

CLARK COUNTY JUVENILE DETENTION DATA

Effects of Project Jericho on Juvenile Detention Recidivism Rates

Report prepared by the following from Wittenberg University:

Kim Mowrey

Dr. Doug Andrews

Dr. Stephanie Little

2011 CLARK COUNTY JUVENILE DETENTION DATA

In January 2010, data from the Clark County juvenile detention center was collected on all students who entered the detention center between January 1, 2008, and December 31, 2009. The data was then sorted and segmented into two groups to be analyzed. One segment was students who were allowed to participate in an arts program, Project Jericho, while detained and those students that were not granted this privilege. The data was then analyzed to determine if students involved in Project Jericho, a non-profit arts program in Clark County, Ohio, while detained were less likely to re-offend and thus be detained again than their counterparts. The Clark State Community College Performing Arts Center and Job and Family Services of Clark County have formed a unique partnership to create Project Jericho. Project Jericho's efforts are used to provide arts workshops, bring in artists to work with detained youth as well as allow local families and children to create various forms of art for themselves and the Clark County, Ohio community. Project Jericho was created based on research that shows there is a positive impact of arts programs on children that are considered "at-risk." The Juvenile Detention center started to see trends of students that were previously detained that were now attending the Project Jericho "outside-the-box" events (events for members of the community that may or may not have a history of being detained). Project Jericho staff believe that after interacting with these students and creating personal relationships with them, the students will be less likely to commit crimes and thus return to detention. Project Jericho attempts to connect adolescents to their feelings which will allow them to increase positive communication between the detained youth, their peers, their parents, and other adults such as teachers, which they hope will decrease the number of adolescents contained in the Juvenile Detention Center. Project Jericho teaches students there is no right or wrong answer when they are working on creative endeavors and expressing their feelings through art. It provides a safe haven where students can open up about their emotions and ideas for the future without being judged or feeling rejected. The detained youth view Project Jericho as a privilege and the majority looks forward to the Project Jericho sessions. Project Jericho also offers all the juveniles the opportunity to participate in community and family arts programs once they have been released from the detention center. This gives the students something to look forward to upon leaving the detention and a safe place to spend time after school in an attempt to deter the students from putting themselves in situations where they might be encouraged to commit another crime in the after-school hours.

Previous research on juvenile detention centers across the nation shows that the number of children ages seven through twelve going through the juvenile court system increased by a third between the years of 1990 and 2000 (Snyder as cited in Stinson,

2008). Many researchers believe this spike is due to the increased circulation of crack cocaine amongst teenagers, as well as the increased formation of juvenile gangs (Snyder as cited in Stinson, 2008). In 2003 alone, 2.2 million arrests in the United States involved individuals under the age of 18 (Snyder & Sickmund, as cited in Stinson, 2008). "In 2002 the Department of Justice reported that the violent crime rate for adolescents ages 16 to 19 was over twice the rate for people ages 25 to 34 and three times the rate for adults ages 35 to 49" (Siegfried, Ko, & Kelley, 2004, p. 3). Today, America is averaging more than 2.5 million arrests of juveniles per year. The Department of Justice claims that 70% of juveniles that have been convicted of a crime once in their lifetime will eventually offend again. The Department of Justice also reports that 1.5 million juveniles have a mother or a father currently detained in a Federal or State Prison and 1.38 million juveniles have only one parent living with them in their home. Many of the observed children at the Clark County Juvenile Detention center only had one parent living in the household and a significant amount of others were living with grandparents. According to the Department of Justice, adolescent males being raised only by their mothers are twice as likely to commit crimes as males who have a father living in the home. It has also been shown that "people who experience any type of maltreatment during childhood...are more likely than people who were not maltreated to be arrested later in life" (Siegfried, Ko, & Kelley, 2004, p. 5). This experience could also include witnessing an attack or altercation during school hours. Research has shown that students under the age of thirteen who are exposed to preventive measures such as arts programs or after school programs, are less likely to become juvenile delinquents later in life (Loeber, Farrington & Petechuk as cited in Stinson, 2008).

Arts programs, like Project Jericho, were not widely accepted by juvenile correctional centers until the mid-1990's after StreetSmART was named the "Most Unique & Innovative Juvenile Justice Program in the Nation" (Hillman, 2003, p.1) In an evaluation of A Changed World, an arts program for incarcerated juvenile offenders during 1992, twenty four offenders that had attended A Changed World while detained were tracked for six months after they were released from detention in 1996. Of the twenty four, 4 students recidivated in six months after being released which was 16.7 percent below the average recidivism rate of 20% in 1992. The Northampton County, Pennsylvania Juvenile Detention Center reported around a 59% decrease in the number of juveniles entering their treatment facility program between the years of 2001 and 2007 after installing an arts program (Northampton County). Alice Lovelace spoke on the value of arts programs in the detention centers at the Juvenile Justice convention in 2003. In her speech, she reported that art programs working with inner city youth have an 80% college attendance rate and a 75% decrease in the number of youth that recidivate. Chris Doerflinger of JCYC in Louisville, KY reported that she saw a 58%

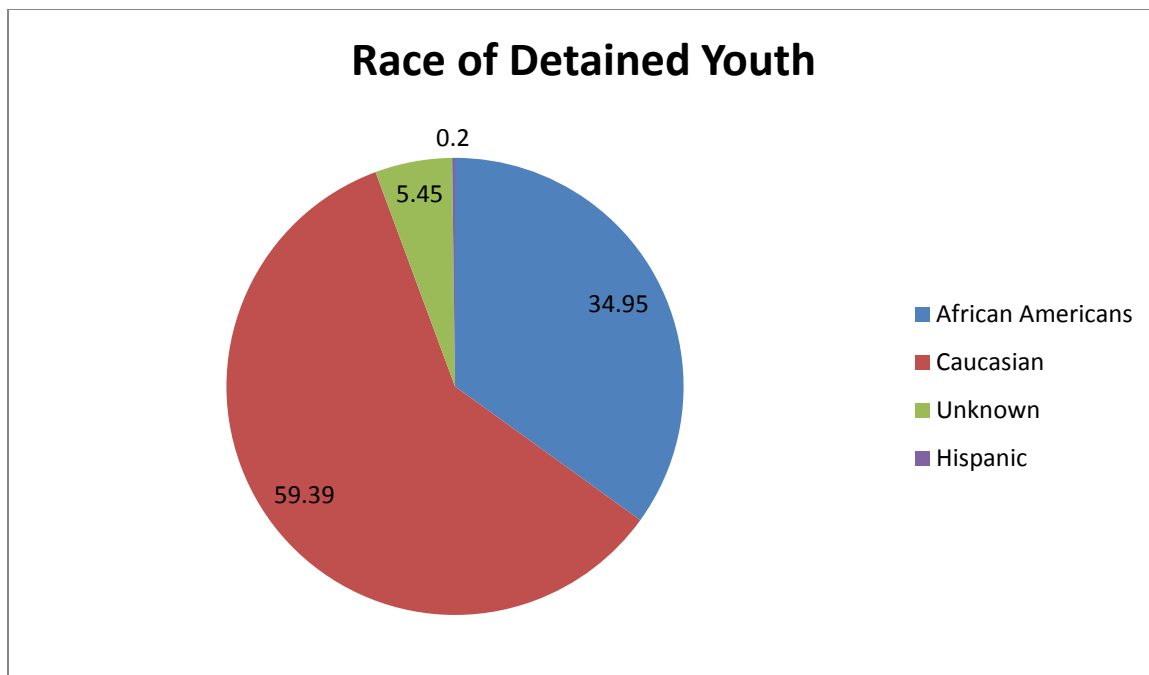
decrease in gym incidents and an 80% decrease in fights in the detention center after the state implemented an arts program for the detained youth.

The purpose of the present study was to analyze the recidivism rates of youth detained in Clark County, Ohio during a 2 year period (January 1, 2008-December 31, 2010). Recidivism rates for youth involved in Project Jericho will be compared from before and after their involvement in the program. In addition, their recidivism rates from before and after Project Jericho participation will be compared to those of youth that never participated in the program.

Method

Participants Clark County Juvenile Detention Center. Data was collected on 639 unique individuals that were entered into the juvenile detention data set for the two year period. Students were removed from the data set if their case was transferred to another county prior to their sentencing in Clark County or the case was dismissed. These students did not have any information on how many days they were detained and thus they were excluded from the final data set, leaving a final sample of 495 youth.

Of the final 495 cases, 351 were males (70.91%), 128 were females (25.86%) and 16 had sexes unknown (3.23%). The final data set contained 173 students listed as African Americans (34.95%), 294 listed as Caucasian (59.39%), 27 listed as unknown (5.45%), and 1 student was listed as Hispanic (.20%). The following pie chart indicates the race distribution of the students in the final dataset. The numbers listed indicate percentages.



Of the students in the data set, two students were nine years old (.40%), four students were ten years old (.81%), ten students were age eleven (2.02%), 49 were age twelve (9.90%), 49 were age thirteen (9.90%), 71 were age fourteen (14.34%), 113 were age fifteen (22.83%), 116 were age sixteen (23.43%), 77 were age seventeen (15.56%) and 4 students were eighteen years old (.81%). The mean age was 14.786 years and the standard deviation was 1.73 years. Below is a histogram demonstrating the age distribution of the students in the final dataset. It is shown that the ages are skewed slightly to the left.



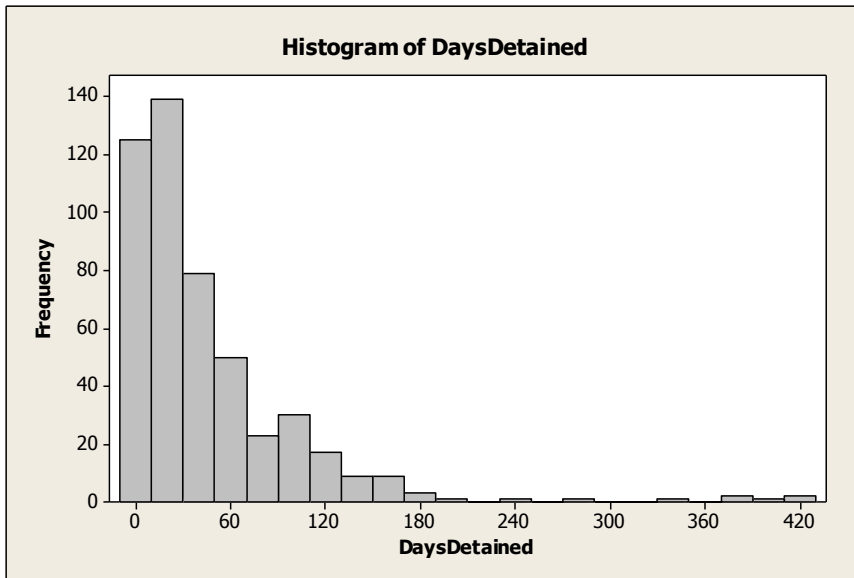
Materials. Clark County Juvenile Detention Center data from January 1, 2008, until December 31, 2009, was collected on all students who were detained in the juvenile detention center and all students who participated in Project Jericho while detained. The final data set included students with complete information regarding their identification numbers, ages, grade levels, parole officers, school the student is currently attending, dates which they entered and exited the detention center data system, the reason for being detained, the case number, the charge number, the disposition from the parole officer regarding sentencing, date which students began school within the detention center and the date the students began work with Project Jericho. This data was then analyzed with Minitab and SPSS. The hypothesis at the beginning of the study was that students that interacted with Project Jericho while detained in the Clark County Juvenile Detention center would be less likely to recidivate following their participation in the program. In addition, it was predicted that youth that participated in Project Jericho would recidivate less than those who had no interaction with Project Jericho while being detained.

Procedure. Wittenberg University student Kim Mowrey spent four hours per week for two months in the juvenile detention center working with Project Jericho's Beth Dixon to gain familiarity with the Project Jericho program that was taking place inside the detention center, as well as the detention center's method of collecting data and imputing the data into the system. Kim was able to work with female students during Project Jericho session to better understand the program. Depending on when students are detained, students may work on creative writing, drawing, or other arts projects. In some cases, the youth are able to be part of a bigger project, like painting murals on walls in the detention center, or a series of special sessions with an artist. For example, one time students were able to work with an improv actor for several session and then put on a performance at the end. Information on what types of arts activities each student did during Project Jericho was not routinely collected and, thus, cannot be included in the analyses.

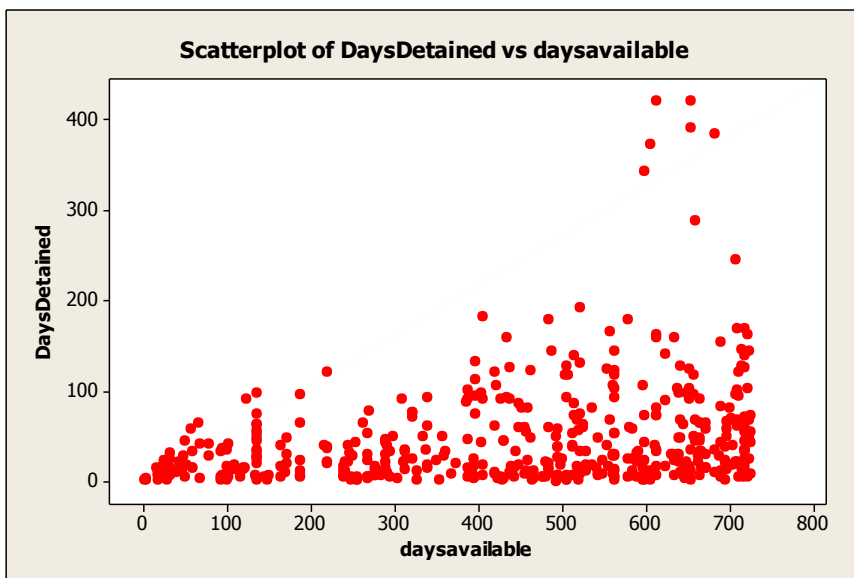
The data for the project was compiled by a third party data analyst company. That was sent to Dr. Little in the form of a Notepad document. This data was then transported from a Notepad document into an SPSS file. The data was cleaned and sorted by identification number. The amount of recidivisms per juvenile was compared between the Project Jericho students and all other students. Finally, the number of days between each incarceration was calculated for those students who recidivated. Lastly, all these factors were compared for Project Jericho students before and after they participated and between students that participated in Project Jericho and students who did not. Note, a ratio was created between the amount of days the student was detained and the time period available for them to be detained. This ratio was called the percentage detained. This ratio would allow each student to be compared on an equal playing field and allowed the analyses to take into account when the students entered into the dataset. This way if a student recidivated once but only entered the study thirty days before the end of the study period they would not be measured with the same weight as a student who entered the study in February 2009 and thus had twenty two months to recidivate but only recidivated once. The latter student would be considered more of a "success" to than the prior student.

Results

Descriptive Statistics. A histogram has been created showing the time detained measured in days:

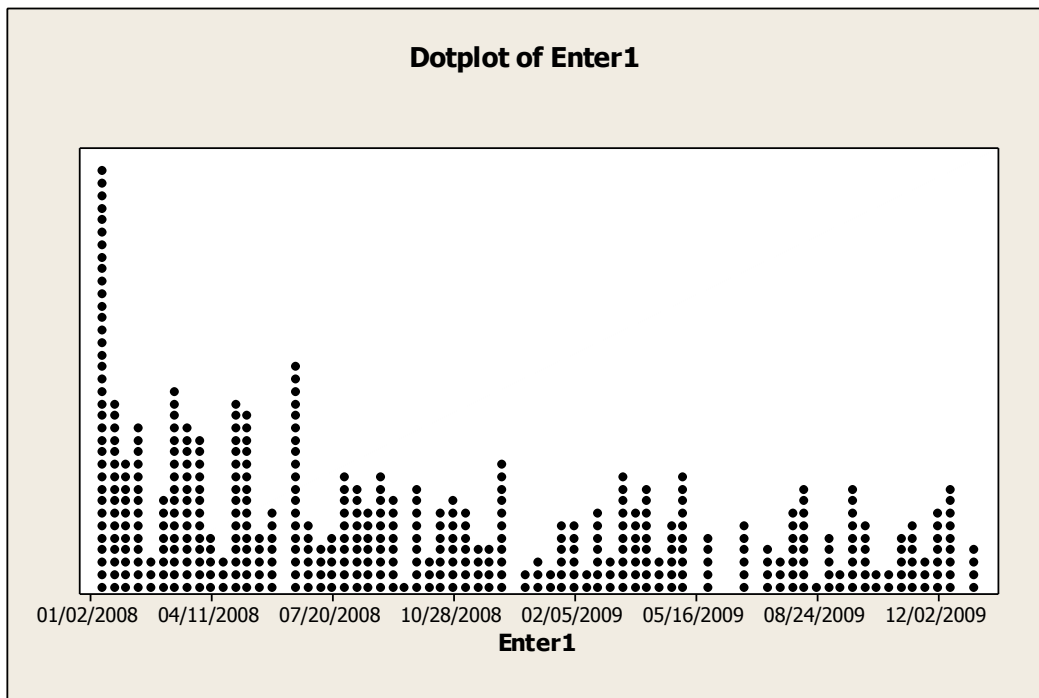


The histogram shows that the majority of students (79.6%) were detained less than sixty days. Below is a scatterplot of the time students were detained versus the days the student had available to be detained. This was how the percentage detained was calculated.

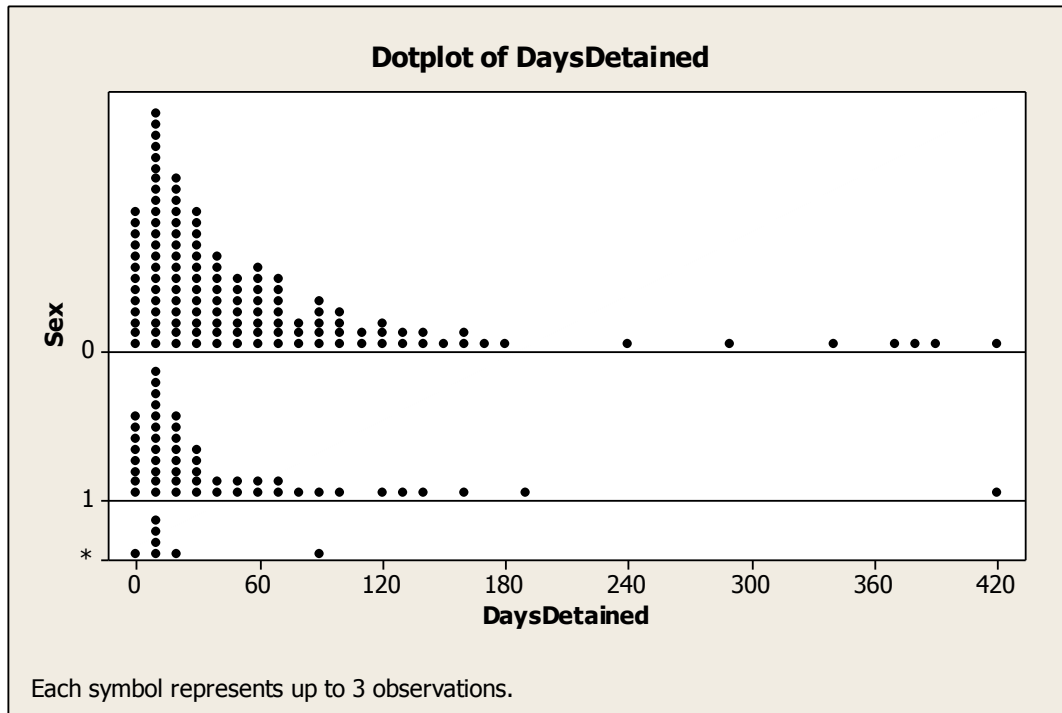


This scatterplot indicates that students tend to be detained for more days when they entered the dataset earlier in the study period and thus had more days available to recidivate. This is demonstrated by the skewness of the scatterplot. This is backed up by the descriptive statistics on the number of days detained. The mean time detained is 45.13 days. The standard deviation of the time detained is 57.44 days. The maximum time spent in the detention center was 420 days out of the 730 days available.

The amount of days available differed for each student in the study. It does appear that more students entered into the data set for the first time during the year of 2008 than the year of 2009. The descriptive statistics on the number of days each student had available to be detained, meaning how many days were left in the study after their first entrance date into the court system, shows the mean number of days available for the 495 students was 442.53 days which is a year and 77.53 days available, indicating that the average student entered the data set with a year and a little over two months left in the study. This is shown by the dot plot below showing first the data on the students' first entrance date into the juvenile detention system and the second dot plot indicating that the majority of students had over 365 days available to be detained.



When looking at the data on the time each student was detained during the study, it is shown males were detained longer on average with a mean of 50.47 days. Females had a mean of 34.29 days detained. Therefore, on average males were detained roughly 16 days longer than females.



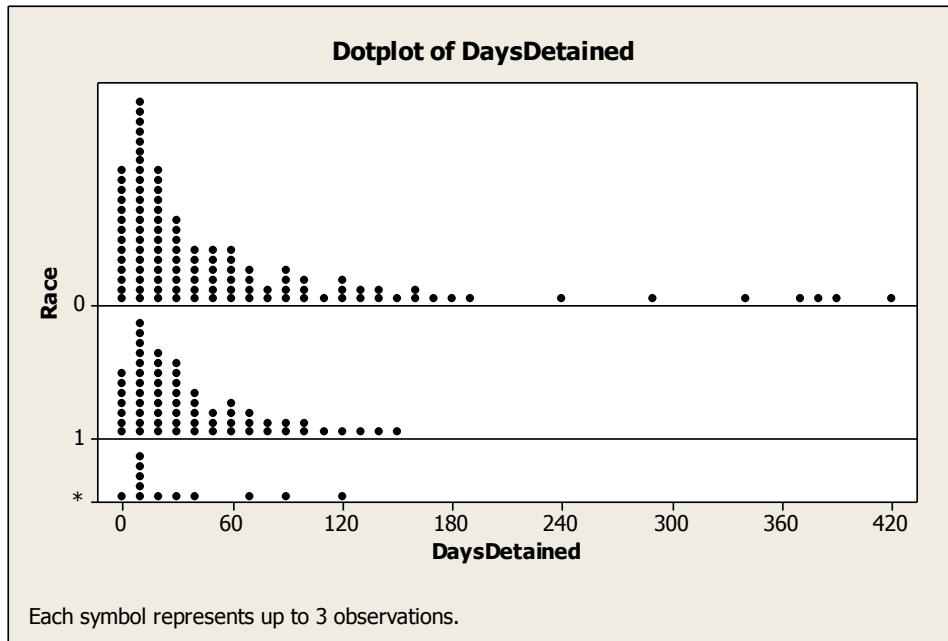
An Analysis of Variance (ANOVA) test was run on the days detained to determine if there was statistical evidence that males were detained longer than females. The ANOVA test returned an F-statistic of 7.39 with a corresponding p-value of .007 indicating that it is statistically significant that males are detained more days than females. Using Tukey's 95% confidence interval it can be stated with 95% confidence that males are detained (4.48, 27.88) days longer on average than females.

One-way ANOVA: DaysDetained versus Sex

Source	DF	SS	MS	F	P
Sex	1	24520	24520	7.39	0.007
Error	475	1577101	3320		
Total	476	1601621			

S = 57.62 R-Sq = 1.53% R-Sq(adj) = 1.32%

The data also indicates that Caucasians were detained longer than African Americans. Caucasians had a mean of 50.83 days detained while African Americans had a mean of 38.06 days detained.



An ANOVA test was run on the days detained versus the race to determine if there was statistical evidence that Caucasians were detained longer than African Americans. The ANOVA test returned an F-statistic of 5.21 with a corresponding p-value of .023 indicating that it is statistically significant that Caucasians are detained more days than African Americans. The p-value of .023 indicates that there is only a 2.3% of making a Type 1 error in this study, meaning there is 2.3% chance of the data resulting this way by chance alone. Using Tukey's 95% confidence interval it can be stated with 95% confidence that Caucasians are detained (1.77, 23.78) days longer on average than African Americans.

One-way ANOVA: DaysDetained versus Race

Source	DF	SS	MS	F	P
Race	1	17686	17686	5.21	0.023
Error	463	1573074	3398		
Total	464	1590761			

S = 58.29 R-Sq = 1.11% R-Sq(adj) = 0.90%

Recidivism Analyses. Recidivism is defined in this study as whether or not a student re-entered the detention center during the two year time span. This was evaluated by using an indicator variable for Project Jericho. If the student was listed under the Project Jericho code for their entrance date into the detention center, they were given a Project Jericho indicator. If a student had more than one entrance date they recidivated at least once during the two year study. It was also tracked whether or not the student

recidivated before or after their initial Project Jericho interaction (if any). Out of the 495 students, 300 (60.6%) were not initially placed into Project Jericho and 195 (39.4%) were. Of the 300 students initially not placed in Project Jericho, 217 were male (72.33%) and 71 were female (23.67%). This indicates that out of the 351 males in the study, 61.82% of them were not initially placed into Project Jericho. And, 55.47% of the females were not initially placed into Project Jericho. A total of 250 (50.51%) students recidivated at least once, 245 (49.49%) did not. Of those that recidivated, 120 (48.0%) were enrolled in Project Jericho during their second stint in the detention center and 130 (52.0%) were not. Of those placed in Project Jericho the second time, 83 were male and 35 were female. Out of the 130 that were not placed in Project Jericho, 108 were male and 21 were female. Below are the tallies of the students that recidivated each time.

<u>1st time detained</u>		
Initial	Count	Percent
Not PJ	300	60.61
PJ	195	39.39
N= 495		

<u>2nd time detained</u>		
PJ2	Count	Percent
Not PJ	130	52.00
PJ	120	48.00
N= 250		
Missing= 247		

<u>3rd time detained</u>		
PJ3	Count	Percent
Not PJ	72	50.70
PJ	70	49.30
N= 142		
Missing = 353		

<u>4th time detained</u>		
PJ4	Count	Percent
Not PJ	46	40.45
PJ	53	59.55
N= 89		
Missing= 406		

<u>5th time detained</u>		
PJ5	Count	Percent
Not PJ	20	43.48
PJ	26	56.52
N= 46		
Missing= 449		

<u>6th time detained</u>		
PJ6	Count	Percent
Not PJ	7	29.17
PJ	17	70.83
N=24		
Missing = 471		

<u>7th time detained</u>		
PJ7	Count	Percent
Not PJ	5	62.50
PJ	3	37.50
N= 8		
Missing= 487		

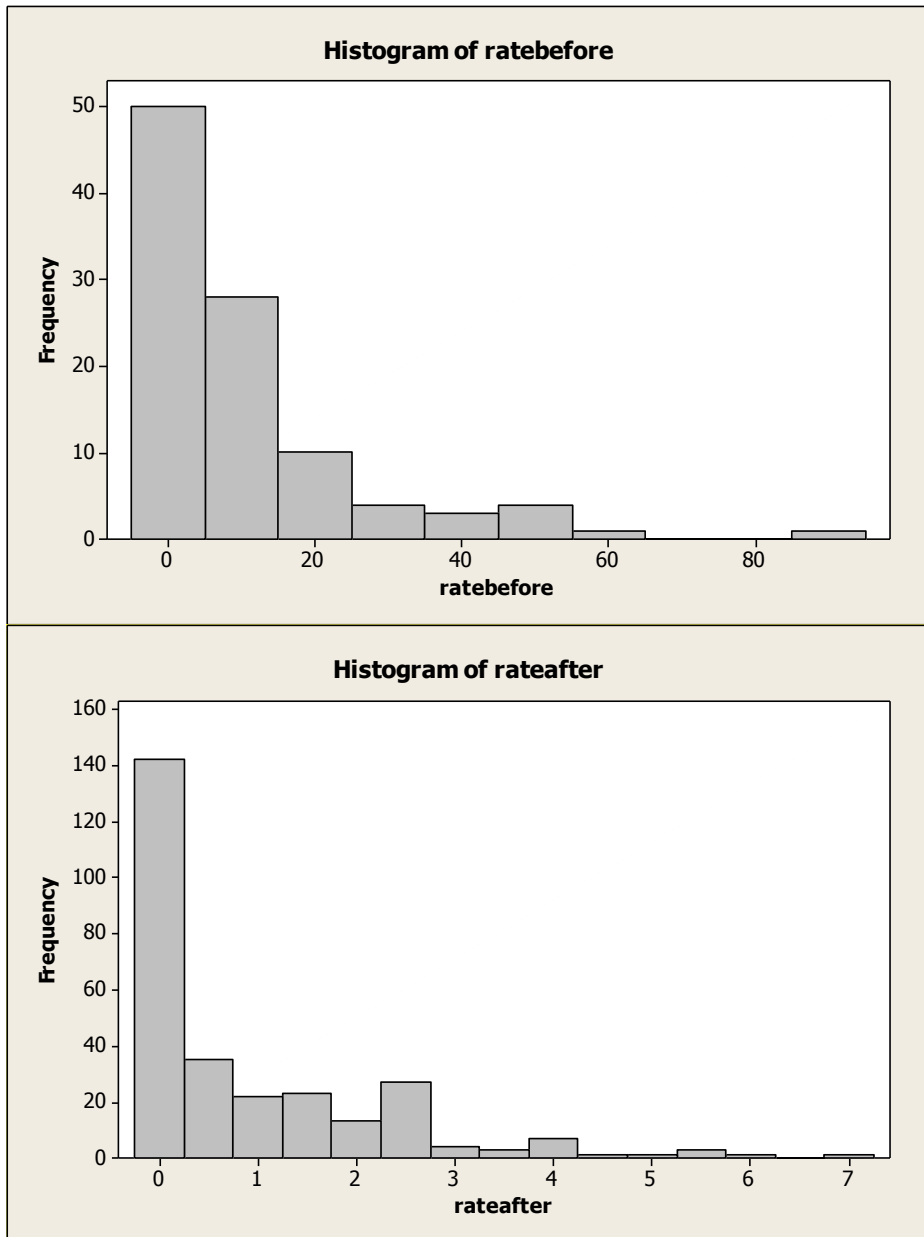
<u>8th time detained</u>		
PJ8	Count	Percent
Not PJ	3	75.00
PJ	1	25.00
N= 4		
Missing= 491		

<u>9th time detained</u>		
PJ9	Count	Percent
Not PJ	2	100.00
N=2		
Missing = 493		

The above data shows that as students are detained more they are more likely to be assigned to Project Jericho after their third stay at the detention center and until their seventh incarceration.

Next, the impact of the student's first interaction with Project Jericho was measured. This was measured by calculating how many times an individual recidivated prior to their initial interaction with Project Jericho (*RecidivateBefore*), how much time each individual had available to recidivate prior to their initial interaction with Project Jericho (*TimeBefore*), how many times an individual recidivated after their interaction with Project Jericho (*RecidivateAfter*) and how much time each individual had available to recidivate after his or her initial interaction with Project Jericho (*TimeAfter*). Then the rate of recidivism before an individual's initial interaction with Project Jericho was calculated by $\frac{RecidivateBefore}{TimeBefore} \times 365 \text{ days}$. This allowed us to calculate a rate per year of recidivisms prior to the initial interaction with Project Jericho, indicated by the *RateBefore* variable. Then, the rate of recidivisms after the initial interaction with Project Jericho was calculated by $\frac{RecidivateAfter}{TimeAfter} \times 365 \text{ days}$, again resulting in a yearly rate and indicated by the *RateAfter* variable. Those students that never had an

interaction with Project Jericho would not have a value for the *RateAfter* variable since there would be no Project Jericho indicator and thus no “after” time period. This is because there is no way to judge their rate after since there was no interaction with Project Jericho. The final dataset contained 284 students with a *RateBefore*. The only students without a rate before would be those students that were placed into Project Jericho right away because they would have no time before and thus to calculate the *RateBefore* the denominator would be zero and therefore these students were not included. Below are histograms of both the *RateBefore* and *RateAfter* variables.



The differences between these two histograms are evident when looking at the scaling for the graphs. The *RateBefore* graph has rates as high as eighty recidivisms per year. The *RateAfter* graph only goes up to seven recidivisms per year.

Both the *RateBefore* and *RateAfter* variables did not differ significantly by students' sex. Also, the *RateBefore* variable did not show any statistical differences between the races. However, the ANOVA for *RateAfter* indicated, using a 95% confidence interval, that African Americans recidivate about (.003, .622) times more per year than Caucasians. This is statistically significant with an F-Statistic of 3.94 and a p-value of .048 indicating that there is a 4.8% chance of the difference occurring based on chance alone.

The descriptive statistics on *RateBefore* and *RateAfter* indicate that the *RateBefore* had a mean of 11.38 recidivisms per year with a standard deviation of 15.57 recidivisms. *RateAfter* had a mean of .92 recidivisms per year with a standard deviation of 1.30 recidivisms. To determine if there was a statistical difference in the *RateBefore* variable for those students placed in Project Jericho and those that were not a t-test was done: $t(282) = -8.51, p < .001$. The 187 students never placed into Project Jericho had a mean recidivism rate of 1.25 ($SD = 6.46$) whereas the 97 students that were eventually placed into Project Jericho had a recidivism rate of 12.09 ($SD = 14.94$) before participating in the program. This indicates that the students that were placed into Project Jericho were recidivating more and thus more difficult cases than those who were not ever placed into Project Jericho.

In order to test to determine if the 96 students that participated in Project Jericho after their first stay in detention recidivated significantly less after they participated in Project Jericho, a paired samples t-test was conducted. The results [$t(95) = 6.36, p < .001$]. For these 96 students, they averaged 11 recidivisms before Project Jericho and 1.2 afterwards! A VERY significant difference indicating that the rate of recidivisms by student is significantly less after their initial interaction with Project Jericho than their rate of recidivisms before their initial interaction with Project Jericho.

In addition, a two sample t-test was done with to compare the recidivism rate of the non-Project Jericho youth and the Project Jericho youth once they had participated in the program. This analysis yielded a t-test of .84 (non-significant) and indicated that once the Project Jericho youth participated in the program, their recidivism rate reduced to the same level as the non-Project Jericho youth – a rate of approximately 1 recidivism per year for both groups! Of note, this analysis included 470 participants because even the youth that participated in Project Jericho the first time could be included. (Note: 25 of the 495 youth had missing data on one or more variables and could not be included in the analysis. Also, nonparametric statistical tests conducted to address the significant difference in standard deviations between some of the groups compared produced equally significant results.)

In sum, the analyses indicate that youth with significantly higher recidivism rates are assigned to Project Jericho and that once they participate in the program their recidivism rates drop to rates similar to those youth that are not assigned to the program.

Conclusion

In conclusion, it has been shown that the male students in the study were detained 4.48 to 27.88 days longer on average than the female students in the study. It was also shown that Caucasian students were detained 1.77 to 23.78 days longer on average than African American students in this study. The data showed the trend that students were more likely to have interactions with Project Jericho after their third stay in the Juvenile Detention Center. Furthermore, once students did participate in Project Jericho, their recidivism rates dropped significantly – from more than 10 times per year to approximately one time per year. This is especially impressive since the data also indicated that the Clark County Juvenile Court Judge was selecting the more difficult students to attend Project Jericho (i.e., typically those that had recidivated multiple times). This was indicated by the t-test run on the *RateBefore* variable comparing the students eventually assigned to Project Jericho to those not; the students that were at some point assigned to Project Jericho had a mean *RateBefore* of 12.09 recidivisms per year. Those that were not assigned to Project Jericho had a mean *RateBefore* of 1.25 recidivisms per year. Thus, the recidivism rates of the students in Project Jericho became essentially the same as those with initially lower recidivism rates that were never assigned to Project Jericho—approximately one time per year.

It is important to note that these analyses were possible only after HOURS of data cleaning by Kim Mowrey, a student at Wittenberg University who took on cleaning and analyzing this data as part of her senior capstone project in Mathematics. What was initially envisioned as a one-semester project took 3 semesters. The recidivism comparisons could only take place at the very end of the third semester. Dr. Stephanie Little hopes to conduct further analyses on the data this coming fall (2011).

In addition, note this data involves only youth from Clark County, Ohio and cannot be used to draw conclusions on all students involved in arts programs while being detained. Yet, the overall results are similar to those results seen in previous research. Students are responding to the “art therapy” they are receiving while being detained and are in turn not recidivating as much as those who are not in the arts programs.

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COMING UP
TALLER
YOUTH • ARTS
HUMANITIES

Project Jericho is a collaborative program of the Clark State Performing Arts Center and Job & Family Services of Clark County with additional funding provided by the Ohio Arts Council and The Turner Foundation. Project Jericho's *Inside the Walls, Outside the Box* program at the Clark County Juvenile Detention Facility is funded, in part, by RECLAIM Ohio, the Ohio Department of Youth Services and the Clark County Juvenile Court.



THE TURNER
FOUNDATION

Coming Up Taller is an initiative of the President's Committee on the Arts and the Humanities (PCAH). The President's Committee partners with the Institute of Museum and Library Services (IMLS), National Endowment for the Arts (NEA), and the National Endowment for the Humanities (NEH) to administer the program.

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For more information about Project Jericho, go to www.project-jericho.com, search for Project Jericho on Facebook, or contact the Director:

**Scott Dawson
Community Outreach and Education Director
Clark State Community College
Performing Arts Center
300 South Fountain Avenue
Post Office Box 570
Springfield, OH 45501-0570
Phone: 937-328-7951
Fax: 937-328-3879
<http://pac.clarkstate.edu>
dawsons@clarkstate.edu**