

CHAPTER 6

EDUCATION AND RECIDIVISM

6.1 Introduction

This chapter covers several topics related to juvenile justice education, delinquency, and recidivism. Section 6.2 provides a literature review of the relationship between education, juvenile delinquency and crime. Numerous research studies document that as educational performance improves, involvement in crime, delinquency, and other forms of deviance declines. This finding is quite consistent with sociological and criminological theory and is an important relationship to examine in our efforts to reduce delinquency. Section 6.3 examines the relationship between three program-level recidivism measures and JJEEP QAR scores using 1998 data. Given the negative relationship between education and delinquency discussed above, and assuming that QAR scores are related to the future educational performance of youth after their release, one would expect juvenile justice programs with high quality educational components to have lower program recidivism rates if all other factors were equal. Using JJEEP and DJJ data, it is possible to see if, in fact, programs with high QAR scores had lower recidivism rates, and the results of this analysis are presented in section 6.3. The final section (6.4) summarizes the chapter's findings and concludes with a discussion of future research that will be necessary to extend this important line of inquiry.

6.2 Education and Crime in the Literature

Current literature indicates that several education-related factors are correlated with juvenile delinquency. These include school performance (Cohill, 1991; Farrington, 1992; Jarjoura, 1993; Phillips and Kelly, 1979; Short, 1990; Tracy, Wolfgang, and Figlio, 1990; Tremblay, Masse, Perron, Leblanc, Schwartzman, and Ledingham, 1992), attendance (Elliott and Voss, 1974; Thornberry, Moore, and Christenson, 1985), attitudes towards school (Kelly and Balch, 1971; Loeber, Stouthamer-Loeber, Van Kammen, and Farrington, 1991; Mak, 1991; Sederstrom and Weis, 1981), and graduation rates (Farnworth and Lieber, 1989). Youths who perform below grade level in basic skills and drop out of school are 3.5 times more likely to be arrested than high-school graduates (Brier, 1995; Fine, 1990; Joseph, 1996; U.S. Department of Education, 1994). Moreover, according to the U.S. Department of Education (1994), 82% of prison inmates in the United States did not graduate from high school.

Juveniles who have trouble academically are more likely to engage in criminal and delinquent behavior (Anderson, 1982; Batiuk, Moke, and Wilcox-Roundtree, 1997; Farrington, 1992; Jarjoura, 1993; Ross and Ross, 1989; Short, 1990; Tracy et al, 1990; Tremblay et al, 1992). Maguin and Loeber (1996) found that both girls and boys with lower academic performance offended more frequently, committed more violent and serious offenses, and persisted longer in their delinquent behavior.

In response to the established relationship between poor school achievement and juvenile delinquency, many programs have sought to improve academic achievement for at-risk youth in the attempt to reduce juvenile delinquency and recidivism. In fact, Brunner (1993), Spellacy and Brown (1984), and Traynelis-Yurek and Giacobbe (1989) report findings that suggest effective educational remediation promotes pro-social behavior. Providing quality educational services for at-risk juveniles appears to be an important component in the effort to reduce juvenile crime and recidivism. As educational levels increase, individuals tend to commit fewer criminal or delinquent acts, presumably as a result of their increased employability and social integration (Anderson, 1982; Batiuk, et al, 1997; Ross and Ross, 1989).

Improving the cognitive skills of younger offenders has also been proven successful in some instances. For example, Jenson and Howard's (1990) review of empirical analyses regarding the effects of training and skill acquisition among juvenile offenders suggests that educational programs are useful in increasing skill levels and lowering rates of recidivism. Ross and Ross (1989) emphasize the importance of cognitive skills training for delinquents, concluding that the development of social thinking abilities (especially social perspective taking) is vital to the success of any delinquency prevention or treatment program. Similarly, Lattimore, Witte, and Baker (1990) found that vocational training and employment services increased delinquents' vocational skills and employability and decreased rates of recidivism. Finally, Briscoe and Doyle (1996) stressed the importance of providing aftercare services to juveniles following release from institutional programs. They conclude that successful reentry into school or employment depends on successful transition, which can be facilitated by post-release follow-up care in education, mental health, social skills, and vocational training.

This relationship between education and delinquency appears to be strong and provides a foundation from which to develop juvenile delinquency prevention strategies (Gottfredson, 1981). From a policy perspective, juvenile justice education can provide a unique opportunity to remediate and educate a cross-section of youths who otherwise might be difficult to reach academically.

6.3 QAR Scores and Recidivism

The literature on education and delinquency reviewed above clearly shows that youth that do better academically are less likely to be involved in delinquent behavior. This section builds on this body of literature, but moves in a different direction. Rather than looking at individual education and delinquency levels, in this section the relationship between program educational QAR scores and program recidivism rates are examined.

A thorough literature review of recidivism research did not reveal a single study that used only program-level data to identify factors that might affect recidivism outcomes. Most recidivism studies utilize individual-level (micro) data for juveniles, and some incorporate program-level (macro) variables to assess the effects of these measures on recidivism.

Because existing studies employ individual-level data, which is difficult and costly to collect, there are no studies evaluating a large sample of juvenile justice programs in terms of program-level recidivism measures and other program characteristics.

It would seem that there should be some direct correlation between the individual-level and program-level approaches. In this regard, the literature reviewed would suggest that providing effective educational programming in juvenile justice facilities, as determined by the quality assurance process, might ameliorate some of the academic shortcomings experienced by many delinquents and reduce the likelihood of recidivism upon their return to the community.

Assumptions—While the connection between individual-level and program-level research may be valid, it rests on several important assumptions. For example, it must be assumed that:

- (1) the QAR process successfully measures the quality of educational programs in the juvenile justice system,
- (2) programs with higher quality educational components will produce youth with better educational skills,
- (3) released youth will be given the necessary educational opportunities to continue their academic improvement once they have returned to the community, and
- (4) there will not be family or environmental impediments in the community that negate the educational gains that occurred while the youth was incarcerated.

While there is some evidence that generally supports the first two assumptions, assumptions three and four are more problematic. The analysis that follows might lead the reader to seriously question one or more of these assumptions.

Generic Problems in Measuring Recidivism—It should be recognized from the outset that there are many factors that affect recidivism rates, and most of these are beyond the control of the educational program, or any other component of the juvenile justice system. It should also be acknowledged that recidivism represents only one of several measures of community adjustment, and it is likely not the most important, and certainly not the most proximate measure for evaluating the effectiveness of education in a juvenile justice program. Nevertheless, while not the most appropriate, it is the only measure currently available for trying to provide an independent assessment of the effectiveness of juvenile justice educational programs and, thus, is presented here.

Unfortunately, researching recidivism and its correlates is not straightforward, and there are a number of generic issues that make any study of recidivism problematic. First, it must be determined what should be counted, in other words, exactly what constitutes recidivism? Does someone recidivate when they commit an illegal act after being released from a program (whether or not it is discovered and/or reported)? Or, does recidivism occur when

someone is rearrested, or when he/she is reconvicted, or when he/she is recommitted? Does someone recidivate only when they commit a serious crime, or does any crime, or should any infraction (parking violation, littering, etc.), including violation of probation or parole, count as recidivism?

Second, how long a follow-up period is necessary when tracking potential recidivists? Some studies track releasees for six months, others track them for five years, while most use a period between one and three years. While a large portion of recidivism has been shown to occur within the first year, the follow-up period used can greatly affect the recidivism results obtained.

Third, how can you be confident that your recidivism measure is reliable and valid? Assuming an official recidivism measure is used, all of the measures of recidivism are largely contingent on the ability of law enforcement to detect, arrest, and record when an ex-offender commits another crime. Therefore, a recidivism rate in one city may appear to be very different than a recidivism rate in another city, when, in fact, it is only a difference in law enforcement efficiency, or arrest and recording policies, between the two cities that produces these seemingly different recidivism rates. If self-reports or some other unofficial data are used to measure recidivism, there will also be problems with the reliability and validity because of inaccurate reporting (lying, faulty memories), reporting events that would not be treated as crimes by the police, and other related issues.

Fourth, it is difficult in researching recidivism to control for offender characteristics that affect recidivism independent of any other factors one is trying to examine. For example, gender is an important consideration because, based on any measure of delinquency, males have a greater rate of criminal involvement than females. In a similar fashion, age is another important characteristic. Research suggests that the criminal careers of youthful offenders tend to peak at approximately between the ages of 15 and 17 and steadily decline thereafter. This being the case, the recidivism rate of a sample of older offenders is likely to be substantially lower because of the “maturational reform” process than the recidivism rate of a sample of younger offenders, even when all other variables are held constant. For this reason, it would be important to control for variables like gender and age in studying recidivism.

Specific Problems in the Current Research—DJJ collects recidivism data at the program level for juvenile justice programs in Florida.¹ Using these recidivism data it is possible to determine, at least in a crude fashion, whether there is a relationship between the quality of educational programming in juvenile justice programs (reflected in JJEEP QAR scores) and their DJJ recidivism measures. In addition, it is possible to control for a number of other program-level variables to determine if they have any effect on the relationship between JJEEP QAR scores, and program-level recidivism measures collected by DJJ.

Before the details of this analysis are outlined, however, it is important to discuss, in addition to the generic problems associated with recidivism research cited above, some of the specific

¹ We would like to thank the Bureau of Research in the Department of Juvenile Justice for their assistance in providing the recidivism data that was used in this chapter.

factors that make the current analysis problematic. First, the recidivism data are furnished by DJJ, and the QAR scores and other program variables are collected by JJEPP.

Unfortunately, the time periods encompassed by the two data sources are different which complicates and reduces the validity of some of the analyses. The DJJ recidivism data are collected on a fiscal year (FY) format, so they report program-level recidivism rates for juveniles released from programs in FY95-96, FY96-97, or FY97-98. FY97-98 recidivism data are based on juveniles tracked for recidivism who were released between July 1, 1997 and June 30, 1998. The DJJ tracking system collects official recidivism data for a 12-month period from the date of release.

JJEPP operates on a calendar year, and data are collected on a truncated calendar year (TCY) format. This means that 1998 JJEPP data were collected between February 1, 1998 and October 31, 1998 during the program review cycle. In order to assess potential relationships between DJJ recidivism data and JJEPP program data, it is necessary to match respective data on somewhat similar timeframes. Given the two sets of data, encompassing different timeframes, the best possible fit is between FY97-98 DJJ recidivism data and TCY1998 JJEPP program data. This means that some of the juveniles who were tracked for recidivism data collection purposes were released before (in the extreme case as much as 16 months before) the JJEPP program data were collected. Similarly, some of the JJEPP program data were collected before (in the extreme case as much as five months before) the juveniles who were tracked for recidivism data collection purposes had been released. It is also important to note that, because of the required follow-up period, there is not any recidivism data that could logically be compared with the 1999 QAR scores. Consequently, and in contrast to most of the other data presented in this report, 1998 QAR scores, rather than 1999 scores, are examined in relationship to recidivism.

Second, there are problems generated by the fact that 1998 QAR scores have to be utilized rather than 1999 scores. As noted above, the time frame for the recidivism data dictates the use of 1998 QAR scores, but some of the QAR scores generated in 1998 were based on reviews conducted prior to JJEPP taking control of the QAR process. Some of the reviewers were part-time, insufficiently trained, and had minimal contact with the main JJEPP office in Tallahassee because they were located in other areas of the state. These problems, coupled with the fact that the quality assurance standards went through major revisions prior to the beginning of the 1999 review cycle make the use of the 1998 scores less than a desirable test of the educational QAR scores and recidivism relationship.

Third, DJJ collects recidivism data on many different programs, some of which JJEPP does not review, because these programs do not have an educational component. Similarly, JJEPP reviews some programs that DJJ has not yet collected recidivism data on, usually because newer programs will not have been in existence long enough to have had enough releasees, or a sufficient follow-up period for compiling the recidivism data. To complicate matters a little more, programs frequently are referenced by multiple names, and DJJ and JJEPP sometimes have slightly different names for some of the programs on which both collect data. Therefore, matching programs for which DJJ has recidivism data and JJEPP has QAR scores was, at times, somewhat difficult.

Fourth, there are many components in all juvenile justice programs that impact on the lives of the youths assigned to them. While education is a very important component, it is only one of many things that a youth is exposed to while they are incarcerated. Furthermore, these different parts are so interrelated that it is impossible to separate the educational component from all of the other parts of the juvenile justice program. Consequently, any comparison of educational QAR scores with recidivism is complicated by all of the other things that have an impact on youth in juvenile justice programs. Realistically, it is an evaluation of an entire program, not just the educational component. What this means is that a very good educational program could exist in a facility in which other components are very weak, thus reducing the potential impact of a good educational program. Conversely, the educational component could be very poor in a facility that was otherwise excellent in most other respects. These two factors working together would tend to greatly reduce any relationship that might exist between education QAR scores and recidivism, so that the comparisons made in the present study are at best fairly poor “proxies” for the true relationship.

Research Methods—Despite the problems noted above, it was possible to match 97 programs JJEEP reviewed in TCY98 with recidivism data that DJJ collected on programs that released juveniles during FY97-98. Eight of the ninety-seven matched programs released fewer than ten juveniles during the follow-up period, however, so these eight programs were excluded from the analysis in order to avoid skewing the recidivism data. Consequently, JJEEP has identified 89 programs for which there is FY97-98 program-level recidivism data and TCY98 QAR program-level data, which includes QAR scores, program level, program size (number of students), public/private designation of the facility component, and public/private designation of the educational component. Those represent 60% of the 148 commitment programs JJEEP reviewed during the 1998 QAR cycle.

The program-level recidivism data collected by DJJ consists of several different recidivism measures, three of which are used in this analysis. The first recidivism measure (Arrest Recidivism) is the percentage of juveniles who were released in FY97-98 who had subsequent referrals to DJJ or adult arrests within 12 months of release. The second recidivism measure (Conviction Recidivism) is the percentage of juveniles who were released in FY97-98 who had subsequent juvenile adjudications or adult convictions within 12 months of release. The third recidivism measure (Commitment Recidivism) is the percentage of juveniles who were released in FY97-98 who had subsequent commitments to DJJ or sentences to adult probation or prison within 12 months of release.

More sophisticated statistical analyses using multi-variate regression techniques were examined, but because of difficulties in interpretation, they are not presented in this report. They essentially produced the same findings and lead to the same conclusions as the simpler method for presenting the data that is used here. The easiest and most direct way to present the data to evaluate whether programs with high QAR scores have lower recidivism rates is to divide the 89 programs into high and low groups based on their overall QAR scores and then examine the mean recidivism rates for the two groups. That is essentially the form of analysis presented in the next part of this report.

Findings—The first analysis examines whether juvenile justice programs that provide better educational services have lower recidivism rates than programs that provide lesser quality educational services. The most direct way to examine this is to divide the 89 programs into high and low groups based on their overall QAR scores. The median overall QAR score for the sample of 89 commitment programs is 5.46. There are 45 programs that have a QAR score below the median (low QAR) and 44 programs that scored above the median (high QAR).

In Table 6.3-1, the three recidivism measures are shown for the high and low QAR groups. Programs with low (below the median [N=44]) QAR scores have a 62.8% re-arrest or referral rate, a 41.7% re-adjudicated or re-conviction rate, and a 32.8% re-commitment rate. Programs with high (above the median [N=45]) QAR scores have a 58.7% re-arrest or referral rate, a 38.6% re-adjudicated or re-conviction rate, and a 30.1% re-commitment rate. These results are going in the expected direction and show that programs with low QAR scores have slightly higher recidivism rates on all three of the recidivism measures than programs with high QAR scores. However, all of these differences are very small, and none attain statistical significance at the .05 level.

Table 6.3-1 Three Recidivism Measures for Programs with Low or High QAR Scores

		Low QAR	High QAR
Arrest Recidivism	Mean	62.8%	58.7%
	N	45	44
Conviction Recidivism	Mean	41.7%	38.6%
	N	45	44
Commitment Recidivism	Mean	32.8%	30.1%
	N	45	44

While the differences observed above are not very great, the fact that all three measures go in the expected direction is encouraging. Moreover, it would be informative to see if the slight recidivism differences between the low and high QAR groups become larger or smaller when another variable is considered in the analysis. In this regard, the first control variable introduced concerns whether the facility is publicly or privately operated (facility public/private). The recidivism measures for the low and high QAR groups, when controlling for the facility public/private designation are shown in Table 6.3-2.

When the control is introduced for whether the facility is a publicly operated facility or a privately operated facility, the three recidivism measures remain relatively unaffected, and, in fact, decrease slightly for public facilities. The only differences observed between the recidivism measures for the above median and below median QAR groups occur for programs with privately operated facilities. For programs with privately operated facilities, programs with low QAR scores have slightly higher recidivism measures than programs with high QAR scores (re-arrest 61.8% vs. 56.5%, re-conviction 40.3% vs. 35.9%, and re-

commitment 31.4% vs. 27.6%), however, these differences are still not statistically significant at the .05 level.

Table 6.3-2 Three Recidivism Measures for Programs with Low or High QAR Scores, Controlling for the Facility Public/Private Designation

Public Facility		Low QAR	High QAR
Arrest Recidivism	Mean	67.3%	67.2%
	N	8	9
Conviction Recidivism	Mean	48.4%	49.4%
	N	8	9
Commitment Recidivism	Mean	39.5%	39.6%
	N	8	9
Private Facility		Low QAR⁴	High QAR⁵
Arrest Recidivism	Mean	61.8%	56.5%
	N	37	35
Conviction Recidivism	Mean	40.3%	35.9%
	N	37	35
Commitment Recidivism	Mean	31.4%	27.6%
	N	37	35

Whether the educational component is publicly or privately operated (education public/private) can also be controlled. The public/private education designation is introduced into the analysis as a control in Table 6.3-3. Programs with low QAR scores that have either publicly or privately operated educational components have higher recidivism measures than programs with high QAR scores. Note, however, these differences are slightly greater for programs with private educational components than public educational components with the private educational components having slightly lower recidivism rates than the public educational components. Once again, however, at the .05 level, none of these differences are statistically significant.

Table 6.3-3 Three Recidivism Measures for Programs with Low or High QAR Scores, Controlling for the Education Public/Private Designation

Public Education		Low QAR	High QAR
Arrest Recidivism	Mean	65.9%	61.7%
	N	24	27
Conviction Recidivism	Mean	45.6%	42.7%
	N	24	27
Commitment Recidivism	Mean	37.0%	34.0%
	N	24	27

Private Education		Low QAR	High QAR
Arrest Recidivism	Mean	59.2%	53.9%
	N	21	17
Conviction Recidivism	Mean	37.2%	32.1%
	N	21	17
Commitment Recidivism	Mean	28.0%	23.8%
	N	21	17

The analysis can be repeated while simultaneously controlling for the size of the program, which reflects the number of juveniles in the program at the time of the JJEEP review. These findings are displayed in Table 6.3-4. The 89 programs are divided into three groups based on population size: small programs (less than 24 kids), medium programs (between 24 and 33 kids), and large programs (more than 33 kids). When the size of the program is considered, for small programs there is virtually no difference in the recidivism rates for low or high QAR scoring programs. The re-arrest measure was 61.1% for the low QAR group and 63.3% for the high QAR group, the re-conviction measure was 41.2% vs. 42.6%, and the re-commitment measure was 33.6% vs. 34.9%. While the differences are minimal, it should be noted that, for all three recidivism measures, the recidivism rate is slightly higher for the high QAR group, which is opposite to our expectations.

On the other hand, medium size programs with low QAR scores have a noticeably higher re-arrest recidivism measure than medium size programs with high QAR scores (66.9% vs. 57.9%), but the re-conviction and re-commitment differences, while consistent in direction, are much smaller (re-conviction 43.4% vs. 41.5%, re-commitment 33.9% vs. 31.5%). For the large programs all of the differences are consistent in direction, but the re-conviction (40.1% vs. 33.7%) and re-commitment (30.1% vs. 25.7%) measures of recidivism show a greater difference than the re-arrest measure (59.5% vs. 56.2%). None of these differences, however, including the re-arrest comparison in the medium size programs, are statistically significant at the .05 level.

Table 6.3-4 Three Recidivism Measures for Programs with Low or High QAR Scores, Controlling for the Number of Students in the Program

Small Programs		Low QAR	High QAR
Arrest Recidivism	Mean	61.1%	63.3%
	N	18	12
Conviction Recidivism	Mean	41.2%	42.6%
	N	18	12
Commitment Recidivism	Mean	33.6%	34.9%
	N	18	12
Medium Programs		Low QAR	High QAR

Arrest Recidivism	Mean N	66.9% 16	57.9% 14
Conviction Recidivism	Mean N	43.4% 16	41.5% 14
Commitment Recidivism	Mean N	33.9% 16	31.5% 14
Large Programs		Low QAR	High QAR
Arrest Recidivism	Mean N	59.5% 11	56.2% 18
Conviction Recidivism	Mean N	40.1% 11	33.7% 18
Commitment Recidivism	Mean N	30.1% 11	25.7% 18

The risk (security) level of the program can be introduced into the analysis by dividing the 89 programs into different risk level designations. Rather than divide the programs into levels two, four, six, eight, and ten, which would excessively limit the sample sizes, the levels are collapsed into three levels, low-risk (levels two and four), medium risk (level six), and high-risk (levels eight and ten). The findings controlling for risk level are shown in Table 6.3-5.

When the program risk level categories are introduced into the analysis, the recidivism measures for low-risk programs are slightly lower for the low QAR group than the high QAR group, which is counter to expectations. These differences are all very small, however, and all of the other comparisons for medium risk, and high-risk programs are in the expected direction. The medium-risk and high-risk programs also show a greater difference between the high and low QAR groups than was found in the low risk category. In fact, the re-arrest recidivism measure for the high-risk group shows the greatest recidivism difference observed between programs receiving low or high QAR scores. Unfortunately, while some of the recidivism differences observed in Table 6.3-5 are greater than in previous tables, all of these differences still fail to reach the .05 level of statistical significance.

Table 6.3-5 Three Recidivism Measures for Programs with Low or High QAR Scores, Controlling for the Risk (Security) Level of the Program

Low-Risk Levels Two and Four		Low QAR	High QAR
Arrest Recidivism	Mean N	55.3% 16	58.3% 12
Conviction Recidivism	Mean N	35.7% 16	36.7% 12
Commitment Recidivism	Mean	26.4%	27.5%

	N	16	12
Medium-Risk Level Six		Low QAR	High QAR
Arrest Recidivism	Mean N	65.7% 20	59.7% 21
Conviction Recidivism	Mean N	45.5% 20	40.6% 21
Commitment Recidivism	Mean N	36.0% 20	31.0% 21
High-Risk Levels Eight and Ten		Low QAR	High QAR
Arrest Recidivism	Mean N	69.7% 9	57.1% 11
Conviction Recidivism	Mean N	43.8% 9	37.0% 11
Commitment Recidivism	Mean N	37.2% 9	30.9% 11

6.4 Summary

The relationship between education and delinquency is well established in the prior literature. School performance, attitude towards school, school attendance, and graduation rates have all been tied to involvement in criminal and delinquent behavior. Numerous studies have shown that youths who have trouble in school are more likely to engage in criminal and delinquent behavior. Furthermore, research has proven that both girls and boys with lower academic performance offend more frequently, commit more violent and serious offenses, and persist longer in their delinquent behavior than their more academically successful counterparts.

Given the well-established relationship between education and crime, logic suggests that improving the academic performance of at-risk juveniles may reduce their propensity for criminal and delinquent behavior. Similarly, researchers have found that vocational training and employment services increased delinquents' vocational skills and employability and decreased rates of recidivism.

The literature on the relationship between education and crime suggests that providing effective educational programming to youths in juvenile justice facilities might ameliorate some of the academic shortcomings experienced by many delinquents and reduce the likelihood of them recidivating upon release. If so, juvenile justice programs with high quality educational components, as reflected in QAR scores, should have lower recidivism rates than programs with lower quality educational components, if all other factors could be controlled.

A comparison of JJEEP QAR scores and DJJ recidivism data indicates that, in fact, programs with high QAR scores do have lower recidivism rates than programs with low QAR scores. We must be very cautious in the interpretation of this finding, however, because these differences in recidivism measures between high and low scoring programs tend to be very small and are not statistically significant. When control variables were inserted in the analysis, this pattern remained largely unchanged, but several of the differences increased considerably in magnitude. High QAR scoring programs tended to have lower recidivism rates than their lower QAR scoring counterparts. Again, however, these findings with control variables introduced did not reach statistical significance at the .05 level.

The lack of statistical significance is important because it indicates that differences of the magnitude observed could be produced by chance alone more than 5% of the time, and this means that future research could find entirely different results because of these chance factors. On the other hand, the differences, while small, do present a very consistent pattern across the various categories of the control variables, and this pattern is also consistent with theoretical expectations. Because significance tests are a function of the sample size, it could well be that if we had a larger number of programs in some of the categories that these results would have been statistically significant.

Even if all of the results were statistically significant, however, the fact that the differences are not very large in most of the comparisons still suggests that the relationship observed is relatively weak and not nearly as strong as would be desired, or perhaps expected, based on the review of the literature. But, while the research literature is fairly consistent and clear that there is a relationship between education and delinquency, it does not suggest that there is anything approaching a perfect relationship or a one-to-one correspondence between educational success and delinquency. There are simply too many other causal factors related to delinquency and recidivism to expect that solving all of the problems in the area of juvenile justice education will cause delinquency to disappear.

It is clear that the generic problems in the measurement of recidivism, and the specific problems related to the present study (lack of fit in the timeframe between DJJ recidivism data and JJEEP QAR scores, problems with the use of 1998 QAR scores, the inability to control on important offender characteristics, and a small sample size), all contributed to a less than perfect test of the relationship between QAR scores and recidivism. It is equally clear that considerable caution must be observed in deriving long-range or far-reaching conclusions based on the current results. But, given all of the recognized problems, the small differences in recidivism and the statistically insignificant findings should come as no major surprise.

Another concern with this analysis is that using recidivism as the only evaluative measure is a shortcoming in itself for several reasons. First of all, many juveniles who are released from juvenile justice programs simply return to their original home and community environment, which are often characterized by instability, criminal role models, and lack of constructive opportunities. These are the same settings and conditions that contributed to the original acts of delinquency. Once they return to these environments, regardless of how good the previous juvenile justice educational program might have been, the potential for recidivism is great.

Therefore, using only recidivism measures to evaluate the quality of educational programming, or any other component of the juvenile justice program, is insufficient, and perhaps unfair to the program. The best educational programming possible, in isolation from aftercare and other forms of community support, can do little to ameliorate the problems faced by at-risk youth in their home and community environments.

There are many other types of outcomes that need to be evaluated and controlled for when assessing the quality of educational programming and its effects. Upon release, tracking recidivism is but one tool for evaluating program success. Other equally important program and post-release factors that must be considered include pre- and post-academic testing prior to leaving the institution, as well as employment success, family relations, academic achievement, and self-esteem improvement after returning to the community. These factors reflect the role a juvenile justice program and its educational component play in a youth's life, and considering them is integral to understanding the variety of outcomes produced by any juvenile justice program. Similarly, these outcomes likely affect subsequent recidivism, so they must be controlled when attempting to correlate QAR scores to recidivism data. JJEEP is dedicated to such research and plans to conduct a number of longitudinal studies over the next several years.

