

A Master's Research Project Presented to  
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Educational Achievement, School Experience and Recidivism  
Among Youth at a Residential Treatment Facility

by

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This Master's Research Project has been approved  
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### Abstract

Common wisdom holds that poor academic performance and negative feelings about school predicts juvenile delinquency. Some research supports this belief, while other studies have found different correlative factors. The development of delinquency is complex and may result from innate characteristics of individuals, environmental influences from the family, school, community, or a combination of both. Schools are places where these three influences converge. Consequently, poor school performance and a negative school attitude may emerge as symptoms of underlying causal factors. The research on successful educational programs in adult correctional settings suggests that academic interventions for juvenile delinquents would reduce recidivism. Yet results are mixed. This study attempted to answer the question, do greater gains in academic skill levels and positive school experiences reduce the likelihood of recidivism? No such correlation was found.

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## Introduction

In the field of juvenile corrections, common wisdom holds that school failure is the biggest predictor of future juvenile delinquency. Some research supports this notion (Kasen, Cohen & Brook, 1998; Maguin & Loeber, 1996; Wiesner & Windle, 2003), although other studies have found different risk factors (Crawford, 1996; Office of Juvenile Justice and Delinquency Prevention, 2006; Office of Program Policy Analysis and Government Accountability, 1998; Sankey & Huon, 1999). Some research has found that negative school experiences also contribute to the development of juvenile delinquency, (Christle, Jolivette & Nelson, 2005; Sankey & Huon, 1999). A negative school experience may result in youth feeling alienated, consequently rebelling against social norms and engaging in delinquent behavior. This sense of alienation may also contribute to low school performance.

Low intelligence or the presence of learning disabilities likely affect school performance, as well as contribute to the development of delinquency (Crawford, 1996; Hirschi & Hindelang, 1977; Lotz & Lee, 1999; Office of Program Policy Analysis and Government Accountability, 1998). Adolescents with less intelligence may be less able to think through a cost/benefit analysis of their choices, or they may be more susceptible to negative peer influence, and therefore more prone to going along with criminal acts.

If academic failure or negative school experiences lead to juvenile delinquency, could helping youth achieve academic success change this trajectory? This study is a review of archival data from youth enrolled in a juvenile rehabilitation program. Data were gathered to determine skill gain in math, reading and writing during an average stay in the program of six months. Participants' responses to questions about their school experience were also gathered. These two variables were compared to recidivism six months post-release, to determine whether any

correlation existed. Two hypotheses were tested. The first is that youth who make greater improvements in their math, reading and writing skills will be less likely to subsequently engage in crime. Second, youth who have a positive school experience will be less likely to subsequently engage in crime. If these relationships exist, it may ultimately help inform policymakers and program directors about the role of educational interventions in juvenile corrections facilities.

### Review of the Literature

Researchers have looked at a variety of factors to determine which are most predictive of, or correlated with the development of juvenile delinquency. While there are numerous risk factors, some researchers have focused on the influence of school performance and school experience (Kasen, Cohen & Brook, 1998; Maguin & Loeber, 1996; Sankey & Huon, 1999; Wiesner & Windle, 2003). If academic achievement and school experience play a strong role in the development of criminal behavior in youth can a change in school experience alter this pathway? While some studies find that educational programs in adult corrections have been effective in preventing recidivism (Steurer & Smith, 2003; Wilson, Gallagher & Mackenzie, 2000), that does not seem to be the case among juveniles (Cox, 1999; Zamora, 2005).

#### *Predictors of Delinquency*

Many causes of delinquency have been investigated. Some researchers have identified a link between school failure and delinquency, leading them to conclude that school failure is a major indicator of future criminal behavior in youth (Kasen, Cohen, & Brook, 1998; Maguin & Loeber, 1996; Sankey & Huon, 1999; Wiesner & Windle, 2003). In a widely-cited study, Maguin and Loeber (1996) conducted a meta-analysis of 30 studies on the relationship between school failure and delinquency, and found that youth with poor academic performance were more than twice as likely to become delinquent than youth who were succeeding in school. They

conclude that poor school performance predicts future delinquency. Furthermore, they conclude that lower intelligence, as well as attention problems in males, contribute to low academic performance and delinquency. They found that neither socio-economic status nor conduct problems seemed to be causal factors (Maguin & Loeber, 1996).

Similarly, Kasen, Cohen and Brook (1998) in a seven-year longitudinal study looked at a number of factors and found academic achievement to be related to delinquency. In addition to academic performance, they considered the variables of dropping out of school, teenage pregnancy, criminal activity, conviction for a crime, antisocial personality disorder, and alcohol abuse. Interviewing 976 mothers and their children separately in their homes, the authors found “academic achievement, academic aspirations, and learning-focused school settings to be related to a decline in deviant outcomes independent of the effects of disadvantaged socioeconomic background, low intelligence, childhood conduct problems and having deviant friends during adolescence” (p. 49). The sample was selected from families participating in a *Children in the Community Project*, and was primarily white, limiting the ability to generalize results.

Other research finds that school failure alone may not be enough to be predictive of subsequent delinquency. In a two-year study of 1218 suburban high school sophomores and juniors and their parents, Wiesner and Windle (2003) interviewed at six-month intervals participants who were primarily white and nearly equally divided male and female. Data were collected on self-reported delinquency, GPA, perceived family social support, stressful life events, depression, and alcohol, and other substance abuse. They found that along with poor academic achievement, having an unsupportive family environment, traumatic life events, and substance abuse also strongly correlated with delinquent behavior (Wiesner & Windle, 2003). Of course, these extracurricular factors may contribute to or compound school failure, leading

youth to a life of crime.

### *School Experience and Delinquency*

Most of us accept the need to follow the law. It is part of being a responsible citizen and productive member of a community. But youth who do not feel connected to their school community may be more likely to rebel against social norms, attach themselves to others who share their sense of alienation, and through this association begin to engage in deviant behavior. According to an Office of Juvenile Justice and Delinquency Prevention fact sheet, “weak school commitment and poor school performance were associated with increased involvement in delinquency and drug use.” Conversely, school success is associated with resilience, the ability to resist environmental influences leading to deviant and delinquent behavior ([www.ncjrs.gov/txtfiles1/fs99103.txt](http://www.ncjrs.gov/txtfiles1/fs99103.txt). Retrieved February 2, 2008).

One study considered how academic achievement, family life and school-related experiences may work together to create a sense of alienation in youth, which then leads to delinquency. Roughly equal numbers of boys and girls, ages 12 to 19, were selected from community organizations and given a series of questionnaires to measure the variables. The results mostly supported their model. Negative school-related experiences directly led to association with negative peers, and indirectly to delinquent behavior. However, academic performance and social skills were also found to be predictive of delinquency, without the component of alienation (Sankey & Huon, 1999).

Another study investigated a variety of causal factors for juvenile delinquency and found school experience to correlate for White youth, but not Black (Lotz & Lee, 1999). However, it is important to note that of the 2772 participants in this study, only 14% were African-American. Using a national survey of seniors in public schools, survey respondents reported a variety of

delinquent acts, including drug use, vandalism, hurting someone, and property crimes, among others. They also reported whether they liked school and thought school rules were fair. The authors explain their findings stating, “as far as school experience is concerned, alienated students do not take a serious approach; instead they are play-oriented and engage in search for fun after school and on weekends. . . . Although not all fun is deviant, deviant acts are more enjoyable for many adolescents than homework, housework, watching television, or being alone or with one’s family” (p. 216).

The experiences youth have at school seem to lead some of them to a life of crime. But what about the role of schools? Qualities, not just of the individual or community, but of particular schools may contribute to the development of delinquency. Schools with supportive leadership, dedicated and collegial staff, effective instruction, and schoolwide behavior management policies may mitigate three major risk factors for juvenile delinquency: academic failure, school suspension, and dropout rates (Jolivette & Nelson, 2005). In a three-pronged study, using both quantitative data from the Kentucky Department of Education and the Kentucky Center for School Safety, and qualitative data gathered from school personnel, the authors conclude that, “The results of these three studies support previous research indicated that school factors may contribute to risks for youth delinquency . . . and may even play a stronger role than student characteristics” (p. 82). They also found that although poverty correlated strongly with academic failure, six schools in their study with the mitigating factors noted above were able to produce high academic achievement. This suggests that schools can play a role in remediating risk factors associated with poverty.

### *Academic Deficiencies and Delinquency*

If poor academic performance is a contributing factor to delinquency, what is its cause?

Is it that students are merely disinterested in school and therefore don't try, as Lotz and Lee (1999) suggest? Are they rebelling against authority? Or are they simply more challenged because they have learning disabilities or intellectual deficiencies?

Research finds that a significant majority of youth entering juvenile corrections have serious academic deficiencies, either in intelligence, skill level, behavior, or all three (Office of Program Policy Analysis and Government Accountability, 1998). A review of educational services in juvenile residential centers conducted by Florida's legislature found that of youth entering a juvenile correction center, 80 % performed a year or more below expectations in reading, with 46 % at six or more years below. For math, 90 % of students entering one of these facilities performed a year or more below grade level. Roughly one-third of the students in the study had exceptionalities in learning or mental health, while two-thirds had poor school attendance. Although 71 % of the residents improved their reading skills by a year or more, they remained below grade-level upon their release (OPPAGA, 1998).

Maybe such low skill development is a result of more than students' lack of interest. Perhaps they are unable to achieve because of a learning disability or intellectual deficit. After reviewing more than half a dozen studies looking at the correlation between delinquency and IQ, Hirschi and Hindelang (1977) argue against what they claim to be the prevailing theories of criminogenesis that ignore the presence of differences in intelligence levels between delinquents and non-delinquents. They found IQ to be as important a correlate to delinquency as social class or race. Because students with lower intelligence levels are more likely to struggle in school, the authors support the connection between school failure and delinquency. "The assertion that IQ affects the likelihood of delinquent behavior through its effect on school performance is consistent with available data. The corollary descriptive assertion that delinquents have lower

IQs than nondelinquents is firmly established” (p. 584).

Expanding the variable from simply IQ to the presence of a learning disability, Crawford (1996) found a similar result. Students with learning disabilities had a 220 % greater chance for being adjudicated than their counterparts without learning disabilities. The author concludes that the condition of having a learning disability “appears to be one of the important causes of delinquency” (p. 206). The presence of these risk factors as an innate part of certain individuals, as distinct from risks posed by the environment, suggests that prevention measures must also focus on mitigating the risks posed by individual qualities, and not just on policies intended to mitigate environmental factors.

### *Recidivism*

Once in the juvenile corrections system, society has an interest in finding ways to discourage these youth from further engaging in criminal acts, not only when they are released while still juveniles, but also to prevent what is known as the “school to prison pipeline” (Christle, Jolivette, & Nelson, 2005, p. 70.). One study found that more than half of the sample of adolescents from a Serious Offender Program ended up in an adult correctional facility (Benda, Corwyn, & Toombs, 1999). Because school seems to play such a large role in the development of juvenile delinquents, it seems logical that some sort of educational intervention would be key to reducing re-offense rates.

Studies have found that juveniles who have committed more serious and violent offenses have a history of committing lesser offenses (Wiesner & Windle, 2004). Thus, early criminal acts can lead to chronic delinquency. The question remains, what type of intervention will be most effective in breaking the pathway from lesser crimes to a career in crime? The link between school failure and juvenile delinquency suggests that turning youthful offenders into law-abiding

adolescents and adults might include overcoming educational deficits.

Among adults, some studies have found that education can reduce recidivism (Batiuk & Roundtree, 1997; Steurer & Smith, 2003; Wilson, Gallagher, & MacKenzie, 2000). For example, a study of 318 males released from a prison in Ohio compared two groups, those who received associate's degrees while in prison, and those who did not. The authors conclude, ". . . college education does reduce the likelihood of recidivism, but this effect works principally through postrelease employment" (p. 175).

A meta-analysis of 33 studies of corrections-based education and work programs found that education was more effective in reducing re-offense rates than work programs. Furthermore, those who participated in education programs tended to earn more in their post-release jobs (Wilson, Gallagher, & MacKenzie, 2000).

However, Steurer and Smith (2003) point out these studies generally lacked a control group, were not longitudinal in nature, and/or used a self-selected sample of participants. To overcome these problems, they conducted a more rigorous study to determine the impact of education on recidivism. Studying prisoners in Maryland, Minnesota, and Ohio, they found that participants in a correctional education program had a 48 % re-arrest rate, compared to the non-participant re-arrest rate of 57%. Similarly, re-conviction rates were lower at 27% for participants, compared to 35% for non-participants. And re-incarceration rates were lower, 21% compared to 31%.

Duguid (1997) also concluded that education works to reduce recidivism among adults. In a study of Canadian male prison students, he found those who did well academically in a prison education program, particularly a program that emphasized achievement, participation, and extra-curricular activities, were less likely to return to prison. Of the 654 subjects who chose

to further their education while in prison, 75% were considered successful three years following release, as compared to the expected success rate of 53% without any academic intervention. He credits the “mechanism of change” to “a process of sustained, intensive, and participative educational experience” (p. 153). Accordingly, among his subjects, those who received higher grades in their classes fared better than those with poorer marks. Duguid concludes, “ensuring that the education program values and encourages academic achievement, works to facilitate improvement in academic performance, provides opportunity for extracurricular activities, and creates a governance structure that provides for student participation will provide an atmosphere within which even the highest risk prisoner can maximize his opportunity to beat the odds and prove success after release” (p. 156).

If education is effective for adult offenders, one would expect similar results in the juvenile setting. However, the research shows mixed results. One study of a residential program for juvenile offenders in Massachusetts found that youth who had achieved vocabulary and reading skills at levels of 9<sup>th</sup> grade or above were more likely to graduate from the program. Surprisingly, these two variables did not affect recidivism. High level math skills did not correlate with successful graduation, but did correlate with lower recidivism. The study investigated outcomes for 144 youth. The period for recidivism was a minimum of one year, and up to 20 years. Perhaps youth with higher levels of vocabulary and reading comprehension are better able to communicate, and therefore successfully work their way through a residential rehabilitation program, where staff interactions and self-reflection will largely determine their completion of the program. On the other hand, youth with higher level math skills may have superior analytical abilities, helping them make better life choices about their behavior and involvement in criminal activity (McMackin, Tansi, & Hartwell, 2005).

Another program, Project About Face, works with male drug offenders for eight weeks in a residential program and then for six months during an aftercare program. In a study of the program's effectiveness, researchers administered the Stanford Achievement Test at the beginning and end of the residential part of the program. Other factors such as fitness, purpose in life, sensation-seeking, moral reasoning, and risk for substance abuse were also assessed. SAT scores improved during the residential program and recidivism was measured at 25.8%. It is hard to determine how meaningful this rate is, as the study provides no comparison, yet, those numbers are hard to find. According to National Criminal Justice Reference Service, National juvenile recidivism rates are meaningless. "Such a rate would not have much meaning since juvenile justice systems vary so much across states," states the organization's website (<http://www.ncjrs.gov/App/QA/Detail.aspx?Id=113&context=9>, Retrieved February 17, 2008). Perhaps what is most striking about this study is that recidivists were charged with more misdemeanors than felonies, suggesting the program was helping to reverse the trend of young criminals increasing their level of criminality (Wiesner & Windle, 2004).

However, a number of studies found no difference in recidivism based on educational achievement. Zamora (2005) studied 327 Texas male delinquents 10 to 17 years old in the Harris County juvenile detention facility, and found that educational achievement among incarcerated youth did not correlate with reduced recidivism. She compared their Kaufman Test of Educational Achievement (KTEA) scores in math and reading, both upon entering detention and upon release. Underachievement was considered to be at least two years below grade level. She concluded that, while academic achievement may contribute to the initiation of delinquent behavior, it does not predict recidivism.

Similarly, Archwamety and Katsiyannis (2000) studied adolescents incarcerated in a

Nebraska state facility, specifically looking at 339 youth receiving Title I services in math and reading. Title I funded remedial education services are available to youth performing at least one year below grade level. They compared these youths' rates of recidivism and parole violations with those of youth not receiving remedial education services. They found that recipients of Title I services were twice as likely to violate parole or commit new crimes as those not receiving such services.

An earlier study of educational programs designed to prevent delinquency also found little effect. Noting that the Office of Juvenile Justice and Delinquency Prevention had created alternative education programs in the 1980s to reduce juvenile delinquency, Cox (1999) studied the effectiveness of one such program. His sample included 83 youth with at least one police contact, school behavior problems or serious absenteeism, or who were at least one year behind academic grade level. His experimental group attended the alternative school for a semester, and then returned to the regular public school, while the control group remained at their regular school. Data were collected pre-program, post-program, and one year following the program. He found no statistically significant difference between the two groups in terms of self-reported delinquency, attitudes toward school, or scores from standardized achievement tests once the alternative school students returned to their home schools. Although some gains were made within the alternative school setting, those gains did not last outside of that setting.

It is important to note, however, that attendance at an alternative school is not the same as being court-ordered into a residential treatment program, which is more similar to being incarcerated. Alternative schools are often used as punishment or as a way of getting rid of unruly students (Cox 1999). Alternative school personnel have few tools to correct disruptive behavior; there are few consequences hanging over students' heads if they refuse to comply with

school rules and requirements. Consequently, alternative schools often have students disrupting classes. In contrast, residential programs are treatment-oriented. They generally have a variety of consequences and rewards they can offer youth to persuade residents to make better decisions. For example, in a residential setting, youth can be put to bed earlier, lose television privileges or not be permitted to engage in certain recreational activities such as playing cards. In this way, such programs can compel students to behave properly in school and do their schoolwork. So there may be less behavior modification at an alternative school setting compared to a residential treatment program.

How can we determine whether adjudicated youth being released from incarceration or a rehabilitation program will be successful? One study compared three models to determine how well they could discriminate between recidivists and non-recidivists, and found that only two were able to predict somewhat better than chance (18 – 22%), (Ashford & LeCroy, 1990). All three instruments contained a number of variables to determine risk, such as age at first referral, drug abuse, or offense type, and each included a school component, such as school behavior, school discipline, or academic performance. Tested on a juvenile population of 107 juvenile parolees in Arizona, the age of first arrest, number of prior referrals to a corrections department, and peer influence seemed to have the greatest predictive value. The authors conclude, “In general, it would appear that the criminal history variables are best at predicting recidivism outcome” (p. 4).

Another study found similar results. Studying 248 adolescents at least two years after release from a Serious Offender Program, the authors used a series of interviews, tests, and official information to determine significant factors for recidivism. In descending order, these included previous commitment to a detention center, being male, being a member of a gang,

carrying weapons, the presence of peers during commission of previous crimes, age of first offense, and age of first use of illicit drugs, among others. However, this study did not consider educational performance or experience, either prior to, or after involvement in the juvenile justice system (Benda, Corwyn, & Toombs, 2001).

While the research strongly supports a nexus between school performance, school experience and the development of juvenile delinquency, other factors contribute to the development of criminal behavior in youth. Educational interventions at the juvenile level have shown little or no rehabilitative effect. However, this does not suggest that further research in this area is not warranted. Schools are as diverse as the students who attend them and few programs have been rigorously evaluated. It may be worth further investigation to identify particular programs that are working, and then, once found, to identify characteristics of educational programs that lead to success. It is a question worth considering given what is at stake: the future for many young people and the communities they return to.

### Methods

This study attempts to determine whether adjudicated youth in a particular residential treatment program who made higher academic gains were less likely to recidivate. Furthermore, the study looked for a link between school experience and recidivism. In an archival data review, academic skill improvement in math, reading and writing, and self-reports of school experience were compared to recidivism over a six-month period post-release.

### *Participants*

Study participants were a convenience sample of 35 white males, ages 12 to 18, who successfully completed a treatment program at a rehabilitation center for juvenile delinquents during a 27-month period. The treatment program is a court-ordered alternative to incarceration.

The youth in this program had committed non-violent felony offenses, such as illicit drug use, vandalism, robbery, breaking and entering, car theft, or domestic violence. Youth could also be sent to the facility for sex offenses. The majority of the youth have drug problems, which may or may not be related to their criminal charges. This population is judge-selected and therefore is not likely representative of the general population of juvenile delinquents.

### *The Program*

The center, located in a Midwestern state, is a non-locked 22-bed community corrections facility. Residents have individual rooms and are never locked in; however, the doors do have alarms. If a youth chooses to leave the building without permission, he is considered absent without leave (AWOL) and is subject to arrest.

The program is rehabilitation-focused, requiring youth to complete a range of tasks before they are released. These tasks include participation in various groups, such as drug recovery, victim awareness, and criminal thinking; writing a series of reflective essays; and completing court-ordered community service hours. Youth attend school inside the facility and are required to earn a specified amount of school credit with a minimum average grade of C- (70%). Some of the youth also participate in off-site group and/or individual counseling. They have the opportunity to participate in Bible study, and they are taken off-campus to church, if they have off-grounds privileges.

There are no guards at the facility and weapons are not permitted on site. The staff most directly involved with day to day monitoring of the youth are given the title 'youth specialists'. Each youth is assigned to a particular youth specialist who guides him through the program.

To graduate from the program, youth must work their way through four zones, with each higher zone enjoying more privileges, such as passes, access to television and a CD player, and

participation in off-ground activities, such as going fishing, attending ball games, going to amusement parks, and other field trips.

The average stay of youth in this sample was 179 days. Youth with repeat behavior problems, who do not complete the required program tasks, or who commit new crimes while in the program may be removed from the program by their judge. During the 27-month period covered by this study, 31 youth were either removed by a judge or went AWOL. Because such youth are not administered a final skills assessment, nor is there any post-release follow-up to determine recidivism, they were not included in the sample. For one youth who did complete the program, there was no follow-up information, so he was not included in the sample.

### *Instrumentation*

Within days of entering the program, each youth is administered a Kaufman Test of Educational Achievement (KTEA) in math, reading, and writing. The same test is given shortly before a youth is released from the program. The KTEA is a norm-referenced assessment that provides grade level equivalents. For example, a score of 3.8 represents third grade, eighth month. Both the entrance and exit scores were converted to total months. The exit score was then subtracted from the entrance score to determine gain scores in months.

School experience was measured subjectively. For successful program completers, the director conducts an exit interview within days of a youth's release (see Appendix A). This interview is a series of preset questions/prompts designed to gather information about the youth's perception of his overall experience in the program. Several questions directly inquire about a youth's school experience. They include:

- Tell me about school.
- Is it easy/hard?

- Do the teachers grade fairly?
- Do they assist you with problems?

Youth's responses are recorded by the director and placed in their files. Data for this study were taken from the forms completed by the director. Responses were scored for each prompt as follows: a positive response was given a +1, and a negative response was given a -1. If a youth expressed either a combination of positive and negative feelings or no particular feelings either way, that response was given a score of 0. The response scores from the four prompts/questions were averaged to come up with an overall school experience score. To test the reliability of this scoring system, both this researcher and a staff member at the facility independently scored the responses for 15 individuals and the two sets of scores were compared. Only 4 of the 15 ratings matched, resulting in a 27% agreement rate.

Also as part of the exit interview, residents are asked to grade their teachers using a traditional academic scale of A, B, C, D, and F. Each youth has two or three teachers during their stay, depending on the classes taken and academic skill level. It was assumed that youth who gave their teachers high grades generally had a more positive school experience. The letter grades were assigned traditional numeric scores, with an A = 4.0, B = 3.0, C = 2.0, D = 1.0, and F = 0. Then an average teacher grade was calculated. Again this information was obtained from the exit interview form in the files.

Recidivism was a dichotomous, yes/no measure as determined six months after a youth left the program. Recidivism was defined as when a youth had been adjudicated for another violation of law within six months of successfully completing the program. This might include a probation violation, as well as further involvement in other criminal activities. It did not include smaller incidents that did not bring the youth before a judge. For example, problems in school

that might result in an after-school detention, but that did not involve the police or the court, would not have met this criterion. This measure was determined from a form a staff member completes six months from a youth's release in consultation with the youth's probation officer.

### *Procedure*

Data were collected from individual youth's files and entered onto individual data collection forms (see Appendix B). In each file is one form reporting the initial and final KTEA scores measuring math, reading, and writing grade equivalents. Responses to the pertinent questions from an exit interview, which are recorded on a form by the director, were copied onto the data collection form. The recidivism measure was taken from a six-month follow up form completed by a staff member in consultation with a youth's probation officer.

Data were next entered into the SPSS, version 15, software. Gain scores as measured by the entry and exit KTEA scores, school experience scores, and teacher grades were compared to recidivism to determine whether any correlations existed. Once the tests were run, the data collection forms were shredded to ensure confidentiality of participants' information.

## Results

### *Recidivism and Academic Performance*

The dependent variable of recidivism was matched against each of the three academic skills categories: reading, math and writing. The highest grade-equivalent KTEA score possible is 12.8 (twelfth grade, eighth month), the end of high school. For youth who achieved this score initially, there was no opportunity to record any academic gain. In that case, no data were recorded for that area.

An independent t-test using the SPSS software was run for each set of data. The null hypothesis was that there would be no difference between recidivists and nonrecidivists in gains

in academic skill levels for reading, math, and writing. The alternative hypothesis was that the recidivists would have lower gains in reading, math, and writing as measured by the KTEA.

For the comparison of reading with recidivism, with an  $n = 34$ , the probability was  $p = 0.258$ , which did not meet statistical significance at an alpha of  $.05$  (see Table 1). When recidivism was matched against math, using the same test statistic, the probability was  $p = 0.423$ , again not meeting significance at alpha of  $.05$  (see Table 2). In this case,  $n = 35$ . Similarly, for writing the probability was  $p = 0.975$ , also not significant (see Table 3). Again, there was no score for one participant, although it was a different case than the one for reading. For all three academic areas, the null hypothesis was accepted. There was no difference between recidivists and nonrecidivists in terms of improvements in academic skill levels.

Table 1

*Recidivism and Reading Gain*

Group Statistics					
	Recidivism	N	Mean	Std. Deviation	Std. Error Mean
Reading gain	yes	5	4.60	11.261	5.036
	no	29	11.72	7.559	1.404

  

Independent Samples Test										
		Levene's Test for Equality of Variances				t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
Reading gain	Equal variances assumed	1.327	.258	-1.813	32	.079	-7.124	3.929	-15.128	.880
	Equal variances not assumed			-1.363	4.642	.235	-7.124	5.228	-20.881	6.633

Table 2

*Recidivism and Math Gain*

		Group Statistics			
	Recidivism	N	Mean	Std. Deviation	Std. Error Mean
Math gain	yes	5	23.40	21.102	9.437
	no	30	17.77	17.146	3.130

  

		Independent Samples Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
Math gain	Equal variances assumed	.659	.423	.660	33	.514	5.633	8.537	-11.735	23.001
	Equal variances not assumed			.567	4.920	.596	5.633	9.943	-20.050	31.317

Table 3

*Recidivism and Writing Gain*

## Group Statistics

	Recidivism	N	Mean	Std. Deviation	Std. Error Mean
Writing gain	yes	5	27.20	17.527	7.838
	no	29	19.72	20.103	3.733

## Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
Writing gain	Equal variances assumed	.001	.975	.780	32	.441	7.476	9.588	-12.053	27.005
	Equal variances not assumed			.861	5.976	.422	7.476	8.682	-13.788	28.740

### *School Experience*

The school experience score was tested for reliability by having this researcher, as well as a staff member at the center independently score the exit interview responses. Only 27 % of the scores matched. It was therefore determined that the school experience score was not reliable, and it was not used. However, when the first prompt, “Tell me about school,” was examined independently, the scores matched 100% of the time. Accordingly, the subsequent three questions were disregarded in determining the school experience score, and the initial question was used exclusively. This question was further divided off from the grades that youth gave to their teachers. Two separate statistical tests were run, one for school experience and one for teacher grades, that is, how students graded their teachers. School experience was divided into three categories, positive, negative and neutral or mixed. The null hypothesis was that school experience would not correlate with recidivism. The alternative hypothesis was that youth who had a positive school experience would be less likely to recidivate. For one youth, there was no response to the prompt, so the  $n = 34$ . A One-way ANOVA test was run. Probability was  $p = 0.587$ , which was not significant at alpha .05 (see Table 4). The null hypothesis was accepted; there was no statistically significant difference in outcomes between youth who had positive school experiences and those who did not.

Finally, similar results held true for students’ ratings for teachers. The sample size was  $n = 34$ . An independent t-test was used. The probability was  $p = 0.467$  (see Table 5), so the null hypothesis was accepted. Students who rated their teachers higher had no difference in recidivism rates than those who rated their teachers lower.

Table 4

*Recidivism and School Experience*

Descriptives								
Recidivism								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Positive	26	1.88	.326	.064	1.75	2.02	1	2
Negative	5	1.80	.447	.200	1.24	2.36	1	2
Neutral	3	1.67	.577	.333	.23	3.10	1	2
Total	34	1.85	.359	.062	1.73	1.98	1	2

## ANOVA

Recidivism					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.144	2	.072	.542	.587
Within Groups	4.121	31	.133		
Total	4.265	33			

Table 5

*Recidivism and Teacher Grades*

		Group Statistics				
		Recidivism	N	Mean	Std. Deviation	Std. Error Mean
Average teacher grade	yes		5	3.5000	.62849	.28107
	no		29	3.4000	.69796	.12961

  

		Independent Samples Test								
		Levene's Test for Equality of Variances			t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
Average teacher grade	Equal variances assumed	.542	.467	.299	32	.767	.10000	.33395	-.58024	.78024
	Equal variances not assumed			.323	5.844	.758	.10000	.30951	-.66227	.86227

## Discussion

The findings from this study suggests that neither gains in academic achievement, nor school experience influenced whether or not adjudicated youth committed new offenses once released from a treatment program. The findings are consistent with the research and do not support the hypothesis that school interventions or positive school experiences will lower recidivism. However, there were several limitations to this study and therefore the results are far from conclusive.

### *Findings*

When specific levels of academic gains in reading, writing, and math were compared to recidivism, there was no difference between youth who had stayed out of trouble and those who had not six months after release from the program. This supports earlier research on academic interventions to prevent delinquency or recidivism (Archwamety & Katsiyannis, 2000; Cox, 1999; Zamora, 2005).

School experience was divided into two categories, how youth felt about their school experience in general, and how they felt about their teachers. Neither measure showed any connection to recidivism, again nullifying the hypothesis that school interventions reduce recidivism. While school experience may relate to delinquency as a predictor (Christle, Jolivet & Nelson, 2005; Lotz & Lee, 1999; Sankey & Huon, 1999), once in the system, neither a positive school experience, nor positive regard for teachers affected recidivism rates.

### *Limitations*

There are several limitations to this study. First, the validity of the measure of recidivism is questionable. Some of the youth who were non-recidivists at the six-month mark subsequently had charges brought against them. It is possible that positive impacts of the program, either

educational or otherwise, may wear off over a longer period of time, as Cox noted (1999). Also, youth return to the families and communities that have potentially contributed to the development of their delinquent behavior (Wiesner & Windle, 2003) and may counteract some of the affects of the program. A more valid measure of recidivism needs to look at a longer period of time, particularly after youth have completed probation and are not under such close supervision.

Second, a lack of recidivism does not mean these youth have given up their lives of crime. It is frequently said that doing time makes better criminals. During their stay, these youth may have learned some new methods for avoiding detection of their crimes. It is a topic of conversation among youth when they don't think staff is listening. Youth may boast of their criminal successes, telling each other how they have for example, gotten away with stealing cars, passing counterfeit money, or other criminal acts. They will even coach each other, offering ideas for ways not to get caught next time. Therefore, official data on delinquency may not be accurate. A more reliable measure might be self-reporting, where youth are asked with the assurance of confidentiality whether or not they have engaged in criminal activity. Some reliable and valid instruments have been developed and are being used in research (Sankey & Huon, 1999; Wiesner & Windle, 2004). However, because this study was restricted to a review of existing data, and no such instrument is used at the center to track recidivism, self-reports were not available to use in this analysis.

Another limitation for this study is the lack of a random sample. This convenience sample was selected by judges who felt these youth deserved, or were more likely to benefit from a chance in a rehabilitation program, instead of being sent to a Department of Youth Services lock-up facility. That alone reduces any ability to generalize these results to the broader

population of juvenile delinquents. But the sample is further limited by the youth themselves, who may choose, consciously or not, to end their participation in the program by misbehaving, knowing their judge will likely remove them from the program, or they may simply walk out of the facility. Of the 65 youth housed in the center during the 27-month study period, nearly half, 31 youth, did not complete the program. It would be interesting to learn more about this population's school experience while in the program.

Finally, not only was the sample small, but within the sample, only 5 of the 35 had been further adjudicated within the six-month period. Since this study attempted to compare two groups, recidivists and nonrecidivists, any real differences may not have shown up. A future study might reveal more if the two groups had equal sample sizes.

In addition to the issues related to the sample is the issue of the subjective measure of school experience and teacher grades. The exit interview is conducted by the director of the center just days before a youth is to be released. It is possible that the youth, fearful of doing anything that may jeopardize their release, may be hesitant to express their true sentiments about their school experience and teachers. Most, but not all of the youth expressed positive feelings toward school and their teachers. The lack of confidentiality when eliciting these responses may have created an artificially high score.

### *Conclusion*

Despite these findings, further study into the effectiveness of academic interventions to prevent both initial delinquency and recidivism seem warranted. Although some educational programs have not been shown to reduce juvenile crime, there may be other programs that do. It would be worth finding those. Furthermore, any effect of these programs may not show up until these youth are adults and looking for work.

Most of the youth in this sample made academic gains above expectations for the length of time they were in the program. For example, during an average stay of 179 days, there was an average gain in reading skills of nine months. For math, these youth improved 26 months, and for writing, 29 months. Perhaps these gains in academic skills will serve to help them graduate high school, go to college, or find a better paying, or more stable job.

Yet, it may be that educational interventions alone for adjudicated youth are not enough. While school failure and poor school experiences may be predictive of delinquency (Kasen, Cohen, & Brook, 1998; Maguin & Loeber, 1996; Sankey & Huon, 1999; Wiesner & Windle, 2003), it may not be causal. Low academic achievement and attitude may be early warning symptoms of other innate (intelligence, learning disabilities) or environmental (dysfunctional family, poor schools, negative peers, poverty, health issues) factors that lead to the development of a delinquent lifestyle. Effective programs to reduce delinquency and recidivism may need to treat not only the symptoms, but also the underlying causes.

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Appendix A

**Exit Interview/Resident**

Name \_\_\_\_\_ Release Date \_\_\_\_\_ Length of Stay \_\_\_\_\_  
Date of Interview \_\_\_\_\_ Age \_\_\_\_\_  
Interviewer \_\_\_\_\_ Youth Specialist \_\_\_\_\_

What did you like about being at Hocking Valley Community Residential Center?

What didn't you like?

What was the most helpful part of the program for you?

What was the least helpful?

Tell me about your relationship with your Youth Specialist.

Did you get to see him/her enough?

Tell me about staff. Who does a good job? Who needs to improve their performance?

Tell me what staff members you can count on to be consistent?

Who is least consistent?

Do you think staff is fair?

Tell me how to use the Grievance Procedure.

Tell me about school.

Is it easy/hard?

Do the teachers grade fairly?

Do they assist you with problems?

On a scale from A-F, how would you grade?

Joe – A B C D E F

Amy – A B C D E F

Brenda – A B C D E F

Tom – A B C D E F

Tell me about treatment groups.

How can we improve them?

Tell me about the Zone System.

Is the Zone Work too hard or too easy?

Tell me about recreation? What new things have you learned?

What opportunities have you had to use your creativity?

Did you have the opportunity to participate in religious services? Did anyone force you to go?

Did you have a mentor?

Did you have a team meeting at your school?

Tell me about your Team Meetings? Why do we have them?

Did you feel that the make up of the team prepared you for going back to the community? Who would you have added to the team?

What do you think of food service? How can it be improved?

Have your parents changed as a result of our family program at the Center?

Is the building clean and do things get repaired in a timely fashion?

What was not offered here that you could have used?

What would you change about the program?

Have you ever felt unsafe for any reason at HVCRC?

**Appendix B**  
**Data Collection Form**

Name: \_\_\_\_\_

Total days in program: \_\_\_\_\_

Recidivism (at 6 months)      \_\_\_ Yes      \_\_\_ No

**School Achievement:**

	Initial	Final	Gain
Reading:	_____	_____	_____
Math:	_____	_____	_____
Writing:	_____	_____	_____

**School Experience**

1. Tell me about school \_\_\_\_\_
  2. Is it easy/hard? \_\_\_\_\_
  3. Do teachers grade fairly? \_\_\_\_\_
  4. Do they assist you with problems? \_\_\_\_\_ Average: \_\_\_\_\_
  5. Grading teachers:
 

Joe	_____
Larry	_____
Brenda	_____
Seth/Amy	_____
- Total teacher GPA: \_\_\_\_\_

**School Attachment Score:**

**Notes**