years of follow-up, those adolescent offenders with diagnosable substance use problems were four times more likely to receive treatment for drug and alcohol abuse than those with no substance use problems (44 percent versus 11 percent; Mulvey, Schubert & Chassin, 2010). This suggests that efforts are being made to provide targeted services, despite the substantial

percentage of missed opportunities. The wrinkle here is that most of the treatment for substance use problems is done in institutional settings; these individuals receive little community-based care. During the initial three years of follow-up, less than 10 percent of these adolescent offenders with disorders received treatment for substance use problems in the community; during the whole seven-year follow-up period, only 14% of the individuals in the sample with a diagnosable substance use disorder received community-based services. It is clear that these adolescents and young adults, even with serious involvement with the criminal justice system, an identifiable disorder, and a considerable need of community-based treatment, receive little of it.

The fourth finding regarding substance use is that treatment, even generic treatment with the right features, seems to have an impact. Chassin and colleagues (Chassin, Knight, Vargas-Chanes, Losoya, & Naranjo, 2009) examined reductions in alcohol consumption, marijuana use, cigarette smoking, and nondrug offending in relation to whether adolescents received treatment, whether the treatment occurred over a sustained time period (at least 90 days), and whether the treatment included family participation. Sustained treatment and family participation are considered two elements of “best practices” for adolescent drug treatment (Bukstein and the Work Group on Quality Issues, 2005; National Institute on Drug Abuse, 2006). Chassin and her colleagues found evidence that, in general, drug treatment produced reductions in substance use that could not be explained by other factors (e.g., past use patterns, being confined, age-related reductions). In addition, reductions in nondrug offending were found, but only when treatment incorporated family members.

In summary, initial findings from the Pathways study indicate that substance use is a pervasive force in continued offending in this sample of serious adolescent offenders. Yet, there is a strikingly low level of involvement of these adolescents and young adults in community-based care. Initial indications are that treatment of adequate duration and involving family members can have an impact on later offending. The challenge is how to get these services to this group of high need individuals to maximize the potential for services to alter their criminal involvement. It appears that these serious adolescent offenders are not “lost causes” for substance use treatment; instead, they seem more like lost opportunities for service provision.

Theme #3: Institutional care is the service of choice for serious adolescent offenders, but institutional experiences are probably more variable in their effects than we recognize

Over the last few decades, the juvenile justice system has tilted toward an emphasis on retribution and punishment instead of rehabilitation (Zimring & Fagan, 2000). The provision of treatment services, though, still occupies a central place in the jurisprudence of juvenile law and accounts for a large amount of the resources expended in juvenile justice (Slobogin, 1999). Nonetheless, we have only limited knowledge regarding the impact of the most common services provided to serious juvenile offenders. Only continued investigation of the operations of the current juvenile justice system can sort out why certain forms of interventions might work for certain individuals or how they might work better.

The Pathways study provides an opportunity to see what services are typically provided to serious adolescent offenders and how these “generic” services affect later involvement in

antisocial activity or positive adjustment. This study allowed for determination of the type and extent of service involvement in both institutional care and in the community. Follow-up interviews with adolescents in the Pathways study used a “life event” calendar approach (Horney, Osgood, & Marshall, 1995) to map out living arrangements, allowing for documentation of the amount of time adolescents spent in different types of institutional or community settings during each follow-up period. In addition, adolescents were asked about whether they had received a range of different types of services and the frequency of receiving services while in institutional care and in the community.

The adolescents in that Pathways study sample spent a considerable amount of time in institutional placements. Eighty-seven percent of the sample had at least one stay in an institution during the seven-year follow-up period; only 176 of the adolescents in the sample had no institutional stays during the follow-up period. The offenders in the sample who had an institutional stay spent 38% of the seven year follow-up period in institutional care, on average. In comparison, about 56% of the sample received any type of community-based service during the seven-year follow-up period.

There are some indications that these institutional stays may have only limited positive effects in broad policy terms. In one set of analyses, study investigators assessed the impact of placement and longer lengths of institutional stays on subsequent arrests and self-reported offending. These analyses (see Loughran, et al., 2009) used propensity score matching techniques to correct for the selection effect inherent in the placement process and then assess the impact of an institutional stay on groups with comparable background characteristics. Results from these analyses indicated that, once 66 background characteristics were controlled, placement in an institution showed no effect on later arrest or self-reported antisocial activity. On both outcome variables, adolescents put on probation in the community had the same rates as adolescents placed in institutions. In addition, analyses of the effects of different lengths of institutional placement showed no reduction in arrest or reported antisocial behavior from longer stays. There was no discernable benefit in terms of public safety related to institutional placement itself or any gain from longer institutional stays.

One important caveat to these findings is that there was no adequate consideration given to the intensity of exposure to rehabilitative services during the institutional stays considered. This is a significant concern, since the provision of an adequate amount of services is important to reduce future recidivism (Lipsey, 1992) and our own findings (cited earlier) indicate that adequate exposure to substance use services may reduce both crime and self reported offending (Chassin et al., 2009; Mauricio et al., 2009). In the analyses regarding the effects of institutional stays reported here, we did look at a subsample of the larger group and a gross measure of treatment involvement, and found that longer stays with more intensive services seemed to *increase* the risk of rearrest. It is possible that longer exposure to services of poor quality, or services that are poorly matched to the individualized needs of these offenders, may have iatrogenic effects. On the other hand, these initial results could be the result of a selection effect in which adolescents with a high propensity for future offending spend greater time in high-intensity environments, but to no avail. The role of service exposure in institutional settings is clearly a high priority issue for future analyses.

Other Pathways findings highlight the need for this line of work, indicating that an institutional stay make have markedly different effects depending on the characteristics of the youth and the features of the institutional setting. In the trajectory analyses reported earlier about trends in self reported offending over time, the amount of time spent in an institutional environment during each recall period was included in the analyses as a time varying covariate as a way to control for the amount of exposure time and adolescent had to commit the types of acts reported. It was seen as more difficult to engage in many of the behaviors asked about (e.g., dealing drugs) if in an institutional setting, and having this variable in the model controlled for this factor. The amount of time in institutional care during the recall period had the expected effect of dampening the rate of reported antisocial behavior in four of the five identified trajectory groups; but it had the opposite effect, i.e., it significantly increased the rate of reported offending in the fifth group, the lowest offending group. The more time these low offending adolescents spent in institutional care (and they spent about 30% of the first three years of the study in institutions) the more offending behavior they reported (Mulvey et al., 2010). Whether institutional placement increases offending in less serious offenders is still an open question.

A generally neglected area in extant juvenile justice research is how youths see their experiences in institutional settings ordered by the court. Other disciplines, such as business and marketing have long used consumer feedback to inform their practices, and this approach has been adopted more recently by health care organizations as they attempt to reduce cost and improve service quality (Chowanec, 1994; Counte & Meurer, 2001). However, with few exceptions (Loughran, Godfrey, & Mengers, 2010; Sedlak, 2008), juvenile justice system professionals have overlooked their primary client as a resource for understanding how experiences in the system are “received” and how those experiences might be related to outcomes. It is possible that because programs are almost always designed and implemented by adult professionals, there may be aspects of the program or environment that are perceived by juveniles in a different way than they were conceived by adults. Obtaining the adolescents’ perceptions about an institutional experience may help to identify areas that facilitate or undermine broad program goals.

Pathways investigators have used the “release interviews” from the study to address this issue. These interviews were conducted with youth close to the time they exited an institutional placement (on average, twelve days following release) and consisted of a series of approximately 165 questions (drawn mainly from existing scales) regarding various aspects of the residential experience and institutional environment (e.g., accounts of program operations and services provided, ratings regarding the participant’s feelings of his or her safety in the facility). Confirmatory factor analyses and multilevel modeling were used to identify eight dimensions about the setting that could be derived reliably from the interview: safety, institutional order, harshness, presence of caring adults, fairness, presence of antisocial peers, level of services, and reentry planning (see Mulvey, Schubert & Odgers, 2010).

In a subsequent set of analyses, investigators looked at the link between these perceptions and adjustment in the community after release from the institution (see Schubert, Mulvey, Loughran, & Losoya, 2012). Two outcomes were tested: 1) system involvement (rearrest or

return to an institutional setting in the year following release) and 2) self-reported antisocial activities over that same time period. Different perceptions were related to sizable reductions in each outcome, after antisocial history and background characteristics of the individual adolescent were controlled. For example, system involvement was found to be related to two “structural” aspects of the institutional environment: having a primary caregiver and having someone assigned to help the youth plan for reentry into the community. Resuming antisocial activity upon release was related to more affectively-laden aspects of the institutional environment (e.g., institutional order, harshness) as well as the perception of more antisocial peer influence in the institution. In addition, institutional settings that were rated more favorably across all the dimensions examined produced a much lower likelihood of re-arrest, even after accounting for background characteristics of the adolescent (see Figure 2).

While complementing some earlier research (e.g., Coates, Miller, & Ohlin, 1978; Moos, 1997), these analyses demonstrate that obtaining data from the primary client within the juvenile justice system is feasible and potentially useful for gauging a setting’s “health” as a treatment environment. These perceptions identify variability among institutional settings, and tap into aspects of the institutional environment that affect later outcomes. Current discussions about the use of evidence-based practices in juvenile justice have recognized that significant improvement in service provision will not simply be the result of establishing more “brand name” programs (Lipsey, Howell, Kelly, Chapman, & Carver, 2010). The context within which those programs are delivered appears to be an important consideration as well. Settings can and should be examined with an eye toward improving features that might help innovative programs flourish and youth succeed.

Limitations on interpreting findings from the Pathways study

Although a comprehensive examination of a group with high policy salience, the Pathways study has some limitations that must be kept in mind when considering the relevance of its findings for policy or practice application. First, this study is a natural history of the events and changes that occur in a sample of serious adolescent offenders. It is a detailed set of observations about patterns in this sample, but it is not a study of ideal interventions or controlled tests of particular policy interventions. The tests of the impact of policies or practices are done with efforts at statistical controls, but the adequacy of these post-hoc controls might be questioned on some occasions. The trade-off made here was one of richness over experimental control, and the confidence associated with any conclusions regarding practice or policy should probably depend on repeated patterns seen in the data rather than the statistical significance of any singular finding.

Second, this is a sample of serious adolescent offenders. Inclusion in the sample was restricted to adolescents at the “deeper” end of the system. This means that these adolescents are less likely to vary as much on background characteristics, neighborhoods, or a host of other variables than adolescent offenders drawn at different points in the juvenile justice system (e.g., at arrest or detention). Given this limited variability on many factors, when a strong effect emerges that differentiates among the adolescents in the sample, it is that much

more impressive for its potential importance. At the same time, the results that emerge in this sample are not generalizable to juvenile offenders across the board in juvenile justice.

Third, the data rely heavily on self reports. This is a particularly relevant when considering analyses of self-reported offending. Previous studies have commented on the strengths and limitations of self-report measures, generally concluding that there is moderate agreement between self-reports and official arrest (Hindelang, Hirschi, & Weis, 1981; Thornberry & Krohn, 2000) and that adolescents in general more accurately report offenses of higher severity accurately (Kazemian & Farrington, 2005). An examination of the agreement between self-reported offending and arrest records within the Pathways study has shown that individuals who are arrested more often tend to self-report offending behavior at greater levels than those who have been arrested less often (Brame, Fagan, Piquero, Schubert, & Steinberg, 2004). In addition, ethnic differences in reporting have been noted (Hawkins et al., 2000), but measurement equivalence has been demonstrated across ethnic groups for the self-report measure in the Pathways study (Knight, Little, Losoya & Mulvey, 2004). In the end, we are inclined to follow the advice of Ronald Reagan regarding these reports: "Trust, but verify."

Conclusion

Even with the above caveats in mind, these initial findings from the Pathways study still have clear applications to policy debates in juvenile justice. We have organized the initial findings in terms of three themes, highlighting patterns of findings that tie together into coherent messages from multiple analyses. The take away messages so far are rather direct.

First, serious adolescent offenders' are not all the same. Although they generally show higher levels of personal and social disadvantage than other adolescents, we often get stuck on these "mean differences" to identify what is so different about adolescents who end up in the deep end of the justice system. It is also instructive to think of the variance around any of these mean differences; the distributions of qualities of adolescents in the justice system and those not in the system overlap considerably. In the case of the Pathways sample, the variability among these adolescents is noteworthy. As a group, these adolescents have a high likelihood of continued involvement with the criminal justice system, but it is not a uniform probability. Adolescents identified by the nature of a single criminal act are not homogeneous, nor are they all on the path to serious adult criminality. Exploring the variability among individuals who have done equally serious acts is a necessary step toward formulating more nuanced justice policy that recognizes and capitalizes on the potential of this heterogeneity among these adolescents.

Second, substance use and substance use problems are interwoven with criminality during this period of development. Moreover, treating substance use issues comprehensively and systematically does not appear to be a simple, add-on gesture when intervening with serious adolescent offenders. It instead should probably be more of a primary focus. In general, policy and practice approaches rely on limited demonstrations about the connection between the target of the intervention and the outcome targeted. With substance use, we have a solid body of information about the connection of these issues and continued involvement in

crime. In addition, we have some indications that interventions can work if done with enough intensity and the right program components. What we have seen so far is that this seems to hold true for serious offenders with as much strength as it does for less serious offenders. Working with serious offenders on substance use issues holds significant potential for reducing their offending. To assume that they are “too far gone” to benefit from these interventions is an assumption that misses an opportunity to move these adolescents toward a more successful adaptation to early adulthood.

Finally, the reliance of the justice system on institutional care with serious offenders is striking. Obviously, a desire for retribution drives much of this societal response. It seems reasonable, however, to question what this benefit costs in terms of the disruptions that it creates in the lives of these adolescents. During a critical period for developing human and social capital, these adolescents are spending over a third of this time locked up. Moreover, in these settings, there is no guarantee that those with problems will be identified and have those problems addressed. Institutions with more favorable environments can curb later crime, and yet the efforts at systematic quality improvement are often very limited in these settings. If institutional care is to remain a component of the juvenile justice system (and it is hard to see how it could not), it certainly seems worth the effort to see how much of this care is worth providing and how to make it worth more when it is provided.

Much work still needs to be done with the Pathways to Desistance data. There are a great number of unanswered questions relevant to policy and practice yet to be addressed. This is only a limited start on what the field can do to use the Pathways data for these purposes.

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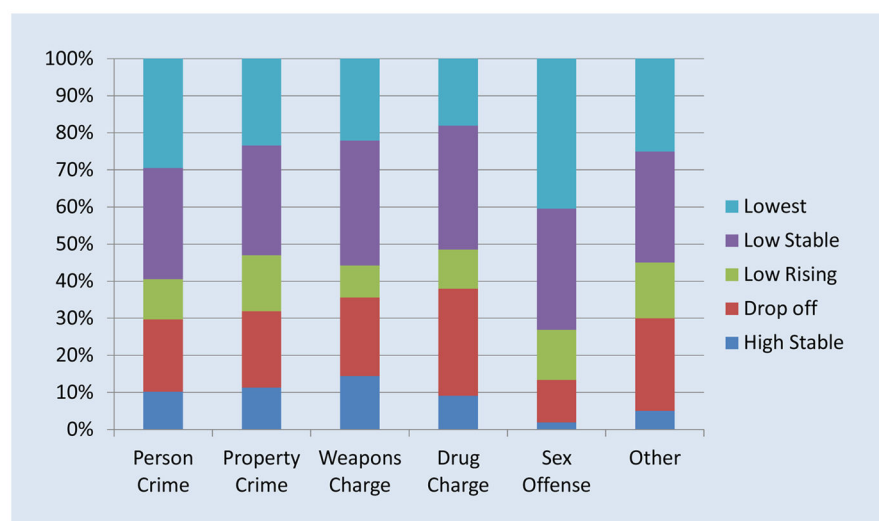


Figure 1.
Trajectory group membership by index offense

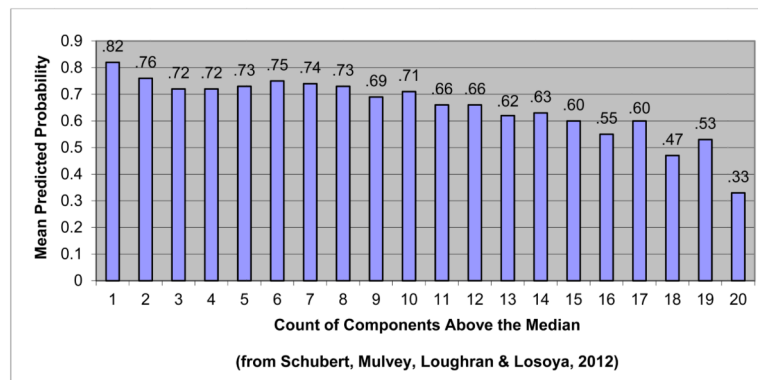


Figure 2.
Predicted probability of system involvement outcome by total number of ratings above the median